



**SUOMI
FINLAND**

Myanmar Pre-service Teacher Education Programme

Year 3 Semester 2

EDU3125 Educational Studies

Middle School Specialisation Track

Teacher Educator Guide

PREFACE

The Pre-service Teacher Education Curriculum consists of several components: the curriculum framework, syllabi, Student Teacher Textbooks, and Teacher Educator Guides. This curriculum for the four-year Pre-service Teacher Education Programme 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 Pre-service Teacher Education 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 Pre-service Teacher Education programme 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.

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HOW TO USE THIS GUIDE

Who will use this Educational Studies Teacher Educator Guide?

This Teacher Educator Guide has been designed to help you facilitate student teachers' learning of Year 3 Educational Studies. It is addressed to you, as the teacher educator, and should be used in tandem with the Student Teacher Textbook as you teach Educational 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 3 Educational Studies take place?

A total of 140 teaching periods (Semester 1: 84 teaching periods; Semester 2: 56 teaching periods) are allotted for Year 3 Educational 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 3 Educational Studies Teacher Educator Guide?

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

Year 3 Educational Studies contains the following topics:

- Educational Studies: Consolidating Understanding
- Pedagogical Theory and Practice
- Strategies for Effective Learning
- Planning and Preparation
- Educational Psychology
- Myanmar's Education Curriculum Reforms and Agendas
- Educational Philosophy
- Educational Assessment
- Supportive and Safe Learning Environment
- Teacher Professionalism

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 what they have studied and how 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.²
- **Problem-solving:** This involves the act of defining a problem; determining the cause of the problem; identifying, prioritising and selecting alternatives for

¹ Adapted from the *Glossary of curriculum terminology* (UNESCO-International Bureau of Education, 2013).

² Lejenué's Collaborative Learning for Educational Achievement. (1999).

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 module will prepare student teachers with the competencies required to teach various learning areas and subjects through modelling the values and attitudes promoted in the Basic Education Curriculum for the types of citizens and society Myanmar envisions to create. The purpose of this module is to introduce student teachers to the basic concepts of educational theory, educational technology, educational management, educational psychology and educational assessment, and apply them in the teaching/learning process and in real life situations. Student teachers will become aware of the educational trends, different philosophies and learning theories across the regions (local and global) and time (ancient and current). They will also understand the importance of developmental milestones of the students in all domains. Student teachers will master pedagogical knowledge and be able to choose and apply the appropriate pedagogical practices for their teaching depending on learners' needs and learning situation. Moreover, they will be able to distinguish characteristics of test, measurement, evaluation and assessment and apply them in the teaching/learning process. To educate student teachers to become effective professionals, two elements in Educational Studies will be considered: i) the understanding of knowledge and its application situated in the disciplines of education such as psychology and the history of education; and ii) critical reflection about the holistic development of learners to help student teachers develop positive attitudes, behaviour and skills so to develop professional attitudes and values.

The learning area outlines what student teachers in Education Degree Colleges will explore in order to prepare them to be ready for teaching students in primary and middle schools. It is important that teachers use educational knowledge and theory in their professional lives appropriately. It further reassures the teaching as a valuable profession, and the significance of primary and middle school teachers in the learners' development and learning process in their lifespans. The disciplines of education will help inform student teachers about their role as educators situated in the principles for the 21st century.

Basic Education Curriculum Objectives

This learning area, Educational Studies, is included in the pre-service Education Degree College (EDC) curriculum to ensure that teachers are prepared to teach the 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).

To fulfill this purpose, this module is designed to help student teachers develop their capacity to contribute proactively the holistic development of their students. By the end of this module, the student teacher will acquire relevant competencies necessary for them to grow into a well-prepared and confident teacher, who can support their middle school students to meet the learning objectives across the learning areas and subjects.

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 outcomes for student teachers for Educational Studies

This learning area aims to prepare student teachers to be ready to facilitate students' learning of Primary and Middle school by being able:

- To build a strong foundation on the basic concepts of educational theories and psychology, and facilitate how these concepts can be applied in diverse teaching-learning situations towards becoming well-prepared, efficient and quality teachers; and
- To apply the competencies gained around Educational Studies learning area in their teaching practice to effectively support their students' learning process to achieve the learning objectives across different learning areas and subjects.

Teacher competencies in focus for Year 2 Educational 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 Educational Studies strands as outlined in the syllabus.

Table A. Teacher competencies in focus: Year 3 Educational Studies, Middle school specialisation track

Competency standard	Minimum requirements	Indicators
A1: Know how students learn	A1.1 Demonstrate understanding of how students learn relevant to their age and developmental stage	A1.1.1 Give examples of how the students' cognitive, physical, social, emotional and moral development may affect their learning A1.1.2 Prepare learning activities to align with students' level of cognitive, linguistic, social, emotional and physical development
	A1.2 Demonstrate understanding of how different teaching methods can meet students' individual learning needs	A1.2.1 Identify various teaching methods to help students with different backgrounds (gender, ethnicity, culture) and abilities, including special learning needs, learn better
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
	A2.2 Demonstrate understanding of appropriate use of Information and Communication Technology (ICT) in teaching and learning	A2.2.1 Describe the function and purpose of online and offline educational tools and materials to support the teaching and learning process A2.2.2 Evaluate and match available online and offline ICT tools and materials to curriculum content and pedagogical strategies, including online and offline A2.2.3 Describe and demonstrate the understanding of basic concepts and principles of media and information literacy
A3: Know how to communicate well with students and their families	A3.2 Demonstrate respect for the social, linguistic, and cultural diversity of the students and their communities	A3.2.1 Give examples of inclusive communication to support all students' participation and engagement in classroom activities A3.2.2 Be aware of social, linguistic and cultural background of parents, community elders and leaders when interacting with them
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

Competency standard	Minimum requirements	Indicators
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	A5.1.3 Link key concepts, principles and theories to real life applications to build discipline specific foundations and skills for different classes and grade levels taught
	A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and learning context	A5.2.1 Describe ways to contextualise learning activities for the age, language, ability and culture of students to develop understanding of subject related principles, ideas and concepts 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 B1.1.2 Select instructional material to link learning with students' prior knowledge, interests, daily life and local needs B1.1.3 Encourage students' awareness of their own thoughts 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 B1.2.2 Use knowledge of different literacy teaching strategies to support development of subject matter literacy 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 B1.3.2 Provide lesson introductions to link new learning to prior learning, to engage students' interest and to motivate them in learning B1.3.3 Prepare focused and sequential learning experiences that integrate learning areas and are responsive to students' interests and experience B1.3.4 Use questioning techniques and examples to introduce and illustrate concepts to be learnt

Competency standard	Minimum requirements	Indicators
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 B2.1.2 Use assessment information to plan lessons 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	B2.2.1 Record students learning progress accurately and consistently B2.2.2 Use varied assessment practices to monitor and record students' learning progress and inform further planning of the curriculum
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	B3.1.1 Use space and classroom materials and resources to ensure involvement of all students in learning activities B3.1.2 Encourage students to interact with each other and to work both independently and in teams B3.1.3 Model and promote good health and safety practices to ensure students' wellbeing and safety within the classroom and school B3.1.4 Follow regulations regarding health and safety (administration of medication, CPR and First Aid training, fire and disaster drills, abuse and neglect, communicable disease)
	B3.2 Demonstrate strategies for managing student behaviour	B3.2.1 Create, explain, display and enforce the agreed classroom rules and procedures to ensure student health and safety B3.2.2 Encourage students to interact with each other with mutual respect and safety B3.2.3 Learn to know each student's background and needs and interact regularly with all students B3.2.4 Encourage well-adjusted behaviour of students by collaborative teamwork and independent learning
B4: Work together with other teachers, parents, and community	B4.1 Demonstrate strategies for working together with other teachers, parents, and the local community to improve the learning environment for students	B4.1.2 Describe strategies to promote parents' involvement in their child's learning at school, at home and in the community B4.1.3 Seek colleagues' perspectives in attempting to respond to learning issues and accept feedback positively

Competency standard	Minimum requirements	Indicators
C1: Service to profession	C1.1 Demonstrate values and attitudes consistent with Myanmar's tradition of perceiving teachers as role models	C1.1.1 Comply with professional codes of conduct, rules and regulations in line with the five traditional responsibilities of the Myanmar teacher C1.1.2 Consistently express positive attitudes, values and behaviours, consistent with what is expected of teachers by students, colleagues, parents and communities
	C1.2 Demonstrate understanding of the underlying ideas that influence one's practice as a professional teacher	C1.2.1 Identify theories and concepts that inform underpin approaches to teaching and learning C1.2.2 Describes own approach to teaching and learning
	C1.3 Demonstrate understanding of the possible effect of local culture and context on student participation in school	C1.3.1 Show interest in and take time to learn about the students' culture, language and community
	C1.4 Demonstrate responsibility and accountability for the use of education resources	C1.4.1 Use school supplies and resources appropriately
C2: Service to community leadership	C2.1 Demonstrate commitment to serving the school and community as a professional member of the teaching profession	C2.1.1 Contribute actively to a range of school and community activities C2.1.2 Demonstrate model behaviour as a teacher serving and working in school and community responsibly and accountably
C3: Promote quality and equity in education for all students	C3.1 Demonstrate a high regard for each student's right to education and treat all students equitably	C3.1.1 Show awareness of the right to education of every child and a commitment to nurturing the potential in each student C3.1.2 Recognise the different social situations and background of students and treat all students equally
	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	D1.1.1 Use evidence of student learning to reflect on the impact of own teaching practice 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

Competency standard	Minimum requirements	Indicators
D2: Engage with colleagues in improving teaching practice	D2.1 Improve own teaching practice through learning from other teachers and professional development opportunities	<p>D2.1.1 Discuss teaching practices with supervisors and colleagues, and willingly seek constructive feedback</p> <p>D2.1.2 Participate in professional development activities related to identified goals for improving practice</p> <p>D2.1.3 Establish goals for own professional development as a teacher</p> <p>D2.1.4 Participate in professional activities conducted by school clusters and recognised professional associations</p>
D3: Participate in professional learning to improve teaching practice	D3.1 Demonstrate understanding of the importance of inquiry and research-based learning to improve teaching practice	<p>D3.1.1 Identify relevant professional learning material to improve own practice</p> <p>D3.1.2 Search and analyse online or offline information on current trends and research based practices in lower secondary education and for specific subjects taught to improve one's own content knowledge and teaching practice</p>

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 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 compliments, 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
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

Types of situations	Guidelines
Student teachers who prefer expressing themselves through printed words (including students with speech difficulty)	Use journalling, 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
Student 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)
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 teachers 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.

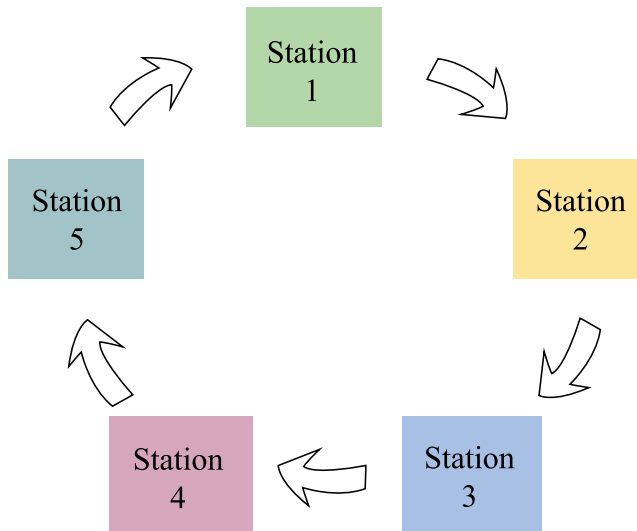
Case studies: Working through case studies can help student teachers to develop their problem-solving and critical thinking skills as they must apply what they are learning to a scenario or story (the ‘case’). To complete a case study, student teachers first read the scenario and then discuss and answer 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.

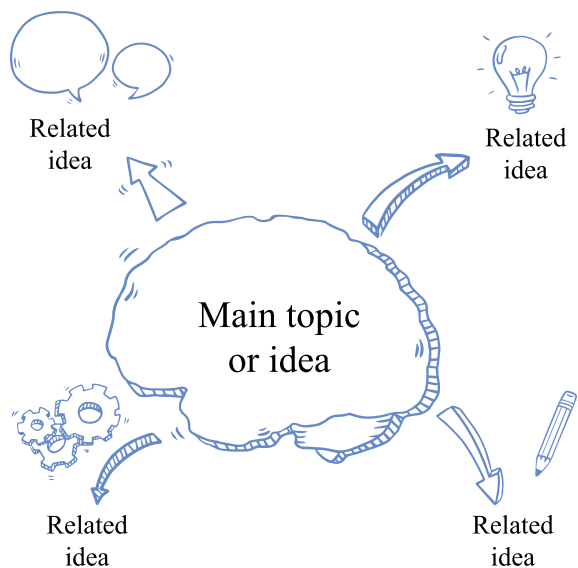
In this type of gallery walk, posters created during individual or group work are displayed around the room. Student teachers then circulate at their own pace to either simply view the posters, or to add their questions or comments to the poster.



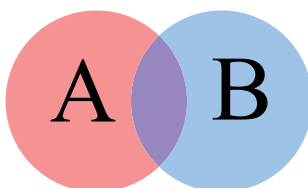
Graphic organisers: Graphic organisers are a simple and effective tool to help student teachers brainstorm and organise their thoughts and ideas in a way that makes it easier for them to understand. Graphic organisers can be used in any lesson for brainstorming, planning, problem-solving or decision-making.

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 <u>K</u> now	W What I <u>W</u> ant to know	L What I <u>L</u> 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: Practical activities 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. Practical activities 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 3 Semester 2, Educational Studies, Middle school specialisation track content map

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum requirements	Indicators	
7. Educational Philosophy	7.1. Consolidating Understanding of Educational Philosophy	7.1.1. Foundations of philosophy and educational philosophy	<ul style="list-style-type: none"> Describe the nature of philosophy Reflect on historical developments in philosophy Explain how philosophy is related to education 	A3.2 B1.2 C1.2	A3.2.2 B1.2.1 C1.2.1	3
		7.1.2. Educational implications of philosophy	<ul style="list-style-type: none"> Reflect on the central ideas of major philosophies and their implications for education Relate educational philosophies and educational theories Identify each educational theory's ideas on curriculum, teaching and learning Explain the meaning and value of Eclecticism 	A3.2 B1.2 C1.2	A3.2.2 B1.2.1 C1.2.1	4
	7.2. Educational Philosophies and Educational Practice	7.2.1. Educational philosophies in practice	<ul style="list-style-type: none"> Identify implicit education philosophies of individuals and systems Identify philosophical assumptions in Behaviourism, Cognitivism and Constructivism Relate student-centred, teacher-centred and society-centred values to different philosophies and theories 	A1.1 A3.2 B1.2 C1.2	A1.1.1 A3.2.2 B1.2.1 C1.2.1	3

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum requirements	Indicators	
	7.3. Personal Teaching Philosophy	7.3.1. Consolidating and communicating your teaching philosophy	<ul style="list-style-type: none"> Reflect on the way your teaching philosophy has developed Communicate your teaching philosophy in different ways 	C1.2 D1.1	C1.2.1 C1.2.2 D1.1.3	4
8. Educational Assessment	8.1. The Four Pillars of Assessment and the Teacher's Role	8.1.1. Unpacking the four pillars of assessment	<ul style="list-style-type: none"> Explain the importance of the four pillars of assessment in education Explain the connection between the four pillars of assessment and student learning 	A4.1 B2.1 B2.2 D1.1	A4.1.3 B2.1.1 B2.2.1 B2.2.2 D1.1.2	2
		8.2. Classroom Level Assessment in the Lower Middle School	8.2.1. Assessment within the teaching and learning cycle	<ul style="list-style-type: none"> Discuss the role of assessment in learning and teaching processes Design formative assessment within a lesson to monitor student learning progress 	B2.1 D1.1	B2.1.1 B2.1.2 B2.1.3 D1.1.1 D1.1.2
		8.2.2. Designing assessment tools to promote learning	<ul style="list-style-type: none"> Apply assessment principles to design diagnostic tools to aid planning for teaching and learning Design tools to monitor the learning progress of students in the Lower Middle school Evaluate the benefits and limitations of peer and self-assessment Construct tools for peer and self-assessment in the Lower Middle school 	B2.1 B2.2 B3.2 D1.1	B2.1.1 B2.2.1 B2.2.2 B3.2.2 D1.1.1 D1.1.2	4

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum requirements	Indicators	
		8.2.3. Feedback to Promoting Learning	<ul style="list-style-type: none"> Design feedback to promote learning for lower middle school students 	B2.1	B2.1.3	2
	8.3. School-based Assessment: Designing Tools and Analysing Achievement	8.3.1. Designing assessment rubrics for lower middle school contexts	<ul style="list-style-type: none"> Design rubrics in line with the assessment principles to assess students in the Lower Middle school Analyse and interpret rubric data for students in the Lower Middle school 	B2.1 B2.2 D1.1	B2.1.1 B2.1.2 B2.2.1 B2.2.2 D1.1.1 D1.1.2	5
		8.3.2. Interpreting data using measures of centrality and measures of variability	<ul style="list-style-type: none"> Calculate measures of central tendency Explain the uses and limitations of using measures of central tendency to analyse assessment data Explain the uses and limitations of measures of variability when analysing assessment data Compute the value measures of variability 	B2.2 D1.1	B2.2.1 B2.2.2 D1.1.1 D1.1.2	3
		8.3.3. Percentile and percentile rank	<ul style="list-style-type: none"> Examine the benefits and limitations of using percentiles and percentile ranks to describe learning progress Calculate the values of percentile and percentile rank 	B2.2 D1.1	B2.2.1 B2.2.2 D1.1.1 D1.1.2	2

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum requirements	Indicators	
		8.3.4. Correlation	<ul style="list-style-type: none"> Explain how correlations can be used to analyse assessment data Compute the value of Q-correlation coefficient Compute the value of Pearson's r correlation coefficient 	B2.2 D1.1	B2.2.1 B2.2.2 D1.1.1 D1.1.2	2
9. Supportive and Safe Learning Environment	9.1. Social and Physical Environment	9.1.1. Creating an inclusive learning environment	<ul style="list-style-type: none"> Outline characteristics of an educational system that is becoming inclusive Reflect on characteristics of a classroom that is becoming inclusive to identify supporting strategies in lower middle school settings Outline strategies that foster highly productive and positive teacher–student and student–student relationships in lower middle school classrooms Design the physical learning environment to maximise lower middle school student engagement, learning, and inclusion 	A3.2 B3.1 C1.1 C1.3 C2.1 C3.1 C3.2	A3.2.1 A3.2.2 B3.1.1 B3.1.2 C1.1.2 C1.3.1 C2.1.2 C3.1.2 C3.2.1	4

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum requirements	Indicators	
	9.2. Role of Technology in the Learning Environment	9.2.1. Technology – inclusion, innovation, and citizenship	<ul style="list-style-type: none"> • Reflect on how technologies can support inclusion in Myanmar lower middle school classrooms • Reflect on personal use of technologies to support creativity and innovation • Review literature-informed characteristics of global citizenship to scope aligned lower middle school teaching and learning activities and supporting technologies 	A2.2	A2.2.2 A2.2.3	3
	9.3. Classroom Management	9.3.1. Managing student behaviour and safety	<ul style="list-style-type: none"> • Generate appropriate procedures for different areas of lower middle school classroom activity • Compile a checklist to ensure a safe lower middle school classroom learning environment • Outline elements of an evidence-informed framework of effective and inclusive classroom management • Consider how a teacher in a large lower middle school classroom may use proactive classroom management techniques 	B3.1 B3.2 C3.2	B3.1.4 B3.2.1 B3.2.4 C3.2.1	3

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum requirements	Indicators	
10. Teacher Professionalism	10.1. Professional Values and Dispositions	10.1.1. Professional ethics	<ul style="list-style-type: none"> Reflect on Practicum experiences to provide examples of how you met professional obligations under the Five Precepts of Education Reflect on Practicum experiences to compare and contrast personal and professional ethics 	C1.1	C1.1.1 C1.1.2	2
		10.1.2. Organisational citizenship behaviour	<ul style="list-style-type: none"> Define organisational citizenship behaviour Discuss the benefits of teachers' organisational citizenship behaviour, as identified in the research and from Practicum observations Reflect on OCB on the part of teachers, peers, and yourself in the Practicum placement, with reference to validated OCB models 	C1.3 C2.1 C3.1	C1.3.1 C2.1.1 C2.1.2 C3.1.1	3

Units	Sub-units	Lessons	Learning outcomes	TCSF		Periods
				Minimum requirements	Indicators	
	10.2. Professional Growth and Development	10.2.1. Teacher professional development	<ul style="list-style-type: none"> Discuss the limitations of traditional teacher professional development Identify principles and forms of effective teacher professional development Reflect on the Year 3 experience in terms of professional development opportunities and achievement of Educational Studies learning goals 	D1.1 D2.1	D1.1.3 D2.1.1 D2.1.2 D2.1.3	2
		10.2.2. Teacher action research	<ul style="list-style-type: none"> Communicate action research findings and reflections on the process and value of teacher action research 	D1.1 D2.1 D3.1	D1.1.1 D1.1.2 D2.1.1 D2.1.2 D3.1.2	4
Total number of periods						56

Unit 7

Educational Philosophy

In this unit, student teachers will learn more about the importance of educational philosophy for teaching and learning. Building on content covered in Year 1 and Year 2, this unit will enhance their understanding of educational philosophy and how this can inform their teaching practice. Student teachers learn to relate philosophies to educational theories and approaches to teaching. This will help them make informed decisions in their classroom practice. Student teachers will also refine their personal teaching philosophy from Year 2 and reflect on how their teaching philosophy has developed.

Expected learning outcomes



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

- Describe the nature of philosophy;
- Reflect on historical developments in philosophy;
- Explain how philosophy is related to education;
- Reflect on the central ideas of major philosophies and their implications for education;
- Relate educational philosophies and educational theories;
- Identify each educational theory's ideas on curriculum, teaching and learning;
- Explain the meaning and value of Eclecticism;
- Identify implicit education philosophies of individuals and systems;
- Identify philosophical assumptions in Behaviourism, Cognitivism and Constructivism;
- Relate student-centred, teacher-centred and society-centred values to different philosophies and theories;
- Reflect on the way their teaching philosophy has developed; and
- Communicate their teaching philosophy in different ways.



Competencies gained

A1.1 Demonstrate understanding of how students learn relevant to their age and developmental stage

A3.2 Demonstrate respect for the social, linguistic, and cultural diversity of the students and their communities

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

C1.2 Demonstrate understanding of the underlying ideas that influence one's practice as a professional teacher

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

7.1. Consolidating Understanding of

Educational Philosophy

In this sub-unit, student teachers will consolidate their understanding of educational philosophy. They will start by exploring the nature of philosophy. Next, they will explore how philosophy is related to education. They will also examine how educational philosophies relate to educational theories. Understanding this relationship will help them to select and apply principles for effective teaching in many different situations.

7.1.1. Foundations of philosophy and educational philosophy

Expected learning outcomes

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

- Describe the nature of philosophy;
- Reflect on historical developments in philosophy; and
- Explain how philosophy is related to education.



Competency gained

A3.2.2 Be aware of the social, linguistic and cultural background of parents, community elders and leaders when interacting with them

B1.2.1 Use teaching methods and learning strategies appropriate for the class - culture, size and type

C1.2.1 Identify theories and concepts that inform approaches to teaching and learning



Time: Three periods of 50 minutes



Learning strategies

Learning activity 1. Reflect and describe: The nature of philosophy

Learning activity 2. Matching: Branches of philosophy

Learning activity 3. Complete visual continuum: Epistemology

Learning activity 4. Small group discussion: History of philosophy

Learning activity 5. Socratic questioning: Examining educational assumptions

Learning activity 6. KWL chart: Philosophy and education

Learning activity 7. Visualisation: Philosophy and education



Assessment approaches: Questioning, observation, peer and whole-class discussion, reviewing student work



Preparation needed

Read the educational studies student teacher textbook Lesson 7.1.1.

Write relevant learning outcomes on board.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 4. N/A (other than textbook, note paper, and pen)

Learning activity 5. N/A (other than textbook, note paper, and pen)

Learning activity 6. N/A (other than textbook, note paper, and pen)

Learning activity 7. Depending on available resources, you may want to use a whiteboard or other tool in the whole class discussion following the activity

Period 1

Foundations of philosophy and educational philosophy

This period is structured as follows:

Introduction	10 minutes
Learning activity 1	10 minutes
Learning activity 2	15 minutes
Learning activity 3	10 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to Year 3, Unit 7 Educational philosophy. Explain that the focus of this lesson will be to explore the nature of philosophy.
2. Ask some student teachers to share what they remember about educational philosophy from Year 1 and Year 2. This will help you gauge levels of student knowledge and understanding for the unit. You may want to revisit the Year 1 and Year 2 educational philosophy learning outcomes to refresh students' memories.
3. Relate the student responses to the importance of educational philosophy and teaching and learning.

4. Ask student teachers to read the section, ‘The nature of philosophy’ in the textbook.



Learning activity 1. Reflect and describe: The nature of philosophy

Time	10 minutes
Class organisation	Individual, pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to consolidate their understanding of the nature of the field of philosophy.

1. Explain that this activity is designed to consolidate student teachers’ understanding of the nature of the field of philosophy. Although this activity does not directly relate to education, it will help them to better understand the nature of educational philosophy.
2. Direct student teachers to Learning activity 1 in the textbook.
3. Instruct student teachers to complete Table 7.1 in the textbook.



Facilitator’s notes

Student teachers may complete this activity individually or with a peer.

4. Support and prompt individual student teachers as they complete the activity.
5. Ask for volunteers to share their responses and/or reflect on some of the responses you have seen during the activity.



Assessment

Support individual student teachers during the activity. Try to do this by encouraging conversation rather than checking for right or wrong answers.

You will be able to assess understanding by selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.



Possible student teachers' responses

Given the broad nature of this learning activity, there are many possible responses. There are no correct or incorrect responses. The main purpose of the activity is to stimulate student teacher's thinking about the nature of philosophy. Possible responses are presented in Table TG 7.1.

Table TG 7.1. Definitions and examples – completed

Concept	Definition	Examples of philosophical questions
Philosophy	A field of study that seeks answers to fundamental problems, such as the nature of reality, existence, and beliefs.	<ul style="list-style-type: none"> • What is the meaning of life?³ • Is there an absolute truth, or is all knowledge relative? • Does what we experience change the course of events? • How much are humans in control of their own life? • Where do our thoughts come from? • Is it ever okay not to tell the truth? • What is the role of nature and nurture in determining a person's personality? • How can we be happy if we have not experienced sadness? • Do numbers really exist, or are they a product of human creation? • When in the cycle of life does a human become conscious? • Is there a parallel universe? • What evidence do we need to believe something is true?

[See Table 7.1 in textbook.]

³ Adapted from Mann, S. B. (2019).



Learning activity 2. Matching: Branches of philosophy

Time	15 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to understand the nature of different philosophical questions as related to three major philosophical branches.

1. Link this activity to the previous activity. Explain that student teachers are building an understanding of the field of philosophy and the nature of different philosophical questions.
2. Explain the nature of the three main philosophical branches in philosophy, using the section, ‘Branches of philosophy’ in the textbook. Provide the opportunity for student teachers to ask questions.
3. Draw student teachers’ attention to Learning activity 2 and ask them to complete Table 7.2 in pairs.
4. Prompt and support student teacher pairs as they complete the activity.
5. Ask volunteer student teacher pairs to share their responses.



Assessment

Support individual student teachers during the activity. Try to do this with encouraging conversation rather than checking for right or wrong answers.

You will be able to assess understanding by selecting student teachers to share their peer group’s responses with the class. Ensure that you select both female and male student teachers. The peer sharing activity and class discussion will provide student teachers with feedback. You may want to show the correct responses to the whole class at the end of the activity.

During the whole group sharing – ask open-ended questions to encourage student teachers to justify the reasoning behind their responses. Emphasise the interrelated nature of the three branches.



Possible student teachers' responses

Possible responses are presented in Table TG 7.2.

Table TG 7.2. Philosophical questions and branches of philosophy – completed

Philosophical question	Metaphysics	Epistemology	Axiology
What is time?	x		
What are desirable values?			x
How does knowledge differ from beliefs?		x	
What is knowledge?		x	
What does it mean to say something is real?	x		
What are the characteristic of a good piece of art?			x
How can we know anything?		x	
Which actions are right or wrong?			x
What is the origin of things?	x		

[See Table 7.2 in textbook.]



Learning activity 3. Complete visual continuum: Epistemology

Time	10 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to think about the possible range of different epistemological perspectives.

1. Link this activity to the previous activity. Explain that this activity invites them to think more deeply about the possible epistemology perspectives.
2. Draw student teachers' attention to Learning activity 3 and ask them to complete the activity using Figure 7.1.
3. Allow student teachers to complete the activity in pairs for five minutes.
4. Prompt and support student teachers individually as they complete the activity. Use questions to encourage thinking about different epistemological perspectives.



Assessment

Support individual student teachers during the activity. Try to do this by encouraging conversation rather than checking for right or wrong answers.

You will be able to assess understanding by selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.



Possible student teachers' responses

Possible responses are presented in Figure TG 7.1.

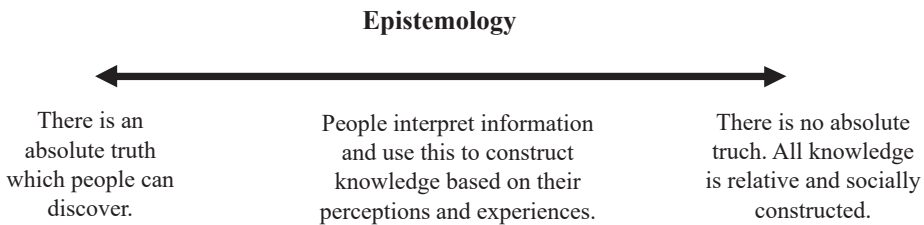


Figure TG 7.1. Epistemological continuum⁴ – completed

[See Figure 7.1 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

At the end of the period:

- Allow opportunity for student teachers to ask questions;
- Allow opportunity for student teachers to reflect on how having an understanding of philosophy more generally can help inform their educational philosophy;

⁴ Image by author, used with permission.

- Encourage student teachers to reflect on how the different branches discussed are relevant to education. For example:
 - Metaphysics: A teacher’s metaphysical beliefs will determine how they approach teaching their students.
 - Epistemology: A teacher’s epistemological beliefs are central to their approaches to teaching; for example, what teachers believe about how students learn best determines the teaching methods they will use.
 - Axiology: A teacher’s axiological beliefs determine their decisions regarding curriculum and assessment, for example when evaluating student work.
- Thank student teachers for their participation and attentiveness.

Period 2

Foundations of philosophy and educational philosophy

This period is structured as follows:

Introduction	10 minutes
Learning activity 4	15 minutes
Learning activity 5	20 minutes
Check student teachers’ understanding	5 minutes

Introduction

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to the second period of the lesson. Explain that this period will focus on the history of philosophy.
2. Ask some student teachers to share what they know about the history of philosophy. For example, you can ask if they can name famous philosophers or their key contributions.
3. Ask student teachers to read the section, ‘A brief history of philosophy’ in the textbook.



Learning activity 4. Small group discussion: History of philosophy

Time	15 minutes
Class organisation	Groups of 3 or 4 and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on key developments in the history of philosophy and their relation to other fields. This will help student teachers understand the origins of different philosophical perspectives.

1. Explain that this activity is designed to challenge student teachers to think about how the historical philosophical developments relate to other fields/concepts. Although this activity does not directly relate to education, it will help them to better understand the nature of educational philosophy.
2. Direct student teachers to Learning activity 4 in the textbook. Give students a couple of minutes to prepare their contributions to the discussion.
3. Assign student teachers to groups of 3 or 4. Allow approximately 10 minutes for student teachers to discuss historical philosophical developments in their groups.



Facilitator's notes

If time permits, encourage student teachers to discuss key differences between Eastern and Western philosophical perspectives.

For example, Buddhism emphasises nonattachment to material matters, whereas many Western philosophies reflect materialism.⁵

4. After 10 minutes, invite student teachers to share some of their group's insights with the whole class.

⁵ Johnson et al. (2005).



Assessment

You will be able to assess student teacher understanding by evaluating their contributions to the whole class discussion. The discussion will provide student teachers with feedback on their understandings of the relation between the different fields/concepts and philosophy.



Possible student teachers' responses

Given the broad nature of this learning activity, there are many possible responses. There are no correct or incorrect responses. The main purpose of the activity is to stimulate student teacher's thinking about the nature of philosophy across different historical periods, and their relation to the listed fields/concepts. Student teachers may provide the following responses:

- *Science*: Philosophy contributed to advances in science and vice versa. Science has provided answers that makes some philosophical questions obsolete. Yet, there are some philosophical questions that science cannot (yet) answer.
- *Psychology*: Philosophy contributed to advances in psychology and vice versa. Like psychology, philosophy is a complex field.
- *Religion*: Western philosophy saw religion as incompatible with philosophy. Developments in religion therefore had a major impact on the nature of philosophy, for example in the medieval world. Eastern philosophers did not view religion as incompatible with philosophy. However, from its origins, eastern philosophers focused on morality and ethics as opposed to questions about existence.
- *Politics*: Across history, the influence of philosophy on politics is evident. One example is the French revolution. One could argue that the nature of politics would have influenced the nature of philosophy.
- *Education*: Across history, it is evident that ideas about the purpose of education have changed substantially. Many different points of view have been debated, in relation to for example the role of knowledge and the relative roles of teachers and students. Other relevant contemporary issues are social justice and the content of curricula.



Learning activity 5. Socratic questioning: Examining educational assumptions

Time	20 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to apply Socratic questioning to elicit assumptions about education.

1. Explain that student teachers are building an understanding of the history of philosophy and the value of asking philosophical questions.
2. Draw student teachers' attention to Learning activity 5. The activity will instruct them to read the section, 'Socrates' dialectical method' in the textbook. It will also direct them to examine the guidelines for Socratic questioning in Table 7.3.
3. Prompt and support student teacher pairs as they complete the activity. Ensure student teachers swap roles after five minutes. Direct student teachers to record their responses in Table 7.4.
4. Ask volunteer student teacher pairs to share their responses.



Assessment

Support individual students during the activity. Try to do this with encouraging conversation. If needed, redirect student teachers to the guidelines in Table 7.3.

You will be able to assess understanding by observing dialogues and selecting student teachers to share their peer group's responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.

During the whole group sharing – ask open-ended questions to encourage student teachers to explain their line of reasoning. Ask student teachers to reflect on the value of Socratic questioning for unveiling assumptions.



Possible student teachers' responses

Possible responses are presented in Table TG 7.3.

Table TG 7.3. Starting points and conclusions of Socratic questioning⁶ – completed

	Starting point	Conclusion
Dialogue 1	Some students are more intelligent than others.	Some students may not have had optimal opportunities for learning. Nevertheless, all students are capable of making progress with adequate support.
Dialogue 2	Motivation leads to achievement.	Success leads to motivation.

[See Table 7.4 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

At the end of the period:

- Allow opportunity for student teachers to ask questions;
- Allow opportunity for student teachers to reflect on differences between historical development in Eastern and Western philosophies;
- Allow opportunity for student teachers to reflect on the history of philosophy and historical developments relevant to education;
- Explain that the subsequent period will focus more specifically on educational philosophy; and
- Thank student teachers for their participation and attentiveness.

⁶ Adapted from Sutton, J. (2021).

Period 3

Foundations of philosophy and educational philosophy

This period is structured as follows:

Learning activity 6	10 minutes
Explicit teaching	15 minutes
Learning activity 7	15 minutes
Check student teachers' understanding	10 minutes



Learning activity 6. KWL chart: Philosophy and education

Time	10 minutes
Class organisation	Individual and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on the relation between philosophy and education.

1. Direct student teachers to Learning activity 6 in the textbook.
2. Ask student teachers to reflect in what they learnt in Year 1 and 2 of Educational Studies. Then, ask them to complete the first two columns in the KWL chart in Table 7.5.
3. Allow five minutes for student teachers to complete the activity individually.
4. After five minutes, ask several volunteers to share their responses. You may want to write down some of these responses, as these can inform discussions and reflection later in the unit.



Assessment

Ask open-ended questions to encourage student teachers to think about what they know and what they would like to know.

You will be able to assess understanding by selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.



Possible student teachers' responses

There are no correct or incorrect responses for this activity. What students remember from previous years and what they would like to know is highly individual.

Table TG 7.4 outlines possible responses for this activity. It also provides a sample response for the third column: What I Learnt. This can help inform discussions when checking for student teachers' understanding at the end of the period. Keep in mind that there may be things students will want to know but have not learnt in this period; this will be covered in subsequent lessons.

Table TG 7.4. KWL chart: Relation between philosophy and education – completed

K What I <u>K</u> now	W What I <u>W</u> ant to know	L What I <u>L</u> earnt
Philosophical ideas inform ideas about education. There are many different educational philosophies. I cannot exactly remember their names and what they mean. Teachers need to develop their own teaching philosophy. This will help them to reflection on their practice and inform future decisions and actions in the classroom.	What are the most important educational philosophies, and what are their main ideas? What is the relation between educational philosophies and educational theories? What is the relevance of the three main philosophical branches and educational philosophy?	Philosophical ideas are related to educational theories. These educational theories may be very broad or very specific. Teachers use a range of theories to inform their teaching practice. Their personal philosophies determine which theories they select and apply.

[See Table 7.5 in textbook.]

Explicit teaching

Time	15 minutes
Class organisation	Whole class

1. Link this brief direct instruction to Learning activity 6. This will help engage student teachers. Explain that this period will focus on further reflecting on the relation between philosophy and education.

2. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Explain how philosophy is related to education.
3. Ask student teachers to read the section, 'Relating philosophy and education' in the textbook. Allow opportunity for student teachers to ask questions and discuss their emerging understandings with their peers.



Learning activity 7. Visualisation: Philosophy and education

Time	15 minutes
Class organisation	Individual, pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on the relationship between philosophy and education.

1. Direct student teachers to Learning activity 7 in the textbook.
2. Allow student teachers at least 10 minutes to complete this activity using Box 7.3. After 10 minutes, ask volunteers to share their visualisations with the class.



Facilitator's notes

You may want to provide the opportunity for student teachers to replicate their responses on a whiteboard or another form of visual display.



Assessment

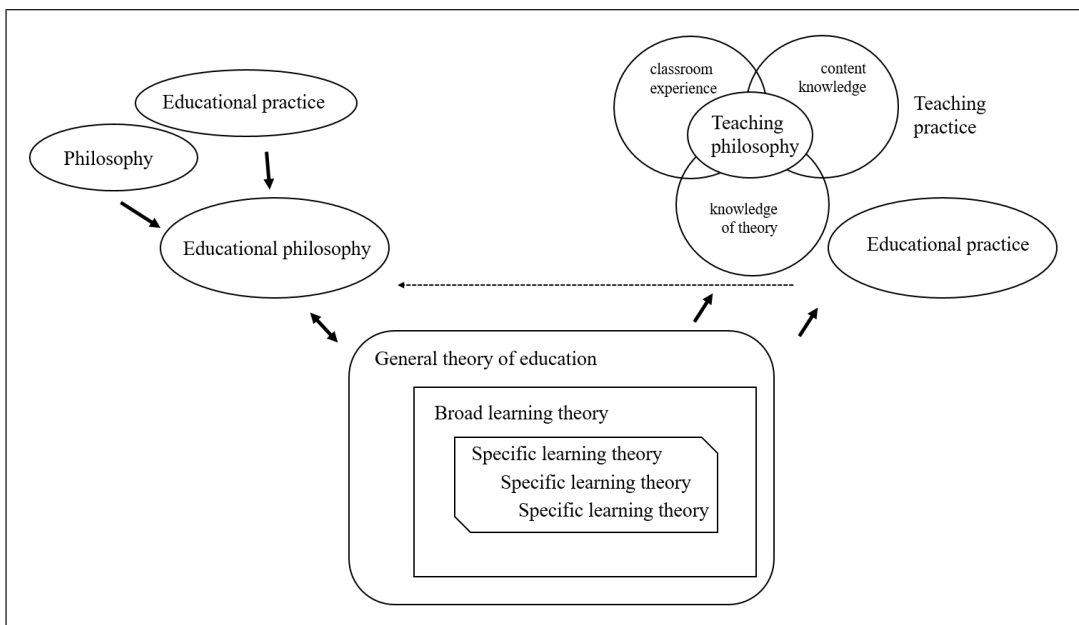
You will be able to assess understanding by observing student work and selecting student teachers to share their visualisations with the class. The class discussion will provide individual student teachers with feedback. Student teachers may be asked to submit their visualisation for further assessment and feedback.



Possible student teachers' responses

Student teachers are likely to generate a variety of visualisations based on their individual understandings of the relation between philosophy and education. A sample visualisation is provided in Box TG 7.1.⁷

Box TG 7.1. Visual representation of the relation between philosophy and education⁸ – completed



[See Box 7.3 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

⁷ Based on Moore, T. W. (2009); Campoy, R. (2005).

⁸ Image by author, used with permission.

At the end of the period:

- Ask student teachers to revisit the KWL chart in Learning activity 6 of Sub-unit 7.1. What have they learnt? Allow time for student teachers to complete the KWL chart. Then ask some volunteers to share their responses;
- Allow opportunity for student teachers to ask questions and reflect on their learning;
- Allow opportunity for student teachers to consolidate their understanding of the relation between philosophy and education, and reflect on the importance of a teacher's teaching philosophy; and
- Explain that the next lesson will focus specifically on the educational implications of philosophy.

7.1.2. Educational implications of philosophy

Expected learning outcomes

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

- Reflect on the central ideas of major philosophies and their implications for education;
- Relate educational philosophies and educational theories;
- Identify each educational theory's ideas on curriculum, teaching and learning; and
- Explain the meaning and value of Eclecticism.



Competencies gained

A3.2.2 Be aware of the social, linguistic and cultural background of parents, community elders and leaders when interacting with them

B1.2.1 Use teaching methods and learning strategies appropriate for the class - culture, size and type

C1.2.1 Identify theories and concepts that inform approaches to teaching and learning



Time: Four periods of 50 minutes



Learning strategies

Learning activity 1. Summarise central ideas: Major philosophies

Learning activity 2. Reflect on educational implications: Major philosophies

Learning activity 3. Group discussion: Philosophies, educational theories and teaching practice

Learning activity 4. Visualisation: Idealism, Realism, Perennialism and Essentialism

Learning activity 5. Visualisation: Pragmatism, Progressivism and Reconstructionism

Learning activity 6. Think-pair-share: Core ideas of educational theories

Learning activity 7. Reflection: Personal educational philosophy



Assessment approaches: Questioning, observation, peer and whole-class discussion, peer and self-assessment, reviewing student work



Preparation needed

Revisit the Educational Studies Student Teacher Textbook from Year 1 and 2 to refresh your knowledge of major philosophies and educational theories.

Write relevant learning outcomes on board.



Resources needed

Learning activity 1. It is helpful to display student teacher responses for Table 7.6, for example using a whiteboard.

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 4. Depending on available resources, student teachers may complete this activity using flipchart paper, whiteboards, or digital tools.

Learning activity 5. Depending on available resources, student teachers may complete this activity using flipchart paper, whiteboards, or digital tools.

Learning activity 6. N/A (other than textbook, note paper, and pen)

Learning activity 7. This activity requires the use of Annex 1, ‘Questionnaire – What is your educational philosophy?’ in this guide (and Student Teacher Textbook). It is also helpful to display the scoring sheet for the questionnaire (Table TG 7.8 in this guide), for example using a whiteboard or projector.

Period 1

Educational implications of philosophy

This period is structured as follows:

Introduction	5 minutes
Learning activity 1	25 minutes
Learning activity 2	15 minutes
Check student teachers’ understanding	5 minutes

Introduction

Time	5 minutes
Class organisation	Whole class

1. Welcome student teachers to the lesson. Explain that this period will focus on refreshing and expanding understandings of major philosophies covered in Years 1 and 2.
2. Outline the relevant learning outcome for the period:
 - Reflect on the central ideas of major philosophies and their implications for education.
3. Ask student teachers if they remember any of the major philosophies covered in Year 1 and 2. Briefly invite student teachers to discuss their understandings.



Facilitator's notes

Assure them that if they do not remember, there will be ample opportunity to revisit Year 1 and 2 content.

4. Student teachers will examine content for this period in Learning activity 1. Allow opportunity for student teachers to ask questions about this content.



Learning activity 1. Summarise central ideas: Major philosophies

Time	25 minutes
Class organisation	Individual, pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to analyse the central ideas of four major philosophies addressed in Year 1 and 2.

1. Direct student teachers to Learning activity 1 in the textbook.
2. Ask student teachers to read the section, 'Consolidating knowledge of major philosophies'. Invite student teachers to discuss their understandings with a peer.
3. Ask student teachers to complete the activity individually.



Facilitator's notes

If needed, student teachers can revisit the explanation of the three branches of philosophy covered in Period 1 of Lesson 7.1.1.

4. Encourage student teachers to discuss their responses with a peer once they have completed their responses in Table 7.6.
5. After twenty minutes, ask several volunteers to share their responses and discuss the central ideas of each philosophy.



Assessment

Ask open-ended questions to encourage student teachers to think about the metaphysical, epistemological and axiological ideas for each philosophy. Provide hints if needed.

You will be able to assess understanding by observing student teacher work, observing peer discussion, and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The peer sharing activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Possible responses are presented in Table TG 7.5.

Table TG 7.5. Major philosophies and central ideas per philosophical branch⁹ – completed

Philosophy	Metaphysics	Epistemology	Axiology
Idealism	Reality is determined by spiritual and mental truths.	Knowing is the discovery of universal ideas in the mind.	Values are universal and do not change over time.

⁹ Based on Beatty et al. (2009).

Philosophy	Metaphysics	Epistemology	Axiology
Realism	Reality is objective and fixed, and exists independent of the mind.	Knowing results from sensation and processing of external input.	Values are universal and do not change over time. They are determined by natural laws.
Pragmatism	Reality is determined by the interaction of an individual and their environment. Therefore, reality is constantly changing.	Knowing is the result of the interaction of experiences as contextualised within one's ever-changing environment.	Values are relative and context-specific, and constantly subject to change.
Existentialism	Reality is subjective and individually-determined.	Knowing is to freely make personal choices.	Values are individual and are the product of individual choices.

[See Table 7.6 in textbook.]



Learning activity 2. Reflect on educational implications: Major philosophies

Time	15 minutes
Class organisation	Groups of 3 or 4 and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on the educational implications of the major philosophies. This activity will help them understand the implications of abstract philosophical ideas for classroom practice.

1. Direct student teachers to Learning activity 2 in the textbook. Divide student teachers into groups of three or four.
2. Allow student teachers 10 minutes to complete this activity and record their group's responses in Table 7.7. After 10 minutes, ask volunteers to share some of their group's reflections with the class.



Assessment

Ask open-ended questions to encourage student teachers to think about the educational implications of the four major philosophies. Provide hints if needed.

You will be able to assess understanding by observing group work and selecting

student teachers to share their responses with the class. The class discussion will provide individual student teachers with feedback.



Possible student teachers' responses

Student teachers are likely to generate a variety of responses based on their recollection of the Year 2 materials and emerging understandings. Examples indicative of possible responses are shown in Table TG 7.6. This list is by no means exhaustive, but rather, is representative of the types of responses that can be expected from student teachers based on content covered thus far.

Table TG 7.6. Educational implications of major philosophies – completed

Philosophy	Educational implications
Idealism	<ul style="list-style-type: none"> • The purpose of education is to help students discover universal knowledge. • Curriculum is the same for all students. • Use of teacher-centred teaching approaches. • Focus on preservation of classical works and culture.
Realism	<ul style="list-style-type: none"> • The purpose of education is to help students learn about universal truths. This is best achieved through reasoning, observation and scientific experimentation. • Curriculum is structured by subject. • Use of teacher-centred teaching approaches, with students are viewed as apprentices.
Pragmatism	<ul style="list-style-type: none"> • Focus on building of student problem solving skills to overcome challenges in an ever-changing world. • Curriculum is integrated, with a focus on skills as opposed to subject-matter content. • Use of student-centred teaching approaches, with students and teachers actively participating in processes of discovery.
Existentialism	<ul style="list-style-type: none"> • Focus in self-actualisation and discovery. • Curriculum is largely unstructured, with a key focus on student self-direction of learning. There is a strong emphasis on humanities and the arts. • Education is largely self-guided and exploratory in nature. • Use of society-centred teaching approaches, with ongoing dialogues between teachers and students.

[See Table 7.7 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers questions to gauge their understanding;
- Allow opportunity for student teachers to reflect on their learning;
- Revisit the learning outcomes and TCSF competencies; and
- Explain that the next period will build on this period. It will focus on educational theories associated with the four major philosophies.

Period 2

Educational implications of philosophy

This period is structured as follows:

Introduction	5 minutes
Learning activity 3	10 minutes
Direct instruction	10 minutes
Learning activity 4	20 minutes
Check student teachers' understanding	5 minutes

Introduction

Time	5 minutes
Class organisation	Whole class

1. Welcome student teachers to the second period of the lesson. Explain that this period will focus on educational theories associated with major educational philosophies.
2. Engage the learner and make links to prior learning. One way to help student teachers make links to prior learning is to ask what they recall about educational theories covered in Years 1 and 2.



Learning activity 3. Group discussion: Philosophies, educational theories and teaching practice

Time	10 minutes
Class organisation	Individual and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on the relation between philosophies, educational theories, and teaching practice. This will help them better understand the importance of each for their prospective role as a teacher.

1. Direct student teachers to Learning activity 3 in the textbook.
2. Allow time for student teachers to read the discussion prompts and think about their input to the discussion. Invite some volunteers to share their reflections and discuss differences and commonalities.



Assessment

Ask open-ended questions to encourage student teachers to elaborate on their responses. Provide further prompts if needed. The point of this activity is for student teachers to thinking about the relation between the different concepts discussed, and their importance to teaching practice. Assessment should therefore focus on stimulating thinking, rather than gauging understanding.



Possible student teachers' responses

As noted, the main purpose of this activity is to stimulate reflection and thinking. Students may be able to mention several ways in which they believe the philosophies can inform their teaching. Try to steer the discussion to the following conclusion: these broad philosophies are insufficiently specific to guide your teaching practice. This will arouse student teacher interest in the importance of educational theories, the focus of this and the subsequent period.

Direct instruction

Time	10 minutes
Class organisation	Whole class

1. Provide direct instruction using the contents of the sections, ‘From philosophical perspectives to classroom practice’ and ‘Consolidating knowledge of teacher-centred educational theories’. Student teachers may review these sections in the textbook when they complete Learning activity 4.
2. Allow opportunity for student teachers to ask questions about the content and to discuss their emerging understandings with a peer.



Learning activity 4. Visualisation: Idealism, Realism, Perennialism and Essentialism

Time	20 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to consolidate their understanding of the relation between the educational philosophies Idealism and Realism, and the educational theories Perennialism and Essentialism.

1. Direct student teachers to Learning activity 4 in the textbook.
2. This activity has been designed to be completed in pairs. The activity can be completed in Box 7.4.

Facilitator’s notes

Depending on available resources, student teachers may complete this activity using flipchart paper, whiteboards, or digital tools.



3. Allow approximately 15 minutes for pairs to complete the activity. When pairs have created their visualisation, ask some volunteers to share their responses. Discuss and encourage reflection on the relation between the different concepts in the visualisation.



Assessment

Ask open-ended questions to encourage student teachers to visualise and describe their understandings of Idealism, Realism, Perennialism, Essentialism and teaching practice. Encourage student teachers to think deeply about their emerging understandings.

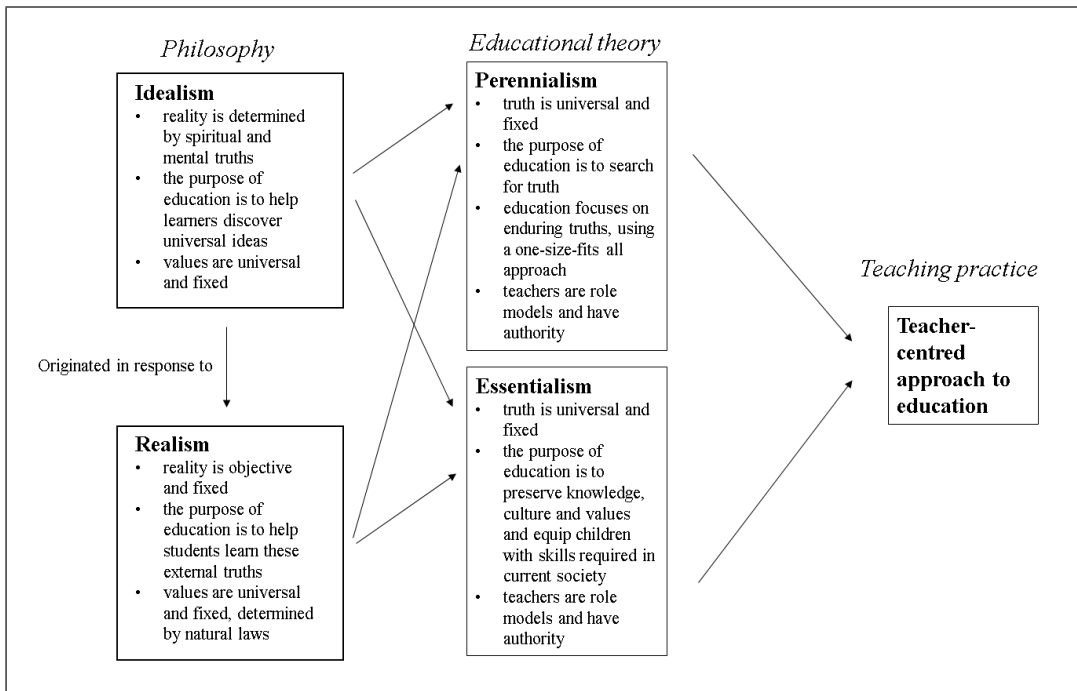
You will be able to assess understanding by selecting volunteers to share their visualisation with the class. Ensure that you select both female and male student teachers. The peer activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Student teachers may represent their visualisations in various ways. An example is provided in Box TG 7.2. Importantly, the diagram should differ from the diagrams presented in the Year 2 textbook. Student teacher's diagrams need to demonstrate a more nuanced understanding of these concepts and their relations.

Box TG 7.2. Visual representation of Idealism, Realism, Perennialism, Essentialism and teaching practice¹⁰ – completed



[See Box 7.4 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers to reflect on their responses to Learning activity 4. How are their responses similar or different compared to content covered in Year 2?
- Allow opportunity for student teachers to ask questions;
- Allow opportunity for student teachers to reflect on their learning;
- Revisit the learning outcomes and TCSF competencies; and
- Explain that the next period will focus on other educational theories associated with major philosophies.

¹⁰ Image by author, used with permission.

Period 3

Educational implications of philosophy

This period is structured as follows:

Introduction/explicit teaching	10 minutes
Learning activity 5	20 minutes
Learning activity 6	15 minutes
Check student teachers' understanding	5 minutes

Introduction/explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to the third period of the lesson. Explain that this period will continue to focus on educational theories, and relate these to educational philosophies and teaching practice. The first part of the period will specially focus on student-centred philosophies.
2. Provide direct instruction using the contents of the section, 'Consolidating knowledge of student-centred educational theories'. Student teachers may review this section in the textbook when they complete Learning activity 5.
3. Allow opportunity for student teachers to ask questions about the content and to discuss their emerging understandings with a peer.



Learning activity 5. Visualisation: Pragmatism, Progressivism and Reconstructionism

Time	20 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to consolidate their understanding of the relation between the educational philosophy Pragmatism and the educational theories Progressivism and Reconstructionism.

1. Direct student teachers to Learning activity 5 in the textbook.
2. This activity has been designed to be completed in pairs. The activity can be completed in Box 7.5.



Facilitator's notes

Depending on available resources, student teachers may complete this activity using flipchart paper, whiteboards, or digital tools.

3. Allow approximately 15 minutes for pairs to complete the activity. When pairs have created their visualisation, ask some volunteers to share their responses. Discuss and encourage reflection on the relation between the different concepts in the visualisation.



Assessment

Ask open-ended questions to encourage student teachers to visualise and describe their understandings of Pragmatism, Progressivism, Reconstructionism and teaching practice. Encourage student teachers to think deeply about their emerging understandings.

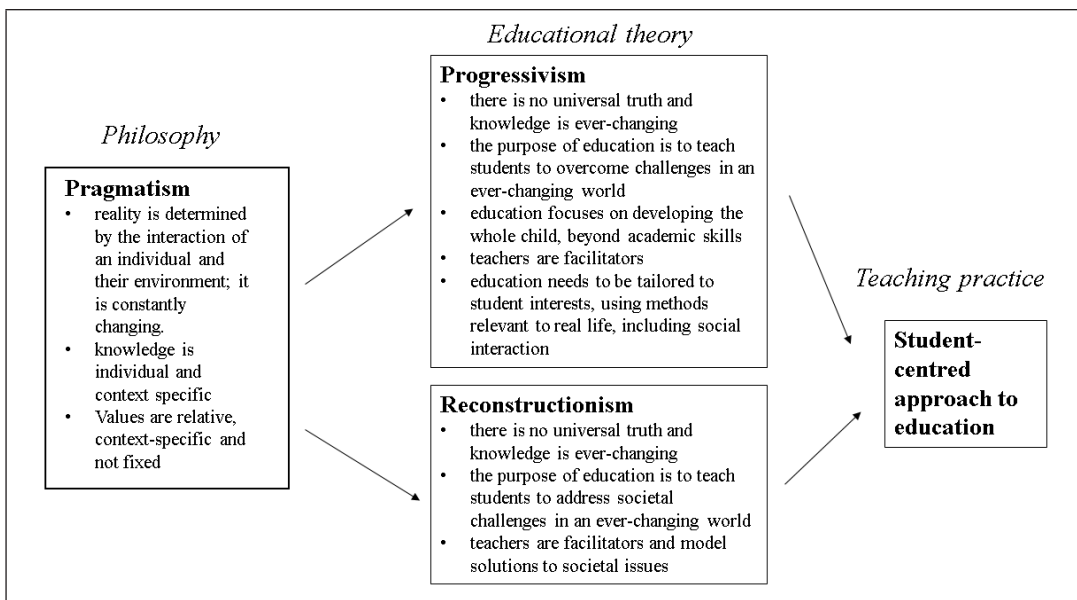
You will be able to assess understanding by selecting volunteers to share their visualisation with the class. Ensure that you select both female and male student teachers. The peer activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Student teachers may represent their visualisations in various ways. An example is provided in Box TG 7.3. Importantly, the diagram should differ from the diagrams presented in the Year 2 textbook. Student teacher's diagrams need to demonstrate a more nuanced understanding of these concepts and their relations.

Box TG 7.3. Visual representation of Pragmatism, Progressivism, Reconstructionism and teaching practice¹¹ – completed



[See Box 7.5 in textbook.]



Learning activity 6. Think-pair-share: Core ideas of educational theories

Time	15 minutes
Class organisation	Individual, pairs and whole class

¹¹ Image by author, used with permission.

Purpose

The purpose of this learning activity is for student teachers to consolidate their understanding of educational theory's ideas on curriculum, teaching and learning.

1. Direct student teachers to Learning activity 6 in the textbook.
2. Support and prompt individual student teachers as they complete Table 7.8. Encourage student teachers to discuss and expand their responses in pairs once they have individually completed an initial response.
3. Allow 10 minutes for student teachers to individually complete the activity, first individually and then in pairs. After 10 minutes, ask for volunteers to share their responses with the class. Discuss and provide constructive feedback on the different responses.



Assessment

Ask open-ended questions to encourage student teachers to think about possible responses for each of the theories. Provide hints if needed. You will be able to assess understanding by observing student teacher work and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The peer sharing activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Table TG 7.7 provides an overview of the range of responses student teachers may provide.

Table TG 7.7. Educational theories and their ideas on curriculum, teaching and learning – completed

Educational theory	Curriculum	Teaching	Learning
Perennialism	Is broad and intellectually demanding and identical for all students. It needs to represent worldly wisdom, including a focus on the classics.	Teachers are role models with authority. They are knowledgeable in all subject areas. All students are taught in the same way, using an authoritarian manner. Teaching involves managing student behaviour to ensure desirable outcomes.	The acquisition of broad subject-matter knowledge. Students performing exceptionally well are rewarded. Through education, learners can find their appropriate place in society.

Educational theory	Curriculum	Teaching	Learning
		Teacher education emphasises subject matter knowledge over pedagogy.	
Essentialism	Focuses on subject-matter knowledge (preserving knowledge, values and culture) and (basic) skills relevant in modern society.	Teachers are role models with authority. They are knowledgeable in their subject areas. All students are taught in the same way, using an authoritarian manner. Teaching takes place in an orderly and disciplined environment.	The acquisition of basic skills, higher order thinking skills and traditional subject matter knowledge.
Progressivism	Rejects the idea that there is a fixed body of knowledge that should be taught. Focuses on development of the whole child. Emphasises the importance of developing skills to tackle new problems in an ever-changing world. Curricula need to be tailored to address learner experiences and interests.	Teachers are facilitators, rather than a source of wisdom. They help students learn by facilitating interaction with their social and physical environment. Teachers tailor their lessons to student interest and needs, beyond academic aspects.	Learning is about satisfying interest by exploring ideas. Students need to learn through real-life experiences, experimentation and social interaction. This means that learning is very much seen as a social activity.
Reconstructionism	Curricula should focus on global societal issues, such as poverty, equality and environmental issues. There is a strong focus on teaching problem-solving skills.	Teachers are facilitators, who help students examine global issues and problems. Teachers and schools should model solutions to these problems.	Learning is about solving social problems to ensure ongoing survival of society.

[See Table 7.8 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers to reflect on what they learnt over the past two periods. How do they think this may be relevant to their teaching?
- Allow opportunity for student teachers to ask questions;
- Revisit the learning outcomes and TCSF competencies; and
- Thank student teachers for their attentiveness and participation.

Period 4

Educational implications of philosophy

This period is structured as follows:

Introduction and direct instruction	10 minutes
Learning activity 7	35 minutes
Check student teachers' understanding	5 minutes

Introduction and direct instruction

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to the fourth period of the lesson. Explain that this period will continue to focus on educational philosophies and teaching practice. The focus of this period will be on putting together all topics that have been covered in the lesson.
2. Link this period to Year 1 and Year 2 by asking student teachers to think about what other philosophies they learnt about that have not yet been discussed. Briefly gauge student teacher recall and understanding of Eclecticism.
3. Provide direct instruction using the contents of the section, 'Eclecticism'. Student teachers may review this section in the textbook when they complete Learning activity 7.
4. Allow opportunity for student teachers to ask questions about the content and to discuss their emerging understandings of eclecticism with a peer.



Learning activity 7. Reflection: Your personal educational philosophy

Time	35 minutes
Class organisation	Individual and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on the meaning and value of Eclecticism. This activity will stimulate reflection by inviting student teachers to reflect on educational implications of philosophy and their own philosophical views.

1. Direct student teachers to Learning activity 7 in the textbook. The questionnaire can be found in Annex 1 in their textbook (and this guide). Allow approximately 10 minutes for student teachers to complete the questionnaire.
2. Once all student teachers have completed the questionnaire, assist them in recording and scoring their responses in Table 7.9 (the scoring sheet is provided under “Possible student teachers’ responses”). Then, direct student teachers to calculate the totals for each of the philosophical views and identify their dominant philosophical view. The scoring activity should take approximately 10 minutes.
3. Ask student teachers to share their dominant philosophy and consistency of responses. Lead a 15-minute whole-class discussion, reflecting on the range of possible responses and implications for the concept of Eclecticism. Which philosophical perspectives are compatible, and which appear contradictory? How many student teachers appear to prefer an eclectic approach? Direct student teachers to the section on ‘Eclecticism’, which contains some basic information on this philosophical approach.



Assessment

Support individual student teachers as they complete the questionnaire. Remind them that there are no correct or incorrect responses.

You will be able to assess understanding by evaluating individual student teacher responses to the class discussion based on the questionnaire. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback. Student teachers may want to revisit their survey responses when working on their teaching philosophy statements.



Possible student teachers' responses

Responses to the survey should be scored as per Table TG 7.8.¹²

Table TG 7.8. Scoring guide for the educational philosophy survey

Question number	Progressivism	Perennialism	Essentialism	Existentialism
1	B	A	C	D
2	A	C	D	B
3	D	C	B	A
4	B	D	A	C
5	A	B	D	C
6	B	A	C	D
7	A	C	D	B
8	B	C	D	A
9	C	A	D	B
10	B	C	A	D
11	A	B	C	D

There are no right or wrong answers to this activity. The main purpose is to get student teachers to think about the implications of different educational philosophies and eclecticism. Student teacher responses are likely to show one or two dominant educational philosophies. Many students are likely to have views that are consistent with different philosophical perspectives, characteristic of an eclectic approach. Examples of philosophies that are contradictory include the views on the essence of education and the nature of the learner (Questions 1 and 2). An example of philosophies that are compatible include methods of teaching (Question 11).



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers to reflect on what they learnt in this lesson. How has this extended their knowledge of educational philosophy? How do they think this knowledge may inform their teaching?

¹² Jersin, P. D. (1972, p. 277).

- Allow opportunity for student teachers to ask questions;
- Revisit the learning outcomes and TCSF competencies; and
- Thank student teachers for their attentiveness and participation.



Expected student teachers' responses for the review questions in TB

Question 1: What are the three main branches of philosophy, and what is the key focus of each of these branches?

Answer: The three branches are Metaphysics, Epistemology and Axiology. Metaphysics focuses on rationalising the nature of reality. It is concerned with questions in relation to existence. Epistemology focuses on knowledge of knowing. It is concerned with questions related to how knowledge is acquired. Axiology focuses on values and is concerned with questions of ethics and aesthetics.

Question 2: What is educational philosophy?

Answer: Educational philosophy is an area of applied philosophy. It focuses on basic philosophical questions as well as issues that emerge from educational practice. Educational philosophy critically examines the foundations of theories used to guide educational practice.

7.2. Educational Philosophies and

Educational Practice

In this sub-unit, student teachers will examine educational philosophies in practice based on your knowledge of different educational philosophies. Student teachers will first identify implicit education philosophies of individuals and educational systems. Next, they will revisit Behaviourism, Cognitivism and Constructivism to identify their philosophical assumptions. In the last period of this sub-unit, student teachers will learn how student-centred, teacher-centred and society-centred values relate to different philosophies and theories.

7.2.1. Educational philosophies in practice

Expected learning outcomes

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

- Identify implicit education philosophies of individuals and systems;
- Identify philosophical assumptions in Behaviourism, Cognitivism and Constructivism; and
- Relate student-centred, teacher-centred and society-centred values to different philosophies and theories.



Competencies gained

A1.1.1 Give examples of how the students learn differently depending on their level of cognitive, physical, social, and emotional development

A3.2.2 Be aware of the social, linguistic and cultural background of parents, community elders and leaders when interacting with them

B1.2.1 Use teaching methods and learning strategies appropriate for the class - culture, size and type

C1.2.1 Identify theories and concepts that inform approaches to teaching and learning



Time: Three periods of 50 minutes



Learning strategies

Learning activity 1. Group discussion: Implicit philosophies of individuals

Learning activity 2. Think-pair-share: Implicit philosophies of systems

Learning activity 3. Jigsaw: Philosophical assumptions in behaviourism, cognitivism and constructivism

Learning activity 4. Visualisation: Philosophy, educational theory, and classroom practice



Assessment approaches: Questioning, observation, peer and whole-class discussion, reviewing student work



Preparation needed

Read the educational studies student teacher textbook Lesson 7.2.1.

Write relevant learning outcomes on board.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. The description of two educational systems in Annex 2 in this guide (and Student Teacher Textbook) are the stimulus for this activity.

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 4. N/A (other than textbook, note paper, and pen)

Period 1

Educational philosophies in practice

This period is structured as follows:

Introduction	5 minutes
Learning activity 1	15 minutes
Learning activity 2	20 minutes
Check student teachers' understanding	10 minutes

Introduction

Time	5 minutes
Class organisation	Whole class

1. Welcome student teachers to the second sub-unit of Unit 7. Educational philosophy. Explain that the focus of this sub-unit will be on identifying educational philosophies in practice.
2. Ask some student teachers to share their definitions of educational philosophy based on the previous educational philosophy lessons. This will help you link the contents of this sub-unit to student teachers' prior learning.
3. Relate the student responses to the importance of Educational philosophy and teaching and learning. Based on the content of the section, 'Education philosophies of individuals and systems', explain that the focus of this sub-unit will be on the analytical approach to philosophy. This will help student teachers connect theory and practice when they reflect on and develop their teaching philosophy in Sub-unit 7.3.



Learning activity 1. Group discussion: Implicit philosophies of individuals

Time	15 minutes
Class organisation	Whole class

Purpose

The purpose of this learning activity is for student teachers to identify implicit education philosophies of individuals. This will help them understand the philosophical foundations of different educational practices.

1. Direct student teachers to complete Learning activity 1 in the textbook. Allow a couple of minutes for student teachers to read the instructions and think about possible responses.
2. Lead a whole class discussion using the bullet points in the textbook as a guide; student teachers are asked to reflect on the implicit philosophies of some of their former teachers, by considering the following aspects:
 - The educational goals of teachers;
 - The content focus of the lessons;
 - The instructional strategies used by these teachers;
 - The types of learning activities conducted by students; and
 - The relative role of the teacher and students in classrooms.
3. Encourage student teachers to connect their responses to different educational philosophies and educational theories and explain their reasoning.



Assessment

You will be able to assess understanding by evaluating their contributions to the whole class discussion. The discussion will provide student teachers with feedback on their understandings of the relation between different educational practices of individuals and their teaching philosophy.



Possible student teachers' responses

Given the broad nature of this learning activity, there are many possible responses. There are no correct or incorrect responses. The main purpose of the activity is to stimulate student teacher's thinking about the implicit philosophies of individuals, and their relation to the philosophical perspectives and theories discussed in Sub-unit 7.1. For example, student teachers may provide the following responses:

- *The educational goals of teachers:* If the goals were to teach students basic skills and foundational knowledge, this is consistent with a Perennialist or Essentialist approach (rooted in a Realist or Idealist philosophy).
- *The content focus of the lessons:* Content of lessons was structured by subject, with a strong focus on basic skills. This is consistent with an Essentialist approach (rooted in a Realist or Idealist philosophy).
- *The instructional strategies used by these teachers:* If teachers used teacher-centred approaches, such as lectures and reading of materials, this is consistent with a Perennialist or Essentialist approach (rooted in Idealism or Realism).
- *The types of learning activities conducted by students:* Highly structured learning activities such as summarising and writing essays, consistent with a Perennialist or Essentialist approach (rooted in Idealism or Realism).
- *The relative role of the teacher and students in classrooms:* Environments where teachers are authoritarian are consistent with a Perennialist or Essentialist approach. If teachers take on a facilitating role and students are free to discover and direct their own learning, this is consistent with a Progressivist or Reconstructionist approach (rooted in Pragmatism or existentialism).



Learning activity 2. Think-pair-share: Implicit philosophies of systems

Time	20 minutes
Class organisation	Individual, Pairs and Whole class

Purpose

The purpose of this learning activity is for student teachers to identify the implicit philosophical underpinnings of two educational systems.

1. Link this activity to the previous activity. Explain that the educational philosophies of individuals are in part determined by the education system in which an individual is situated. This activity will focus on identifying implicit philosophies of systems.
2. Direct student teachers to Learning activity 2 and ask them to review Annex 2 in the Student Teacher Textbook (also in this guide) and complete Table 7.10 individually.
3. Allow approximately 10 minutes for student teachers to complete the activity individually before encouraging them to discuss their responses with a peer.
4. After approximately 15 minutes, ask volunteer student teacher pairs to share their responses and key points from their peer discussion.



Assessment

Support individual student teachers during the activity. Try to do this with encouraging conversation rather than checking for right or wrong answers.

You will be able to assess understanding by selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The peer sharing activity and class discussion will provide student teachers with feedback.

During the whole group sharing, ask open-ended questions to encourage student teachers to justify the reasoning behind their responses.



Possible student teachers' responses

Table TG 7.9 outlines possible responses for this activity. It is unlikely that student teachers will identify all these different features of the educational systems. However, you may draw upon the possible responses in the whole class discussion following the activity.

Table TG 7.9. Implicit philosophies of educational systems – completed

System	Implicit philosophies and justification
Singapore	<p>The historical focus of the Singaporean system appears to be built on <i>Realist</i> philosophy. The focus of the Singaporean system is equipping students with foundational knowledge and skills necessary for work and life. This is achieved through a highly subject-focused curriculum. This signals that there is a universal truth that students need to learn.</p> <p>As evidenced by selection tests and streaming, the system is highly stratified. This means that education needs to prepare students for their place in society. This appears to align with a <i>Perennialist</i> educational theory. The recent shifts in the Singaporean education system appear to align with a <i>Pragmatist</i> philosophy. For example, the system has recently started to focus on developing the whole child, including critical thinking, using pedagogies that require students to take an active role in their learning.</p>
Finland	<p>The Finnish system appears to be founded upon a combination of <i>Pragmatist and Existentialist</i> philosophy. The curriculum appears to recognise that there is a universal reality (as taught in foundational subjects), but this is constantly changing and subject to individuals' interactions with their environment.</p> <p>The Finnish system appears to promote student-centred approaches to teaching, although teachers have much freedom in determining teaching and learning strategies. Teachers are considered experts yet do not have authoritarian relationships with students. Student agency is highly encouraged and considered essential to successful learning. The consultation of students in reforming the curriculum clearly places a strong emphasis on student voice and their role in their own learning.</p> <p>There is some focus on learning of basic knowledge and skills, as consistent with a <i>Realist</i> philosophy. However, ideas stemming from <i>Progressivist</i> educational theory appear to dominate the Finnish education system. For example, there is a strong focus on developing the whole child, beyond academic outcomes. The unique needs of students within the ever-changing world are central, this aligns with Progressivism. There is also much emphasis on meaningful learning experiences and learning in interaction with others. The Finnish curriculum also highlights the roles of students in ever-changing societies, which is consistent with Reconstructionism.</p>

[See Table 7.10 in textbook.]



Check student teachers' understanding

Time	10 minutes
Class organisation	Whole class

- Allow opportunity for student teachers to ask questions;
- Allow opportunity for student teachers to reflect on how they may be able to identify implicit educational philosophies of individuals and systems;
- Briefly discuss the implicit philosophies of the Myanmar education system; how are these different or similar to those discussed in Learning activity 2?
- Allow opportunity for student teachers to reflect on the interdependence of an individual's teaching philosophy and the educational system in which they operate.

Period 2

Educational philosophies in practice

This period is structured as follows:

Introduction	10 minutes
Learning activity 3	35 minutes
Check student teachers' understanding	5 minutes

Introduction

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to the second period of the lesson. Explain that this period will focus on philosophical assumptions of foundational learning theories discussed in previous units. Outline the relevant learning outcome for the period:
 - Identify philosophical assumptions in Behaviourism, Cognitivism and Constructivism.
2. Ask some student teachers to share their understandings of Behaviourism, Cognitivism and Constructivism. Student teachers should be familiar with these learning theories.



Facilitator's notes

If needed, student teachers can revisit the key ideas of each foundational learning theory as summarised in the sections, 'Behaviourism', 'Cognitivism' and 'Constructivism' in the textbook.



Learning activity 3. Jigsaw: Philosophical assumptions in Behaviourism, Cognitivism and Constructivism

Time	35 minutes
Class organisation	Groups of 3-6 and whole class

Purpose

The purpose of this learning activity is for student teachers to identify philosophical assumptions in Behaviourism, Cognitivism and Constructivism.

1. Explain to student teachers that this activity will ask them to identify the philosophical assumptions in foundational learning theories.
2. Direct student teachers to read the instructions for Learning activity 3 in the textbook. Remind student teachers that they may consult the textbook for a brief description of the three foundational learning theories.
3. Divide student teachers into groups of 3-6 for the expert groups. Aim to create an equal number of expert groups for each of the three foundational learning theories. Allow 15 minutes for student teachers to identify the philosophical assumptions in their learning theory.
4. After 15 minutes, regroup student teachers into groups of three (ensuring groups consist of members who focused on a different learning theory). Encourage student teachers to teach their peers about the myth they evaluated. Ask student teachers to summarise key points of the group discussion in relation to each learning theory in Table 7.11.
5. After 30 minutes, ask some student teachers to share their responses.



Assessment

Ask open-ended questions to encourage student teachers to think about the philosophical assumptions that underpin each learning theory. Encourage student teachers to summarise their identified philosophical assumptions in their own words. You will be able to assess understanding by observing student teacher work, observing group interactions and by selecting student teachers to share their responses with the group. The group discussions and whole class sharing will provide student teachers with feedback.



Possible student teachers' responses

Possible responses are presented in Table TG 7.10.

Table TG 7.10. Identify philosophical assumptions in Behaviourism, Cognitivism and Constructivism – completed

Learning theory	Summary of philosophical assumptions
Behaviourism	Aligns with a Realist philosophy, because the focus is on reality as objective and fixed. Appropriate responses to environmental stimuli, as determined by teachers, are transferred to students, who respond in predictable ways. This means that knowledge is the result of exposure to environmental stimuli. Teachers need to shape the environment to shape optimal conditions for student learning.
Cognitivism	Aligns with a Realist philosophy, because the focus is on reality as objective and fixed. Yet, cognitivism also appears to have roots in Pragmatism, given the consideration of an individual's interaction with their environment, and the impact of prior knowledge. Learning is regarded as something that occurs in the minds. However, the main focus is for teachers to ensure students effectively acquire knowledge and skills reflective of a universal truth. The cognitivist approach corresponds with Essentialism, which focuses on individual development of higher-order skills for modern-day society.
Constructivism	Aligns with a Pragmatist and Existentialist philosophy, because it rejects the idea of an absolute truth. Instead, constructivism poses that all knowledge is relative and socially-constructed, meaning that there is a key focus on an individual's interaction with the environment. This aligns with Progressivism, which highlights the need to prepare students for an ever-changing world. Progressivist ideas on teaching methods align with constructivist views, including a focus on social interaction, student-centered methods, and use of methods that require students to be active and learn in real-life contexts. Teachers guide rather than transfer learning, and the results of teaching on individual student learning are complex and unpredictable.

[See Table 7.11 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Allow opportunity for student teachers to ask questions;
- Allow opportunity for student teachers to reflect on how teaching practices may be influenced by different philosophical assumptions;
- Allow opportunity for student teachers to reflect on which assumptions are incompatible and which may be complementary; and
- Thank student teachers for their participation and attentiveness.

Period 3

Educational philosophies in practice

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 4	30 minutes
Check student teachers' understanding	10 minutes

Introduction/ Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to the third period of the lesson. Explain that this period will focus on the relation between different approaches to classroom practices and philosophical assumptions. Outline the relevant learning outcome for the period:
 - Relate student-centred, teacher-centred and society-centred values to different philosophies and theories.
2. Ask some student teachers to share their understandings of student-centred, teacher-centred and society-centred values. How do they think these different values result in different approaches to classroom practice?
3. Ask student teachers to read the section, 'Revisiting society-centred philosophy' in the textbook. Allow opportunity for student teachers to ask questions and discuss their emerging understandings with their peers. You may want to briefly point out the most important features of society-centred philosophical perspectives.



Learning activity 4. Visualisation: Philosophy, educational theory, and classroom practice

Time	30 minutes
Class organisation	Groups of 3 or 4 and whole class

Purpose

The purpose of this learning activity is for student teachers to critically reflect on the relation between philosophy, educational theory, and how different values result in classroom practice.

1. Direct student teachers to Learning activity 4 in the textbook.
2. Assign student teachers to groups of 3 or 4. Encourage them to reflect on Figure 7.3 and critically reflect on the depicted relationships. Then, encourage them to create a new visualisation in Box 7.6.
3. Allow 20 minutes for student teachers to complete the activity in their groups.
4. After 20 minutes, ask several volunteers to share their responses. Lead a whole class discussion of approximately 10 minutes. In the discussion, compare and contrast possible differences in student teacher responses about the relation between philosophy, educational theory, and classroom practice.



Assessment

Ask open-ended questions to encourage student teachers to think about the relation between philosophy, educational theory, and classroom practice. Provide hints or refer student teachers to sections in the textbook if needed.

You will be able to assess understanding by observing student teacher work, observing peer discussion, and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The group activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Due to the contested nature of classifications of philosophical perspectives, there is a range of possible responses. It is important that student teachers understand that responses to this activity are subject to discussion and are not clear-cut.

An example of a possible response is displayed in Box TG 7.4. In contrast to the Year 2 diagram, the diagram in Box TG 7.4 shows the different aspects along a continuum of practical to abstract philosophical. The educational theories link philosophy and approaches to classroom practice. Student teachers may also connect

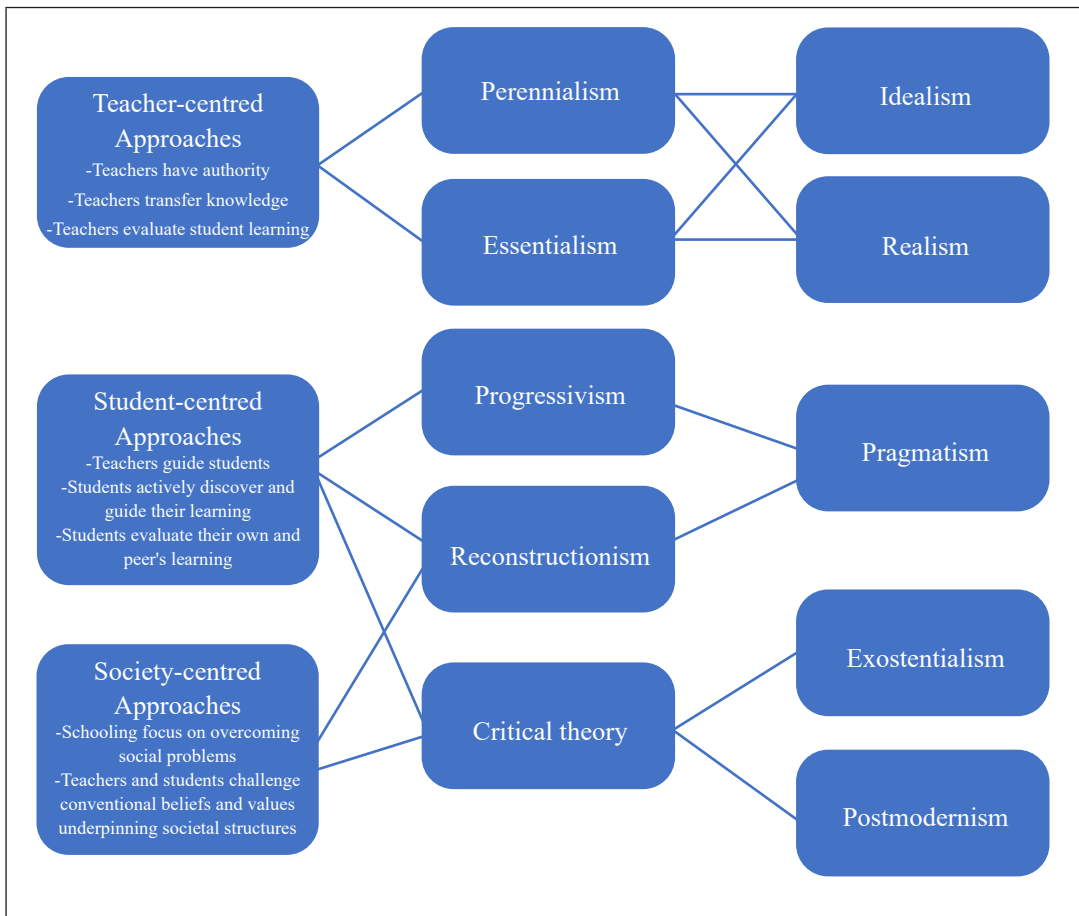
Reconstructionism to society-centred approaches, given its focus on addressing the needs of society. Further, student-teachers may connect critical theory to a student-centred approach, given its focus on student voice student-initiated learning.

Box TG 7.4. Visual representation of philosophy, educational theory, and classroom practice¹³ – completed

Approaches to classroom practice

Educational theory

Philosophy



[See Box 7.6 in textbook.]

¹³ Image by author, used with permission.



Check student teachers' understanding

Time	10 minutes
Class organisation	Whole class

- Ask student teachers to revisit the KWL chart in Learning activity 6 of Sub-unit 7.1. What have they learnt? Allow time for student teachers to add to their responses in Table 7.5. Then, ask some volunteers to share their responses;
- Allow opportunity for student teachers to ask questions and reflect on their learning;
- Revisit the learning outcomes and TCSF competencies for the whole lesson;
- Explain that the next lesson will focus specifically on student teacher's teaching philosophy; and
- Thank student teachers for their participation and attentiveness.



Expected student teachers' responses for the review questions in TB

Question 1: Which aspects of education are underpinned by philosophical perspectives?

Answer: All educational activities at all levels are underpinned by philosophical perspectives. At times, these can be implicit. For example, the nature of education systems, what teachers do in classrooms, and theories of learning are all founded upon philosophical perspectives.

Question 2: Why is a classification of philosophies and educational theories according to approaches to classroom practice problematic?

Answer: There is overlap in the types of approaches advocated by different philosophies and educational theory. For example, the educational theory Reconstructionism advocates classroom approaches that are both student-centred and society-centred. Classifying different philosophical perspectives as fitting with one or the other approach is therefore misleading and problematic.

7.3. Personal Teaching Philosophy

In this sub-unit, student teachers will revisit and refine their teaching philosophy. In Year 2, they learnt that a personal teaching philosophy is a statement which describes a teacher's beliefs, values, ideas and goals. This statement reflects a teacher's professional identity and provides directions for a teacher's classroom practice. In this sub-unit, student teachers will be guided in reflecting on, refining and communicating their teaching philosophy. They will also reflect on the way your teaching philosophy has developed.

7.3.1. Consolidating and communicating your teaching philosophy

Expected learning outcomes

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

- Reflect on the way their teaching philosophy has developed; and
- Communicate their teaching philosophy in different ways.



Competencies gained

C1.2.1 Identify theories and concepts that inform approaches to teaching and learning

C1.2.2 Describe own approach to teaching and 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



Time: Four periods of 50 minutes



Learning strategies

Learning activity 1. Reflection: Your teaching philosophy

Learning activity 2. Essay: Refining your teaching philosophy

Learning activity 3. Role play: Your teaching philosophy in a job interview

Learning activity 4. Creative expression: Your teaching philosophy

Learning activity 5. Reflection: Philosophical grounding of your teaching philosophy

Learning activity 6. Reflection: Development of your teaching philosophy



Assessment approaches: Questioning, observation, peer and whole-class discussion, peer and self-assessment, reviewing student work



Preparation needed

Revisit the Educational Studies Student Teacher Textbook Year 2 Sub-unit 7.2 to revisit learning activities related to writing a personal teaching philosophy statement. This lesson will build on the Year 2 materials.

Write relevant learning outcomes on board.



Resources needed

Learning activity 1. Student teachers will need to analyse their personal teaching philosophy statement developed in Period 4 of Sub-unit 7.2 (Learning activity 6), which they had to submit for assessment.

Learning activity 2. Student teachers will need to refine their personal teaching philosophy statement developed in Period 4 of Sub-unit 7.2 (Learning activity 6), which they had to submit for assessment. If students desire to make many changes, they may start a new document. To support student teachers in completing this activity, you may want to provide two pages of paper for each student teacher.

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 4. Depending on available resources, student teachers may complete this activity using flipchart paper, whiteboards, or digital tools. However, they may also complete the activity in Box 7.7.

Learning activity 5. This activity builds on student teachers' responses to Learning activities 2, 3 and 4. Student teachers should have access to these responses for completing the activity.

Learning activity 6. Student teachers may wish to review their responses to Learning activity 1, as well as their Year 2 and revised teaching philosophy statements.

Period 1

Consolidating and communicating your teaching philosophy

This period is structured as follows:

Introduction	10 minutes
Learning activity 1	35 minutes
Check student teachers' understanding	5 minutes

Introduction

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to the lesson. Explain that this lesson will focus on applying knowledge of educational philosophy to further develop student teachers' personal teaching philosophies.
2. Outline the relevant learning outcomes for the period:
 - Reflect on the way your teaching philosophy has developed; and
 - Communicate your teaching philosophy in different ways.
3. Ask student teachers why it is important to develop a teaching philosophy.

4. Ask student teachers if they remember writing their personal philosophy statement in Year 2. Briefly invite student teachers to reflect on:
 - The nature of the teaching philosophy statements; which aspects did they discuss?
 - How their beliefs, values and attitudes have changed over the past year?Explain that a teacher's teaching philosophy is always subject to change. Frequent reflection on one's teaching philosophy provides critical insights to inform improvement of one's teaching practice.
5. Allow opportunity for student teachers to ask questions.



Learning activity 1. Reflection: Your teaching philosophy

Time	35 minutes
Class organisation	Individual, pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on their teaching philosophy as formulated in Year 2. This will help them identify aspects they may wish to revise or refine.

1. Direct student teachers to Learning activity 1 in the textbook.
2. Ask student teachers to read their personal teaching philosophy statement developed in Period 4 of Sub-unit 7.2 (Learning activity 6). In this activity, they will systematically reflect on aspects of their personal teaching philosophy to plan for revision.
3. Ask student teachers to complete the activity individually. Allow approximately 25 minutes for student teachers to complete the activity.
4. Encourage student teachers to discuss their responses with a peer once they have completed their response in Table 7.12. This can be particularly valuable in helping them articulate how they plan to change their teaching philosophy statement.
5. After 30 minutes, ask several volunteers to share their responses and discuss how these responses can inform revision of personal teaching philosophy statements.



Assessment

Ask open-ended questions to encourage student teachers to reflect on which aspects of their teaching philosophy reflect their current beliefs, values and attitudes, and which have changed. Encourage student teachers to think about any other aspects they may want to add.

You will be able to assess student teachers on this task by observing student teachers' work, observing peer discussion, and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The peer sharing activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Responses to this activity are likely to vary based on the different nature of student teachers' teaching philosophy statements and the extent to which their professional identity has developed over the past year. Ensure that when student teachers have identified aspects they would like to change, they have formulated clear strategies for doing so.

For example, their understandings of how students learn are likely to be more nuanced than their understandings in Year 2. They may want to change a statement like "I believe that all students learn best by problem solving" to "I believe that students learn best when learning activities are challenging yet do not cause cognitive overload".

Student teachers should be able to identify several elements that they wish to change or refine. The outcomes of this activity will form the basis for revising their personal teaching philosophy in Period 2 of this lesson.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Allow opportunity for student teachers to reflect on how their teaching philosophy has changed;
- Encourage student teachers to reflect on how the implicit philosophical assumptions of the Myanmar education system are reflected in their personal teaching philosophy; and
- Explain that in the next period, student teachers will revise their teaching philosophy statement using their responses to Learning activity 1.

Period 2

Consolidating and communicating your teaching philosophy

This period is structured as follows:

Learning activity 2	45 minutes
Check student teachers' understanding	5 minutes



Learning activity 2. Essay: Refining your teaching philosophy

Time	45 minutes
Class organisation	individual

Purpose

The purpose of this learning activity is for student teachers to refine their teaching philosophy statement.

1. Direct student teachers to Learning activity 2 in the textbook.
2. Encourage student teachers to review the generic guidelines for writing a teaching philosophy outlined in the section, 'Refining your teaching philosophy statement'.
3. Encourage student teachers to use responses from Learning activity 1 in Period 1 to refine their personal teaching philosophy statement developed in Year 2. They may find it helpful to start a new document if they feel that they need to make many changes.
4. Highlight for student teachers that you will assess their teaching philosophy

statement at the end of the lesson using the rubric displayed in Table 7.13 in their textbook.

5. Allow student teachers 45 minutes to complete this activity. Student teachers will revisit their written teaching philosophy statement in Period 4.



Facilitator’s notes

Some student teachers may wish to spend more time refining their teaching philosophy statement at home.



Assessment

Encourage student teachers to think about any further refinements they may like to make in addition to their responses in Table 7.12.

You will be able to assess student teachers’ teaching philosophy statements by observing student work and asking questions. Student teachers will submit their written teaching philosophy statements for assessment at the end of Period 4.



Possible student teachers’ responses

Given the personal nature of a teaching philosophy statements, student teachers are likely to generate a wide variety of responses. You will formally assess their statements at the end of the lesson after Period 4. However, the assessment rubric in Table TG 7.11 can guide your observations of student work and can help inform your feedback.

Table TG 7.11. Rubric for assessing a teaching philosophy statement

Criteria for success	Advanced	Satisfactory	Emerging
1. Reflects personal teaching philosophy in relation to the following aspects:			
• Aim of education			
• Who should be educated			
• How students learn			
• What should be taught			

• Differentiation according to students' backgrounds, interests, and abilities			
• Role of the teacher			
• How the teacher should teach			
• Role of the student			
2. Adheres to the following style and format guidelines:			
• Appropriate length (approximately 300-400 words)			
• Is clearly written and easy to follow			
• Written in first-person language			
• Uses concrete statements and examples			
3. Other observations:			

[See Table 7.13 in textbook.]

Student teachers may reflect on the following themes in relation to the aspects of their teaching philosophy:

- *Aim of education*: the broader aims of education for individuals and societies. For example, student teachers may say: “I believe the aim of education is to equip students with knowledge, skills and the capacity to overcome challenges in an ever-changing world”.
- *Who should be educated*: focuses on education as a tool to change or maintain the status of an individual or society. For example, student teachers may say: “I believe all children should be educated to enable them to reach their full potential in life, regardless of their starting points or backgrounds.”
- *How students learn*: focuses on how learning takes place. For example, student teachers may say: “Students learn best when they are able to make sense of new knowledge and experiences by relating them to what they

already know. This is because students use cognitive frameworks to organise knowledge and make sense of the worlds around them”.

- *What should be taught:* focuses on curriculum content. For example, student teachers may say: “To ensure students acquire foundational skills as well as broader skills to equip them for the 21st century, curricula should focus on basic literacy, numeracy and other subject-dependent content, as well as cross-curricular skills like creativity, critical thinking and problem-solving.”
- *Differentiation according to students’ backgrounds, interests, and abilities:* focuses on tailoring of teaching and learning to student needs. For example, student teachers may say: “I believe that teachers should enable all students to reach their potential, regardless of their starting points. This means that as a teacher, I need to differentiate my teaching. In addition to accounting for student abilities, I will take account of their backgrounds and interests to ensure my lessons are engaging”.
- *Role of the teacher:* focuses on what the teacher does, and if the approach to teaching is mainly teacher-centred or student-centred. For example, student teachers may say: “I believe that to maximise student learning outcomes, teachers need to draw on a range of teacher-centred or student-centred approaches. When students are introduced to new materials, teacher-centred approaches should be used. Once students are more proficient, teachers can gradually shift responsibility for learning to students, for example by using group work. Teachers play an important role as expert and facilitators of learning. Although student-centred approaches are beneficial to student engagement, teachers remain the authority in the classroom.”
- *How the teacher should teach:* focuses on how teachers should facilitate learning. For example, student teachers may say: “How teachers should teach depends on the types of learning outcomes they want students to achieve. Higher-order learning outcomes require teachers to use more complex teaching methods which enable students to gather multiple perspectives, critically evaluate, and make informed judgements about a certain topic.”
- *Role of the student:* focuses on what the student does, and to what extent they play an active role in their learning. For example, student teachers may say: “I believe that to learn effectively, students must listen carefully to teachers. Students also need to respond to teachers in a way that is respectful and does not undermine their autonomy. However, students can express their interests to their teachers if asked to do so. This can help teachers tailor the lessons to their interests and needs.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers to reflect on the nature of their refinements in their teaching philosophy statement. Which aspects stand out as being stable, and which aspects have changed substantially?
- Encourage student teachers to reflect on how their teaching philosophy relates to implicit philosophical assumptions of the Myanmar education system;
- Encourage student teachers to reflect on how their teaching philosophy is different or similar compared to those of their former high school teachers (as discussed in Learning activity 1 of Lesson 7.2.1);
- Allow opportunity for student teachers to ask questions;
- Allow opportunity for student teachers to reflect on what they learnt about how to write a teaching philosophy statement;
- Revisit the learning outcomes and TCSF competencies; and
- Explain that the next period will focus on other ways to communicate a teaching philosophy.

Period 3

Consolidating and communicating your teaching philosophy

This period is structured as follows:

Learning activity 3	25 minutes
Learning activity 4	20 minutes
Check student teachers' understanding	5 minutes



Learning activity 3. Role play: Your teaching philosophy in a job interview

Time	25 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to practise verbally communicating their teaching philosophy.

1. Direct student teachers to Learning activity 3 in the textbook.
2. Allow approximately 5 minutes for each role play; student teachers should swap roles after 5 minutes. Encourage student teachers to copy and discuss their peer's notes and reflect on their own and their peer's responses using the reflection questions in the textbook. After 20 minutes, invite some volunteers to share their reflections and discuss differences and commonalities..



Assessment

Ask open-ended questions to encourage student teachers to elaborate on their responses. Provide further prompts if needed. The point of this activity is for student teachers to practise verbally communicating their teaching philosophy. This activity invites student teachers to role play a situation which they are likely to encounter in their careers. Assessment should therefore focus on stimulating thinking, rather than gauging understanding.



Possible student teachers' responses

As noted, the main purpose of this activity is to stimulate reflection and thinking. Students are likely to discuss aspects listed in Tables 7.12 and 7.13, but may also identify additional aspects such as their views on effective use of resources and teaching materials.

If discrepancies arise between student teacher's verbal and written teaching philosophies this can inform valuable reflection; student teachers will be encouraged to revisit their responses to this activity in Period 4.



Learning activity 4. Creative expression: Your teaching philosophy

Time	20 minutes
Class organisation	Individual and whole class

Purpose

The purpose of this learning activity is for student teachers to practise communicating their teaching philosophy in a creative way. This will help them understand how to clearly communicate their teaching philosophy and will encourage further reflection.

1. Direct student teachers to Learning activity 4 in the textbook.
2. Given the individual nature of a teaching philosophy, this activity has been designed to be completed individually. However, students may consult one another and collaborate in the creative expression aspect of this activity. The activity can be completed in Box 7.7. Depending on available resources, student teachers may complete this activity using flipchart paper, whiteboards, or digital tools.
3. Allow approximately fifteen minutes for student teachers to complete activity. Then, ask some volunteers to share their responses. Discuss and encourage reflection on the strengths and limitations of different ways of communicating a teaching philosophy.



Assessment

Ask open-ended questions to encourage student teachers to think of creative ways to communicate their teaching philosophy. Encourage student teachers to think about the most important aspects they want to communicate.

You will be able to assess student teacher work by observing their work and selecting volunteers to share their work with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.



Possible student teachers' responses

Student teachers may communicate their teaching philosophies in various ways. Suggested formats include a poem, create a visual representation, or describe your teaching philosophy using a metaphor or quote. For example, they may identify a quote that captures the essence of their teaching philosophy, such as

“The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires”.¹⁴



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers to reflect on their responses to Learning activity 3 and 4. How are their responses similar or different compared to their written teaching philosophy statement? Explain that student teachers will revisit their responses to these activities in the final period of the lesson.
- Allow opportunity for student teachers to ask questions and reflect on their learning.
- Explain that the next period will focus on (1) further refining their teaching philosophy statement and (2) reflection on how their teaching philosophy has developed.

Period 4

Consolidating and communicating your teaching philosophy

This period is structured as follows:

Learning activity 5	30 minutes
Learning activity 6	15 minutes
Check student teachers' understanding	5 minutes



Learning activity 5. Reflection: Philosophical grounding of your teaching philosophy

Time	30 minutes
Class organisation	Individual and whole class

¹⁴ William Arthur Ward <<https://www.azquotes.com/quotes/topics/philosophy-of-education.html>>

Purpose

The purpose of this learning activity is for student teachers to reflect on the philosophical grounding of their teaching philosophy. This will help them connect theory of educational philosophy and teaching practice. These insights can help them further refine their teaching philosophy statement.

1. Direct student teachers to Learning activity 5 in the textbook.
2. Given the individual nature of student teachers' teaching philosophies, this activity will be completed individually.



Facilitator's notes

Student teachers may consult a peer if they experience difficulties in connecting their responses to the different aspects to a philosophy or educational theory.

3. Allow approximately 15 minutes for student teachers to complete Table 7.15.
4. Once student teachers have completed Table 7.15, encourage them to further refine their teaching philosophy statements. At the end of this lesson, student teachers will submit their teaching philosophy statement for assessment.
5. After 25 minutes, ask some volunteers to share their reflections with the class. A brief discussion will help student teachers get a sense of other student teachers' responses.



Assessment

Ask open-ended questions to encourage student teachers to reflect on the philosophical grounding of their teaching philosophy. Remind student teachers that their teaching philosophy may align to more than one philosophy or educational theory.

You will be able to assess understanding by observing student teacher work and selecting volunteers to share their responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.

By the end of this lesson, student teachers will submit their teaching philosophy statement for assessment. You will be able to assess student teachers' teaching philosophy statements using the rubric in Table TG 7.11.



Possible student teachers' responses

Given the personal nature of teaching philosophy statements, student teachers are likely to generate a wide variety of responses. Responses in the column "Philosophy" should reflect the major philosophies discussed in this unit (Idealism, Realism, Pragmatism, Existentialism or Postmodernism). Responses in the column "Educational theory" should reflect the educational theories discussed in this unit (Perennialism, Essentialism, Progressivism, Reconstructionism or Critical theory). Depending on student teachers' perspectives on the different aspects, more than one response may be appropriate.

Student teachers may also provide more than one response to the question "Overall, would you characterise your approach to teaching as student-centred, teacher-centred, or society-centred?" In assessing student responses, it is helpful to evaluate the alignment between their identified philosophies and educational theories and the identified approach to teaching.

If student teachers' teaching philosophy clearly draws on different philosophical perspectives it can be considered as eclectic. However, at times they may have identified inconsistencies that are not compatible. For example, combining an authoritarian teacher role (as aligned with a Perennialist and Essentialist perspective) with an active student role (as aligned with a Pragmatist perspective) would be problematic in practice.



Learning activity 6. Reflection: Development of your teaching philosophy

Time	15 minutes
Class organisation	Individual and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on how their teaching philosophy has developed.

1. Direct student teachers to Learning activity 6 in the textbook.
2. In this activity, student teachers will reflect on how their teaching philosophy has developed. Their teaching philosophy as communicated in this lesson in writing, orally and in a creative way is the object of their reflection. You may also want to encourage student teachers to revisit their responses to Learning activity 1 of this lesson.
3. Allow 10 minutes for student teachers to individually reflect and complete Table 7.16. After 10 minutes, ask some volunteers to share their responses with the class. Discuss the differences in how student teachers' teaching philosophies have developed.



Assessment

Ask open-ended questions to encourage student teachers to reflect on how their teaching philosophy has developed. Encourage student teachers to think about qualitative rather than quantitative differences (for example, a reflection stating that their statement is now 400 words instead of 250 words is not informative). Also encourage student teachers to think about how what they learnt in the past year as well as within this unit has informed the development of their teaching philosophy.

You will be able to assess student teachers' reflection by observing their work and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback. When assessing student teachers' teaching philosophy statements (see Learning activities 2 and 5), you may want to provide feedback on how it has developed compared to the statement submitted in Year 2.



Possible student teachers' responses

Given the personal nature of teaching philosophy statements, student teachers are likely to generate a wide variety of responses. Sample responses are provided below.

- “How would you describe the way your teaching philosophy has developed over the past year?”
Response: My teaching philosophy has developed substantially. I still hold true to my original beliefs and values, yet I have been able to articulate these in a much more nuanced way. I also believe my teaching philosophy is more firmly grounded in the Pragmatist philosophy and associated Progressivist educational theory.
- “What would you say is the most significant change you have made to your teaching philosophy?”
Response: The most significant change I have made relates to the aspect “how students learn”. My philosophy is more detailed and clearly articulates my vision underpinning my professional practice.
- “What was the most important thing you learnt over the past year that has contributed to the development of your teaching philosophy? Explain why and how this impacted your teaching philosophy.”
Response: Over the past year, my understandings of how students can be activated and the role of social interactions and learning in real-life contexts has substantially increased. This has enabled me to describe how students learn in more depth.



Check student teachers’ understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers to reflect on what they learnt in this unit. How do they think this will help them become better teachers? Student teachers may want to add to their responses to the KWL chart in Learning activity 6 of Sub-unit 7.1.
- Ask student teachers to reflect on how they may use knowledge of educational philosophy once they start teaching; do they have a plan in place to continue to reflect on and refine their teaching philosophy?
- Allow opportunity for student teachers to reflect on which aspects of their teaching philosophy have remained stable, and which have changed. To what extent do they believe their teaching philosophy is influenced by the implicit philosophical underpinnings of the Myanmar education system?

- Allow opportunity for student teachers to ask questions
- Thank student teachers for their attentiveness and participation.



Expected student teachers' responses for the review questions in TB

Question 1: What is a teaching philosophy?

Answer: A teaching philosophy reflects a teacher's beliefs, values, ideas and goals about teaching and learning which underpin their professional practice. It is subject to change over the span of a teacher's career. For example, accumulation of content knowledge, pedagogical knowledge and classroom experience can impact a teacher's teaching philosophy. Teachers may communicate their teaching philosophy in various ways, such as through a written statement, orally or using a creative way of expression such as a poem.

Question 2: What are the benefits of reflecting on and refining your teaching philosophy?

Answer: A teaching philosophy continues to develop over the span of a teacher's career. Regularly reflecting on the alignment between your teaching philosophy and your professional practice can help ensure these align. Refinement of your teaching philosophy will also help you develop your unique identity as a teacher.

Unit Summary



Key messages

- Three major branches of philosophy are Metaphysics, Epistemology and Axiology.
- All educational activities at all levels are underpinned by philosophical perspectives.
- A teacher needs to understand the relationship between philosophy, educational philosophy, educational theory and teaching. This understanding will help them to critically evaluate and modify their own teaching practice.
- A teacher's teaching philosophy is determined by a combination of their content knowledge, pedagogical knowledge and classroom experience.
- Major philosophies or schools of thought are Idealism, Realism, Pragmatism and Existentialism. These philosophies have certain big ideas in common, which is why they have been grouped together. However, there are differences in the views of individual philosophers within each philosophy.
- Educational theories associated with major philosophies are Perennialism, Essentialism, Progressivism and Reconstructionism. These theories differ in their views on curriculum, teaching and learning.
- Another popular approach to philosophy is Eclecticism. An Eclectic approach draws on a number of educational philosophies and educational theories.
- All aspects of education are underpinned by philosophical perspectives, but these are often implicit. Individual teachers and educational systems are likely to be founded upon a range of philosophical assumptions.
- Although the philosophical assumptions of Behaviorism and Cognitivism partly overlap, these learning theories advocate very different teaching and learning strategies. Philosophical assumptions in constructivism partly overlap with cognitivism, yet constructivism is underpinned by very different perspectives on the nature of learning, role of the teacher and role of students.
- Some educational philosophies and educational theories have clear direct implications for classroom practice. Yet, in other cases, the implications are less clear-cut. Different philosophical perspectives may inform a range of approaches to teaching. These can be categorised along a continuum of teacher-centred, student-centred and society-centred.

- A teaching philosophy constantly changes as a result of a teacher's new knowledge and experience.
- Reflecting on your teaching philosophy can help you align your desired and actual professional practices.



Unit reflection

In Unit 6, Lesson 6.1.1, student teachers looked at the most recent developments in the Myanmar education system and aligned recent educational reforms with the NESP Priority Areas. How do these developments align with the different philosophies and educational theories discussed in this unit?

In this unit, student teachers refined their personal teaching philosophy. How much do they think their teaching philosophy will change once they start teaching? Which factors do they think will affect the development of their teaching philosophy? How much do they think their teaching philosophy will have changed in twenty years?



Further reading

7.1. Consolidating Understanding of Educational Philosophy

De Las Alas, P. (2018, June 21). *Nature, scope & importance of philosophy of education* [Slides]. Slideshare. <https://www.slideshare.net/pauldelasalas37/nature-scope-importance-of-philosophy-of-education>

7.2. Educational Philosophies and Educational Practice

Siegel, H. (2020, October 23). Philosophy of education. In *Encyclopaedia Britannica*. <https://www.britannica.com/topic/philosophy-of-education>

7.3. Personal Teaching Philosophy

Center for Excellence in Learning and Teaching. (n.d.). *Writing a teaching philosophy statement*. Iowa State University. <https://www.celt.iastate.edu/teaching/document-your-teaching/writing-a-teaching-philosophy-statement>

Grundman, H. G. (2006). Writing a teaching philosophy statement. *Notices of the American Mathematical Society*, 53(11). <https://www.ams.org/notices/200611/comm-grundman.pdf>

Unit 8

Educational Assessment

In this unit, student teachers will deepen their knowledge about assessment and how it can be used effectively to enhance teaching and learning. In Sub-unit 8.1, they will examine the four pillars of assessment and their role in education. They will analyse the objectives of assessment in relation to each of the four pillars of assessment.

Lesson 8.2.1 investigates the role of assessment in teaching and learning cycles. Student teachers will examine how assessment is interwoven with pedagogy to enhance learning. In Lesson 8.2.2, they will examine a range of learning taxonomies. These are frameworks which can be used to map the ways in which learning progresses and to monitor learning progress. They will discuss the benefits and limitations of peer and self-assessment and you will learn about balancing effective assessment with sustainability.

Sub-unit 8.3 focuses on school-based assessment. Lesson 8.3.2 examines the importance of building validity, reliability, objectivity and fairness into judgement-based assessment. Student teachers will learn how to create robust rubrics that can be used as tools to maintain objectivity in assessment. They will also learn to analyse rubric data to determine the reliability of the tool. Lesson 8.3.2 focuses on how measures of centrality and measures of variability can be used by teachers to analyse student data. Student teachers will evaluate the benefits and limitations of these statistics for understanding student learning. In Lesson 8.3.3, they will calculate percentiles and percentile rank. They will discuss uses of these statistics and how they may be beneficial or harmful for different groups of students. Lesson 8.3.4 focuses on correlations. Student teachers will begin by estimating the Q-correlation coefficient. They will then calculate Pearson's r correlation coefficient, and discuss the ways in which correlations can be used to inform teaching and learning.

Expected learning outcomes



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

- Explain the importance of the four pillars of assessment in education;
- Explain the connection between the four pillars of assessment and student learning;
- Discuss the role of assessment in learning and teaching processes;
- Design formative assessment within a lesson to monitor student learning progress;
- Apply assessment principles to design diagnostic tools to aid planning for teaching and learning;
- Design tools to monitor the learning progress of students in the Lower Middle school;
- Evaluate the benefits and limitations of peer and self-assessment;
- Construct tools for peer and self-assessment in the Lower Middle school;
- Design feedback to promote learning for lower middle school students;
- Design rubrics in line with the assessment principles to assess students in the Middle school;
- Analyse and interpret rubric data for students in the Lower Middle school;
- Calculate measures of central tendency;
- Explain the uses and limitations of using measures of central tendency to analyse assessment data;
- Explain the uses and limitations of measures of variability when analysing assessment data;
- Compute the value measures of variability;
- Examine the benefits and limitations of using percentiles and percentile ranks to describe learning progress;
- Calculate the values of percentile and percentile rank;
- Explain how correlations can be used to analyse assessment data;
- Compute the value of Q-correlation coefficient; and
- Compute the value of Pearson's r correlation coefficient.



Competencies gained

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

B2.1 Demonstrate capacity to monitor and assess student learning

B2.2 Demonstrate capacity to keep detailed assessment records and use the assessment information to guide students' learning progress

B3.2 Demonstrate strategies for managing student behaviour

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

8.1. The Four Pillars of Assessment and the Teacher's Role

In this sub-unit, the student teachers will examine the role of the four pillars of assessment in education in Myanmar. They will analyse the National Assessment Policy to understand the purpose and role of each pillar of assessment. Student teachers will evaluate the role of each pillar and the connections between assessment and student learning. They will discuss different stakeholders in education and their interest in educational assessment.

8.1.1. Unpacking the four pillars of assessment

Expected learning outcomes

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

- Explain the importance of the four pillars of assessment in education; and
- Explain the connection between the four pillars of assessment and student learning.



Competencies gained

A4.1.3 Describe the assessment principles underpinning the Lower Secondary curriculum

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

B2.2.1 Record students learning progress accurately and consistently

B2.2.2 Use varied assessment practices to monitor and record students' learning progress and inform further planning of the curriculum

D1.1.2 Use information from a variety of sources to improve teaching practice and student learning



Time: Two periods of 50 minutes



Learning strategies

Learning activity 1. Reflect and discuss: Evaluating the Vision of the National Assessment Policy

Learning activity 2. Group discussion: Examining the role of assessment within the four pillars of assessment

Learning activity 3. Analysis and evaluation: Aligning objectives for assessment with the four pillars of assessment



Assessment approaches: Questioning, observation, peer and whole-class discussion



Preparation needed

Read the Myanmar National Assessment Policy, particularly the information about each of the four pillars of assessment and the objectives.



Resources needed

Learning activity 1. Copies of Sections 6.1, 6.2, 6.3 and 6.4 from the National Assessment Policy [also in College e-library], Flip chart paper and marker pens

Learning activity 2. Flip chart paper and marker pens

Learning activity 3. Flip chart paper and marker pens

Period 1

Unpacking the four pillars of assessment

This period is structured as follows:

Introduction/Explicit teaching	5 minutes
Learning activity 1	15 minutes
Explicit teaching	5 minutes
Learning activity 2	20 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	5 minutes
Class organisation	Whole class

1. Write and outline the learning objectives on the board.
2. Write the vision statement for the National Assessment Policy:
The National Assessment Policy will "...support teachers and education managers to implement a quality assessment system to facilitate and improve student learning achievement in accordance with basic education curriculum."¹⁵
3. Highlight the link between learning and assessment that exists in the vision statement.
4. Here the teacher may introduce and explain key concepts or demonstrate key skills.



Learning activity 1. Reflect and discuss: Evaluating the Vision of the National Assessment Policy

Time	15 minutes
Class organisation	Individual reflection and class discussion

¹⁵ Department of Myanmar Examinations. (2019, p. 5).

Purpose

The purpose of this learning activity is for the student teachers to reflect on the vision statement in the National Assessment Policy and to understand the implications for teaching, learning and assessment.

1. Ask student teachers to turn to Learning activity 1 in the textbook.
2. Work through the questions one at a time. For each question, ask the student teachers to reflect on the question individually for one minute, then begin class discussion.
3. Encourage student teachers to reflect on what they have seen in the classroom and evaluate how their observations fit with the questions in the textbook and the vision statement.
4. Encourage student teachers to question the purposes behind assessment practices and help them to drill down into the ideas, by asking “why?” when a student puts forward an assumption.
5. Repeat the process for each of the three questions in the textbook.



Assessment

The aim of this activity is to encourage student teachers to think critically about assessment practices and why assessment is important.

Ask open-ended questions to encourage student teachers to think critically and justify their reasoning. Challenge or question assumptions.

Observe the ways in which students engage in the discussion. Are they willing to question their own understanding of assessment?



Possible student teachers' responses

There are many possible responses to the three questions. Student teacher responses will depend on their experiences with assessment, what they have observed in the classroom and their understanding of the role of assessment in learning and teaching.

For example:

1. Why is assessment so important in education? What are its roles?
 - Assessment tells stakeholders how students are progressing in their learning.
 - Teachers can use assessment to target the levels of difficulty where students are ready to learn.
 - Assessment is used to monitor student learning.
 - Teachers use assessment to monitor the effectiveness of their teaching.
2. How does assessment ‘facilitate and improve student learning achievement’?
 - Student goal setting for learning
 - Teacher planning to target where students are ready to learn
 - Feedback to help students improve in their learning.
3. How does the National Assessment policy support teachers and educational managers to implement a quality assessment system?
 - It points out the expectations of quality for assessment.
 - It explains different ways in which assessment will be used at different levels.
 - It requires that assessment is accessible to all students.

Explicit teaching

Time	5 minutes
Class organisation	Whole class

1. Direct the student teachers to the textbook (Lesson 8.1.1, Period 1). Ask them to read the section, ‘Connecting learning, teaching and assessment’ and ‘Unpacking the four pillars of assessment’.
2. Ask student teachers why it is necessary to have the four pillars.



Learning activity 2. Group discussion: Examining the role of assessment within the four pillars of assessment

Time	20 minutes
Class organisation	Groups of 3-4

Purpose

The purpose of this learning activity is to examine the role of assessment at four different levels within education.

1. Ask student teachers to move into groups of 3 or 4 people. Provide each group with a large sheet of paper and pens. Allocate each group with a number from One to Four. This number will align with the pillar that they will analyse.
2. Provide each group with the relevant section from the National Assessment Policy.
 - Group 1 - Classroom assessment. This group will need to read Section 6.1.
 - Group 2 – School-based assessment. This group will need to read Section 6.2.
 - Group 3 – Primary, Middle and High school completion assessment. This group will need to read Section 6.3.
 - Group 4 – Sample-based learning assessment. This group will need to read Section 6.4.
3. Direct student teachers to the textbook, Learning activity 2. Ask them to read through their section of the National Assessment Policy bit by bit, discussing the questions in the textbook as they work through their section.
4. Each group should record their responses to the five questions in the textbook.
5. At the end of the activity, ask the groups to report on their discussions and observations.



Assessment

Move around the groups as they discuss their pillar. Ensure that all members of the groups participate in the discussion. Encourage critical thinking by challenging assumptions. Encourage students to think deeply about the implications of the pillars for their classrooms.



Possible student teachers' responses

When students think critically about each pillar, it is likely that there will be a range of responses for each pillar. See Annex 3 in this guide for sample responses for each pillar.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to reflect on the purpose of assessment within their own teaching and learning practices.

Period 2

Unpacking the four pillars of assessment

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 3	35 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write the learning objectives on the board.
2. Ask the student teachers to share their reflections from Period 1 about the connection between learning and assessment.
3. Direct student teachers to the textbook, Lesson 8.1.1, Period 2. Ask them to read the section, 'Linking the four pillars of assessment with the objectives of assessment'.



Learning activity 3. Analysis and evaluation: Aligning objectives for assessment within the four pillars of assessment

Time	35 minutes
Class organisation	Groups of 3–4

Purpose

The purpose of this learning activity is to reflect on the objectives of assessment for basic education that are outlined in the National Assessment Policy. Student teachers will analyse and evaluate how these objectives fit within each of the four pillars of assessment.

1. Ask the student teachers to move into small groups of three or four people. Allocate one objective to each group (except do not allocate Objective 1, because you will work through this as a class). Each group should be given a large piece of paper and pens.
2. Direct student teachers to Learning activity 3 in the textbook. As a class, read through the instructions. A model response is provided in the textbook.
3. As a class, work through the example of breaking down the objective in order to define and understand it. Demonstrate how the objective can be rephrased as a question.
4. Direct students to Table 8.1, ‘Examination of the objectives of assessment against the four pillars of assessment’, in the textbook. Work through the responses in Table 8.1. Ask students to read the sections and to think critically about the responses. Discuss with the class:
 - Is there information that could be added?
 - Is there information that might be incorrect?
 - How could they improve these responses?
5. Direct the groups to analyse the objective they were allocated. They should follow the same process demonstrated in the example provided in the textbook.
6. Groups should draw a table on their paper and write their responses.
7. At the conclusion of the activity, each group will present their ideas to the class.



Assessment

Walk around the room and observe the dynamics of the groups – are all student teachers participating meaningfully in the discussion?

Monitor the discussions for evidence of critical thinking about the objectives.

Encourage the student teachers to evaluate positive and possible negative implications or challenges of their objectives.

Encourage student teachers to question and ask each other for clarification.

Observe how student teachers justify their ideas.



Possible student teachers' responses

A model response is provided in Table 8.1, 'Examination of the objectives of assessment against the four pillars of assessment', in the textbook. Responses for each objective will vary. It will be important to ensure that the responses link back clearly to the objective.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to reflect on how the objectives in the National Assessment Policy impact on their role as a teacher.



Expected student teachers' responses for the review questions in TB

Question 1: Why is it important for the education system to have the four pillars of assessment?

Answer: Possible answers may include: Each pillar focuses on different uses and purposes for assessment. Each pillar provides information about learning and teaching for different stakeholders. This is important because it addresses the importance of assessment for:

- *using assessment to understand the learning and teaching needs of individual students within the classroom;*
- *understanding how groups of students and year levels in a school are progressing in their learning; and*
- *monitoring and reporting student progress for different purposes.*

Question 2: Explain how the relationship between learning and assessment is reflected in the National Assessment Policy.

Answer: Possible answers may be broad or very specific to particular parts of the National Assessment Policy. Here is an example of a broad response:

The purpose of assessment is to provide information about student learning and the effectiveness of teaching. Reliable and valid assessment can show teachers where students have not understood concepts or areas where they excel. Assessment informs teaching and learning and vice versa.

Question 3: Reflect on the objectives of assessment outlined in the National Assessment Policy. How do these objectives impact on your teaching practices?

Answer: Responses may be different according to the individual student teacher.

Comments may include ideas such as:

- 1. Assessment enables me to help my student to demonstrate what they know and can do.*
- 2. I can use assessment to account for the quality of my teaching and my support for student learning.*
- 3. Assessment enables me to provide feedback to students that is relevant to their learning needs.*
- 4. Assessment can help me to make important educational decisions.*

8.2. Classroom Level Assessment in the

Lower Middle School

In this sub-unit, student teachers will discuss the role of assessment at the classroom level. They will consider assessment from a developmental perspective and focus on using assessment to promote learning progress. To do this, they will use learning taxonomies to map learning progress for a specific area of knowledge or skill. Student teachers will identify evidence of mastery at different levels of learning and design assessment to monitor student learning progress.

8.2.1. Assessment within the teaching and learning cycle

Expected learning outcomes

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

- Discuss the role of assessment in learning and teaching processes; and
- Design formative assessment within a lesson to monitor student learning progress.



Competencies gained

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

B2.1.2 Use assessment information to plan lessons

B2.1.3 Use questioning and discussing techniques to check students understanding and provide feedback

D1.1.1 Use evidence of students learning to reflect on the impact of own teaching practice

D1.1.2 Use information from a variety of sources to improve teaching practice and student learning



Time: One period of 50 minutes



Learning strategies

Learning activity 1. Group brainstorm: Aligning assessment with pedagogical processes

Learning activity 2. Group activity: Creating assessment to inform teaching and learning



Assessment approaches: Questioning, observation, peer and whole-class discussion



Preparation needed

Review Year 2 textbook, Lesson 2.2.1. Review the pedagogical approaches to inquiry learning (the 5E Model and the Social Inquiry Model).



Resources needed

Learning activity 1. Large sheets of paper and pens.

Learning activity 2. N/A (other than textbook, note paper, and pen)

Assessment within the teaching and learning cycle

This lesson is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 1	15 minutes
Learning activity 2	20 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write the learning outcomes on the board. Also write the following headings (each at different ends of the board): 5E model; Social Inquiry Model.
2. Ask student teachers to remember back to Year 2 when they studied the pedagogical models for inquiry learning.
3. Ask student teachers to recall the stages in the 5E Model and the Social Inquiry Model (they may need support to remember this). Write the stages on the board and discuss the processes.
4. Ask student teachers: What role does assessment play in these pedagogical models?
5. Direct students to the textbook, Lesson 8.2.1. Ask them to read the section, 'Assessment and pedagogy'.



Learning activity 1. Group brainstorm: Aligning assessment with pedagogical processes

Time	15 minutes
Class organisation	Groups of 4 or 5

Purpose

The purpose of this learning activity is to explore the relationship between assessment and pedagogical processes.

1. Ask student teachers to move into groups of 4 or 5 people. Give each group paper and pens.
2. Direct student teachers to Learning activity 1, ‘Aligning assessment with pedagogical processes’. Ask groups to choose which pedagogical model on which they will focus.
3. Write the question on the board: *What assessment is needed at each phase of the pedagogical cycle? Why?*
4. Ask student teachers to draw a large table on their sheet of paper, with the headings that are relevant to the model they have chosen (see Table 8.2 ‘Aligning assessment with pedagogical models’).
5. Ask the groups to brainstorm and discuss the ideas in the table. Student teachers should fill in the table.
6. Once the groups have completed the table, ask the groups to present their ideas to the class.



Assessment

Observe the interactions within the groups and make sure that all members are contributing meaningfully to the discussion. Encourage critical thinking as student teachers evaluate the role of assessment in each phase of the model.



Possible student teachers' responses

Table TG 8.1. Aligning assessment with pedagogical models – completed

Pedagogical models					
E5 model (E5) OR Social Inquiry Model (SIM)	Engagement OR Tune in	Exploration OR Find out	Explanation OR Sort out	Elaboration OR Go Further	Evaluation OR Reflect and act
Purpose of phase	E5: Elicit thoughts or actions that relate to objectives; gauge prior knowledge SIM: Document prior knowledge; promote curiosity; formulate questions	E5: Challenge current knowledge using activities and discussions to explain experience SIM: Use different resources to research. Gather, critically assess and record information	E5: Presentation of scientific concepts that help students align their explanations with science SIM: Organise and analyse information; discuss understanding; refine questions	E5: Applying scientific concepts and language to new situations through activities SIM: Refined or new questions underpin a new inquiry that takes students deeper. Enable students to work on areas of interest	E5: Activities that enable assessment of level to which concepts are understood SIM: Make connections with the big ideas; apply, use and share the learning; reflect on the process.
Type of assessment	E5: Diagnostic SIM: Diagnostic and some formative	E5: Formative SIM: Formative	E5: Formative SIM: Formative	E5: Formative SIM: Formative	E5: Summative SIM: Formative and summative
Purpose of assessment and how the information will be used	E5: To find out what students know about the topic. To find out what they can do already. To engage and spark interest. To identify misconceptions SIM: To find out what students already know and can do; to support students to develop their skills in writing guiding questions.	E5: To monitor how students are developing ideas and to identify further gaps in knowledge SIM: To assess and develop information gathering skills. To develop critical thinking. To develop skills in documenting information.	E5: To assist students to develop scientific perspectives and approaches SIM: To assess and scaffold student organisational skills; To assess what students have learnt. To identify and address misconceptions. To refine questioning skills.	E5: To monitor how students are integrating scientific knowledge and language into their prior knowledge. SIM: To monitor student development in independent inquiry; to promote ongoing engagement in learning.	E5: To assess the extent to which students have understood the new content and to identify misconceptions that will need to be addressed. SIM: To support formation of connections; To assess how learning has been applied and communicated; To promote reflective processes.

<p>Example of assessment</p>	<p>E5: Teacher observation through discussion: Short multiple choice questions test</p> <p>SIM: Brainstorm knowledge about the topic; create a K.W.L Chart</p>	<p>E5: Class discussion; small group brainstorm</p> <p>SIM: Observation of strategies to gather relevant information; scaffolded activities for critical thinking such as a PMI chart</p>	<p>E5: Short answer questions to scaffold scientific process; students develop a glossary.</p> <p>SIM: Provide examples of strategies to organise ideas and monitor how students organise their ideas. Group work to design a poster of what has been learnt, including the refined questions.</p>	<p>E5: Students design and conduct an experiment to test a hypothesis.</p> <p>SIM: Individual research project</p>	<p>E5: Students record their findings and report to the class.</p> <p>SIM: Peer and self-assessment of the projects. Submission of the final research project.</p>
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[See Table 8.2 in textbook.]



Learning activity 2. Group activity: Creating assessment to inform teaching and learning

<p>Time</p>	<p>20 minutes</p>
<p>Class organisation</p>	<p>Groups of 4 or 5</p>

Purpose

The purpose of this activity is to design a short task that is formative in nature and designed to inform the first stage in the pedagogical model their group has chosen.

1. Inform the groups that they should use the same pedagogical model they focused on in Learning activity 1. Direct student teachers to Learning activity 2, ‘Create – assessment to inform learning and teaching’. Ask them to read the task description.
2. Ask the groups to choose one of the scenarios outlined in Learning activity 2.
3. Each group should discuss and answer Questions 1 to 3. Ask them to write their responses.
4. Each group should present their learning activity to the class and explain why they have developed it in this way.



Assessment

Walk around the room and observe the interactions within each group. Ensure that all student teachers are participating meaningfully. Encourage student teachers to record their responses and ideas. During the presentation, observe student teacher participation. Are all student teachers presenting ideas and participating in the explanations? Use questions to lead student teachers into higher order thinking. Check that the task the groups design will:

- provide evidence for teachers to observe what students already know;
- engage students in learning; and
- enable students to progress in their learning.

Ask the groups how students of different ability levels might interact with the activity.



Possible student teachers' responses

The responses for each group of student teachers will vary considerably. Please refer to the example response provided in the textbook.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to reflect on how the assessment could be used to inform subsequent teaching and learning for classes with diverse ability levels.

8.2.2. Designing assessment tools to promote learning

Expected learning outcomes

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

- Apply assessment principles to design diagnostic tools to aid planning for teaching and learning;
- Design tools to monitor the learning progress of students in the Lower Middle school;
- Evaluate the benefits and limitations of peer and self-assessment; and
- Construct tools for peer and self-assessment in the Lower Middle school.



Competencies gained

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

B2.2.1 Record students learning progress accurately and consistently

B2.2.2 Use varied assessment practices to monitor and record students' learning progress and inform further planning of the curriculum

B3.2.2 Encourage students to interact with each other with mutual respect and safety

D1.1.1 Use evidence of students learning to reflect on the impact of own teaching practice

D1.1.2 Use information from a variety of sources to improve teaching practice and student learning



Time: Four periods of 50 minutes



Learning strategies

Learning activity 1. Application of theory to practise: Mapping development in an area of learning

Learning activity 2. Collaborative design: Designing tools to monitor learning

Learning activity 3. Collaborative design: Designing assessment to monitor learning progress

Learning activity 4. Evaluate and describe: Benefits and limitations of peer-assessment

Learning activity 5. Group discussion: Benefits and limitations of self-assessment

Learning activity 6. Construct tool: Peer-assessment

Learning activity 7. Construct tool: Self-assessment



Assessment approaches: Questioning, observation, peer and whole-class discussion



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 8.2.2. You may also want to revisit the Year 3 Semester 1 Educational Studies Student Teacher Textbook Sub-unit 3.3.



Resources needed

Learning activity 1. Large sheets of paper and pens

Learning activity 2. Large sheets of paper and pens. Student teachers will also need their notebooks to record their ideas.

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 5. N/A (other than textbook, note paper, and pen)

Learning activity 6. N/A (other than textbook, note paper, and pen)

Learning activity 7. N/A (other than textbook, note paper, and pen)

Period 1

Designing assessment tools to promote learning

This period is structured as follows:

Introduction/Explicit teaching	20 minutes
Learning activity 1	25 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	20 minutes
Class organisation	Whole class

1. Write the first two learning outcomes on the board.
2. Direct students to the textbook, Lesson 8.2.2, Period 1, 'Assessment principles: A developmental perspective'. Ask student teachers to read the first section.
3. Discuss the meaning of terminology: *zone of actual development*, *zone of proximal development* and *potential development*. Refer student teachers back to Year 2 textbook, Lesson 8.2.1, Figure 8.25, 'The zone of proximal development'.
4. Explain to students that understanding how to recognise the zone of proximal development in order to observe the learning progress of students.
5. Explain to students that we can create maps of learning to use as a guide to observe evidence that students are progressing.
6. Ask student teachers to read the section, 'Mapping learning progress'. Explain that Bloom's taxonomy is an example of a learning taxonomy because it shows how thinking can develop from lower order thinking to higher order thinking.

7. Discuss Figure 8.3, 'Reading comprehension mapped to Bloom's Revised Taxonomy'. Discuss how the example of reading progress follows the levels of thinking from lower order to higher order thinking. Explain that the verbs in the descriptions are important because they provide crucial information about the evidence that needs to be observed at each level of learning.
8. Explain that there are many other learning taxonomies. Direct students to Table 8.3, 'Examples of learning taxonomies'. Refer student teachers to Annex 3 in their textbook to view the learning taxonomies and their explanations.
9. Ask student teachers to read the section, 'The role of assessment evidence'. Discuss the meaning of evidence and what it looks like in the classroom.



Learning activity 1. Application of theory to practise: Mapping development in an area of learning

Time	25 minutes
Class organisation	Groups of 4 to 5 students

Purpose

The purpose of this learning activity is to understand how learning progresses for a specific skill or knowledge.

1. Ask student teachers to move into the same groups they were in during the last period. Each group will need a large piece of paper.
2. Give each group one skill or knowledge-base that they will focus on:
 - Mathematics – Interpreting statistical data in a line graph;
 - English – Following simple directions (how to get from X to Y by foot or by public transport);
 - Social Studies – Explain causes of soil and forest degradation;
 - History – Evaluating the advancement of technology and ability to develop new technology; and
 - Physical Education – Performing appropriate first aid in emergencies.
3. Direct student teachers to the textbook: Learning activity 1. Mapping development in an area of learning. Ask student teachers to draw Table 8.4, 'Creating a progression using a learning taxonomy'.
4. Direct student teachers to Annex 3 in the textbook. Ask them to choose a

taxonomy that would fit with the skill or knowledge that their group has been given. Ask the groups to focus on how learning progresses for their skill.

- a. What broad idea does the taxonomy map? Does the skill match the idea that the taxonomy measures?
 - b. How will someone recognise that a person has reached each skill level in the taxonomy?
3. Ask the groups to write the stages in their taxonomy in the left hand column in the table.
 4. In the centre column, direct the students to describe what their skill would look like at each level of the taxonomy.
 5. Direct the students to complete the final column. What evidence would student need to produce to demonstrate they have reached each level?



Assessment

As you walk around the room, check with each group that they understand the purpose of a learning taxonomy. Check also that they understand how development of different skills can be mapped to the learning taxonomy. Ensure that the evidence they write is observable (something that a person can do, say, make or write).

Observe the dynamics within each group. Are all student teachers participating meaningfully? How do they resolve disagreement or conflict? How do they problem-solve? If they need help, what help seeking strategies do they use?



Possible student teachers' responses

Each group will respond differently. For a model of response, see the example in the textbook, Table 8.4 'Creating a progression using a learning taxonomy'.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask the student teachers to reflect on how they might use this progression to observe learning progress when they assess their own students? Explain that they will use the learning progression they created to develop a formative assessment task.

Period 2

Designing assessment tools to promote learning

This period is structured as follows:

Introduction/Explicit teaching	5 minutes
Learning activity 2	15 minutes
Explicit teaching	10 minutes
Learning activity 3	15 minutes
Check student teachers' understanding	5 minutes

Introduction/ Explicit teaching

Time	5 minutes
Class organisation	Whole class

1. Write the first two learning outcomes on the board. Ask student teachers to sit in the groups they were in for the previous period.
2. Direct student teachers to the textbook, Lesson 8.2.2, Period 2, Designing assessment to monitor learning. Ask student teachers to read this section.
3. Explain that they will design an assessment task to monitor student learning progress, using the learning progression they designed in the previous period.



Learning activity 2. Collaborative design: Designing tools to monitor learning

Time	15 minutes
Class organisation	Groups of 4 to 5

Purpose

The purpose of this learning activity is to begin planning a task that teachers can use to scaffold and monitor student learning progress.

1. Direct student teachers to the textbook, Designing assessment to monitor learning.
2. Ask the groups to read through the instructions for Learning activity 2 together. Give each group a large sheet of paper and pens.
3. Instruct the groups to work through the questions, one at a time.
4. Student teachers should write notes and responses to the questions in their books. And create the assessment task on the large sheet of paper.
5. Ask groups to share the tasks they created with the class.



Assessment

Observe the tasks that each group designs. Will the task enable students of different learning abilities to show what they know and can do? Does the task scaffold learning to allow students to develop the skills that will be assessed?

Use questioning techniques to encourage student teachers to think critically about assessment practices. How will they enable *all* students to do the task and demonstrate their level of learning? (How is it inclusive for all students?)

Observe group interactions to ensure that all student teachers are participating meaningfully in the activity.



Possible student teachers' responses

The following is an example that is built from Table 8.4, 'Creating a progression using a learning taxonomy' in the textbook. Student teacher responses will relate to the progressions they developed in the previous learning activity.

1. What will the students be required to do, say make or write for this assessment task (what evidence of learning will they need to demonstrate)?
The task is to write a report for an experiment which identifies similarities and differences between plant and animal cells.
Students will need to:
 - Follow instructions to set up the equipment for the experiment;
 - Prepare slides to view different types of cells;
 - Use the microscope to observe the features of different cells;
 - Develop hypotheses about what they expect to observe;

- Draw diagrams of their observations;
 - Interpret their observations; and
 - Write a report on the experiment using the correct format and addressing each element of a scientific report.
2. Why will students be required to demonstrate their learning in this way? Are there additional skills that they will be expected to demonstrate?
Students will need to demonstrate that they can use scientific equipment appropriately. They will need to be able to work in teams to conduct the experiment and discuss what they see. They will also need to be able to draw what they observe through the microscope. Students will need to be familiar with scientific reports and the type of information that needs to be recorded. They will also need to be able to use scientific terminology correctly.
3. What steps will students need to complete to do the task (e.g., Will there be research in the school library or online? Will they need to draft a story or design a model before creating the final version?)
- The experiment will be conducted during one period. The equipment will be provided, but students will work in teams to set up the equipment. The teacher will guide and monitor the set-up process.
 - Students will fill in a worksheet that guides each step of the experiment.
 - The teacher will present the scientific report structure. They will guide the students through the report to explain each section.
 - The students will write a draft of their report.
 - Each student will go through a peer and self-assessment process.
 - Students will respond to the feedback and submit the final copy of the report.
4. How long will the students be given to complete the task?
This task will take a total of 5 periods.
- Conducting the experiment – 1 period
 - Teaching the report structure – 1 period
 - Writing the report – 1 period
 - Peer and self-assessment of the report – 1 period
 - Responding to feedback – 1 period.
5. Write a task description for the assessment that provides all the information that students will need to complete the task.
You will set up a wet-mount slide of an onion skin, and your teacher will provide you with a slide that has human cheek cells.
You will use a microscope to observe the plant cells and the animal cells to compare structural differences between them.

As you observe the cells through the microscope, draw a diagram of what you see. Identify and label the different features.
You will write a scientific report about the experiment.

Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Direct student teachers to the textbook, Lesson 8.2.2, Period 2. Ask student teachers to read section: Creating assessment to monitor learning.
2. Reinforce the importance of knowing the extent of what a student can do. If the work is too easy or too difficult, a teacher cannot target a student's ZPD effectively because it will not be at the right level of difficulty for that child.
3. Ask student teachers to read Table 8.5, 'Key considerations when designing assessment'. Explain that the considerations help teachers to measure student learning progress against the standards. Considerations also allow teachers to scaffold learning through the assessment task.
4. Highlight that curriculum standards enable teachers to see how students are progressing in relation to expected standards.
5. Highlight that learning outcomes and goals can make learning expectations more explicit for students.



Learning activity 3. Collaborative design: Designing assessment to monitor learning progress

Time	15 minutes
Class organisation	Groups of 4 to 5 students

Purpose

The purpose of this learning activity is for student teachers to consider how they will measure and support student learning progress throughout the assessment process.

1. Ensure that student teachers are still in their groups from Learning activity 2.
2. Ask groups to discuss each question in Learning activity 3. Student teachers take notes of the discussion for each question.

3. When the groups have discussed each question, ask groups to share their responses with the class.



Assessment

Walk around the room and observe the conversations. Use questioning techniques to challenge student teachers to justify their ideas.

Observe the dynamics of each group to ensure that each member of the group is contributing meaningfully to the discussion.



Possible student teachers' responses

The following is an example that is built around Table 8.4, 'Creating a progression using a learning taxonomy' in the textbook. It is also uses the response to Learning activity 2. Student teacher responses will relate to the assessment task they developed in the previous learning activity.

1. What key considerations will underpin your observations of student learning?
Curriculum standards – Science: Strand – Living Things
Topic – Identifying the structure and functions of plant cells and animal cells by using suitable investigations.
Learning goal – to describe and compare the features of animal and plant cells.
Vertical dimensions – Most students will be at the unistructural level for this activity. Some students may begin to move towards the multistructural level. Most students will know what a microscope is and how it works. However, they may still need help to set it up by themselves. This will be the first time that they prepare a wet-mount slide. They will be guided through the process. The report will need to be strongly scaffolded for them.
Horizontal dimensions – This assessment only focuses on one topic in one strand in Science. It involves both scientific observation and scientific writing.
Methods of assessment – Formative process, with a summative element at the end. The students will conduct the experiment under teacher guidance. They will work in groups to self-assess and peer-assess the reports. The teacher will mark the final report submission
Inclusivity – Students will be reminded about how to support and encourage

each other during peer-assessment. One student is vision impaired. They will not be disadvantaged, as they will work with supportive team members where the team will describe what is seen through the microscope. The team members will discuss what they see and the student will use voice-to-text on the computer to write their report, and will have the support of an adult helper. Marking guide – For peer-assessment, students will have a worksheet to scaffold their feedback. For self-assessment, students will be guided by a checklist. The final assessment will be marked using an analytic rubric.

2. What does learning progress look like for the skills they will need to develop? Signs of learning progress will include:
 - a. Increasing observational skills and ability to compare cell features
 - b. Increasing accuracy of terminology in each report draft
 - c. Increased accuracy and relevant information in each section of the report
 - d. Increasing understanding of the requirements of the task in each draft
 - e. Incorporation of feedback into their final report.
3. What tools will you develop to scaffold the students as they develop the skills? (e.g., checklists? Rubrics? Instructions? etc.)
 - a. Worksheets to guide the experiment process
 - b. Self-assessment checklist
 - c. Peer-assessment worksheet
 - d. Rubrics written in accessible language for Grade 7
 - e. Exemplars in the form of a ‘bump-it-up’ wall.
4. When will you (the teacher) make observations of student progress as they work on their task? What evidence of learning will you look for?
 - a. Incorporation of feedback into each drafting process
 - b. Evidence of observations being recorded throughout the experiment
 - c. Evidence of understanding of the features of a scientific report (e.g., demonstrating understanding of an aim, a hypothesis, method, results, discussion and conclusion).

How will you know that a student is progressing?

We will look for improvements in each draft, based on the criteria in the rubric.

What records will you keep of student progress?

- a. Student self-assessment checklists, with teacher comments and feedback
 - b. Peer-assessment worksheets
 - c. Rubrics with teacher feedback.
5. How will you assess the final product?
 - a. We will use the analytic rubrics to assess the final product.

- b. Grade 7 teachers will moderate the final assessment to ensure fairness, validity and reliability in marking.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask the student teachers to discuss the following questions:

- What elements need to be considered when designing assessment tasks?
- How can teachers gather evidence of learning?
- How can teachers measure learning progress?

Period 3

Designing assessment tools to promote learning

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 4	15 minutes
Explicit teaching	5 minutes
Learning activity 5	15 minutes
Check student teachers' understanding	5 minutes

Introduction and Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write the second two learning outcomes on the board.
2. Ask student teachers to think about their experiences with self-assessment and peer-assessment. Ask them to reflect on the following questions:

- a. What benefits did you gain from the experience of self-assessment? What did you find difficult? Why do you think this was difficult for you?
 - b. What benefits did you gain from the experience of peer-assessment? What did you find difficult? Why do you think this was difficult for you?
3. Direct student teachers to the textbook, Lesson 8.2.2, Period 3. Ask student teachers to read the section, 'Benefits and limitations of peer-assessment'.



Learning activity 4. Evaluate and describe: Benefits and limitations of peer-assessment

Time	15 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to evaluate the benefits and limitations of peer-assessment in lower middle school classrooms.

1. Assign student teachers to groups of 3 or 4. Direct student teachers to Learning activity 4 in the textbook. Ensure student teachers take the time to review the contents of the textbook section, 'Benefits and limitations of peer-assessment'.
2. Support and prompt student teacher groups as they complete the activity. Encourage student teachers to revisit the textbook if needed.
3. Allow 15 minutes for student teachers to complete the activity in their group. After 15 minutes, ask for volunteers to share their responses with the class. Discuss and provide constructive feedback on the different responses.



Assessment

Ask open-ended questions to encourage student teachers to think about the benefits and limitations of peer-assessment.

You will be able to assess understanding by observing student teachers' work and selecting student teachers to share their group's responses with the class. Ensure that you select both female and male student teachers. The peer sharing activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Given the open-ended nature of this learning activity, there are many different possible responses. Table 8.6 provides an overview of possible responses, based on the content covered in the textbook and other possible responses.

Table TG 8.2. Evaluate the benefits and limitations of peer-assessment – completed

Benefits	Limitations
<ul style="list-style-type: none"> • Improved achievement • Improved self-regulation • Improved communication skills (providing feedback) • Better understanding of assessment criteria, which assists with self-assessment and improvement of own work • Empowerment and activation of students in their own learning • Assessing a peer's work can give students useful ideas to apply to their own work 	<ul style="list-style-type: none"> • Can result in negative results on achievement, self-regulation, self-efficacy, motivation and self-assessment if not appropriately scaffolded • Accuracy is influenced by social relationships • Depends on student capability to formulate constructive feedback that is relevant to the criteria • Is unlikely to have benefits if the classroom climate is not safe • The relative proficiency levels of student pairs are likely to impact the peer-assessment experience • Students may receive conflicting feedback from different peers • Students may not accept feedback from a peer they do not perceive as proficient
Evidence-informed recommendation for using peer-assessment in classroom practice	
<p>Teachers need to be mindful of the social and interactional nature of peer-assessment. When using peer-assessment, teachers should:</p> <ul style="list-style-type: none"> • discuss expectations for peer-assessment; • creating a safe classroom environment which is focused on improvement as opposed to judgement; • teach students how to peer assess and provide feedback using the criteria; • monitor and provide feedback on peer-assessment; and • do not expect peer-assessment to be perfect when first introduced; it takes time for students to become skilled in and appreciate peer-assessment. 	

[See Table 8.6 in textbook.]

Explicit teaching

Time	5 minutes
Class organisation	Whole class

1. Explain that the second part of the period will focus on the benefits and limitations of self-assessment.

2. Ask student teachers to reflect on the benefits and limitations of self-assessment. Student teachers may draw on their knowledge of peer-assessment, as there is overlap between the benefits and limitations. Student teachers may also draw on their personal experiences as learners.
3. Explicitly teach using the contents of the section, 'Benefits and limitations of self- assessment'.



Learning activity 5. Group discussion: Benefits and limitations of self-assessment

Time	15 minutes
Class organisation	Whole class

Purpose

The purpose of this learning activity is for student teachers to evaluate the benefits and limitations of self-assessment in the lower middle school classroom.

1. Facilitate a group discussion that focuses on the benefits and limitations of self-assessment. This discussion may go beyond the contents of the textbook.
2. Encourage student teachers to record the most important conclusions of the group discussion in Table 8.7 in their textbooks.



Assessment

You will be able to assess student teacher understanding by evaluating their contributions to the whole class discussion. The discussion will provide student teachers with feedback on their understandings of the benefits and limitations of peer feedback.



Possible student teachers' responses

Given the open-ended nature of this learning activity, there are many different possible responses that students might provide to Table 8.7. An indication of possible responses is provided in Table TG 8.3.

Table TG 8.3 Benefits and limitations of self-assessment – completed

Benefits	Limitations
<ul style="list-style-type: none"> Improved achievement Improved self-regulation Improved self-efficacy Empowerment and activation of students in their own learning (many of the benefits of self-assessment are identical to those of peer-assessment) 	<ul style="list-style-type: none"> Accuracy may be problematic, especially in novice learners. Self-assessments may not be honest if these are not private Students used to a teacher-led approach may resist self-assessment Self-assessment is limited to students' own ideas; it is therefore unlikely to provide completely novel ideas like peer-assessment
Strategies teachers may use to maximise the benefits and mitigate limitations	
Teachers need to scaffold and monitor self-assessment to support accuracy. Self-assessment tools can be helpful in supporting the process. Students who are less proficient may need to use a simplified form of self-assessment.	

[See Table 8.7 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers questions to gauge their emerging understandings of the benefits and limitations of peer and self-assessment;
- Allow opportunity for student teachers to reflect on the similarities and differences between the benefits and limitations of peer and self-assessment;
- Allow opportunity for student teachers to self-assess against the period's learning outcome: evaluate the benefits and limitations of peer and self-assessment (for example, by asking them to identify two things they have learnt, and one question they have about the content);
- Ask student teachers how they believe their knowledge of peer and self-assessment will help them promote student learning; and
- Explain that the next period will focus on constructing tools to scaffold the peer and self-assessment process.

Period 4

Designing assessment tools to promote learning

This period is structured as follows:

Introduction	5 minutes
Learning activity 6	20 minutes
Learning activity 7	20 minutes
Check student teachers' understanding	5 minutes

Introduction

Time	5 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Construct tools for peer and self-assessment in the Lower Middle school.
2. Ask student teachers to reflect on which tools could support the peer and self-assessment tools. For example, in Sub-unit 3.7 of Year 3, student teachers constructed a self-assessment tool. Briefly discuss the nature and purpose of such tools.



Learning activity 6. Construct tool: Peer-assessment

Time	20 minutes
Class organisation	pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to construct a peer-assessment tool for lower middle school students.

1. Assign student teachers to pairs. Direct student teachers to Learning activity 6 in the textbook.

2. Allow approximately 15 minutes for each pair to complete the activity.
3. After 15 minutes, ask some pairs to share their responses and justify their design choices. Provide constructive feedback and discuss the strengths and limitations of various tools for different purposes.



Assessment

Ask open-ended questions to encourage student teachers to think about and discuss different ways to construct tools for peer-assessment.

You will be able to assess understanding by observing student teachers' work and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The peer sharing and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Given the broad nature of this activity, there is a wide variety of possible student teacher responses. Possible student teacher responses are provided in Box 8.1.

Box TG 8.1. Peer-assessment template – completed

Feedback for: [student's name] Feedback from: [student's name]	
Clarify	I was unsure what you meant by ... Can you explain why you did ... using ... What is the purpose of ...
Value	I really liked how you ... You have met criteria ... because ... One particular strength of your work is ...

<p>State concerns</p>	<p>I wonder if...</p> <p>Perhaps you did think about this, but ...</p> <p>How do you know that ...</p>
<p>Suggest</p>	<p>Perhaps you could try ...</p> <p>I think your work would be even better if ...</p> <p>To meet the criteria, you might want to look at ...</p>

[See Box 8.1 in textbook.]



Facilitator's notes

Alternatively, if the student teachers have access to computers and the internet, they could search the internet for different peer-assessment templates. The templates should be suitable for the Middle school. Student teachers should modify or adapt the template to suit a particular subject and the Myanmar context.



Learning activity 7. Construct tool: Self-assessment

Time	20 minutes
Class organisation	Individual, pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to construct a self-assessment tool for lower middle school students.

1. Direct student teachers to Learning activity 7 in the textbook. Allow approximately 10 minutes for student teachers to individually complete the activity. After 10 minutes, encourage student teachers to discuss their responses with a peer.
2. After 15 minutes, ask some volunteers to share their responses with the class and provide constructive feedback on different ideas.



Assessment

Support student teachers as they complete the activity. Ask open-ended questions to encourage student teachers to think about how they can scaffold the self-assessment process.

You will be able to assess understanding by observing student teachers' work and selecting some volunteers to share their responses with the class. Ensure that you

select both female and male student teachers. The peer sharing activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Given the broad nature of this activity, there is a wide variety of possible student teacher responses. Possible student teacher responses using a template are provided in Box 8.2. However, there are many other possible response formats, for example using self-reflection essays or portfolios.

Box TG 8.2. Self-assessment template – completed

Prompt	Response
I have achieved ... because	
I am most proud of because	
I can further improve by	

I need some more practice with	
My next step is to ...	

[See Box 8.2 in textbook.]



Facilitator’s notes

Alternatively, if the student teachers have access to computers and the internet, they could search the internet for different self-assessment templates. The templates should be suitable for the Middle school. Student teachers should modify or adapt the template to suit a particular subject and the Myanmar context.



Check student teachers’ understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers questions to gauge their understandings of important features of tools for supporting peer and self-assessment.

- Allow opportunity for student teachers to reflect on the potential benefits and pitfalls of peer and self-assessment.
- Ask student teachers to reflect on the importance of peer and self-assessment for student learning. Why do they think this is important? How do they believe they will apply knowledge of constructing tools for peer and self-assessment in their teaching practice?

8.2.3 Feedback to promote learning

Expected learning outcome

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

- Design feedback to promote learning for lower middle school students.



Competency gained

B2.1.3 Use questioning and discussion techniques to check students understanding and provide feedback



Time: Two periods of 50 minutes



Learning strategies

Learning activity 1. T-chart: Learning from feedback

Learning activity 2. Group discussion: Designing feedback to promote learning

Learning activity 3. Feedback design: Feedback questions and levels

Learning activity 4. Think-pair-share: Designing sustainable feedback



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 8.2.3. You may also want to revisit the Year 3 Educational Studies Student Teacher Textbook Sub-unit 3.3.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 4. N/A (other than textbook, note paper, and pen)

Period 1

Feedback to promote learning

This period is structured as follows:

Introduction/Explicit teaching	15 minutes
Learning activity 1	15 minutes
Learning activity 2	15 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	15 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:

- Design feedback to promote learning for lower middle school students.
2. Ask student teachers to reflect on what they learnt about feedback in Years 1 and 2 and Unit 3 of Year 3 of Educational Studies. What is the most important thing they remember?
 3. Ask some volunteers to reflect on their own feedback experiences at school. Specifically ask student teachers to reflect on feedback that helped them and feedback that was not helpful. Encourage student teachers to reflect on how and why feedback was effective or ineffective.
 4. Explain that the key focus of this period will be on building on their understanding of feedback to promote learning.
 5. Provide direct instruction based on the sections, ‘Consolidating knowledge of feedback to promote learning’ and ‘Learning from feedback’ in the textbook.
 6. Allow opportunity for student teachers to ask questions and discuss their emerging understanding with a peer. Ensure that student teachers are still engaged in active learning processes in this lesson component.



Learning activity 1. T-chart: Learning from feedback

Time	15 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to think about how and why feedback may or may not result in learning.

1. Direct student teachers to complete Learning activity 1 in the textbook together with a peer.
2. Support and prompt individual student teachers as they complete the activity. Encourage student teachers to revisit the textbook if needed.
3. Allow 10 minutes for student teachers to complete the activity. After 10 minutes, ask for volunteers to share their responses with the class. Discuss and provide constructive feedback on the different responses.



Assessment

Ask open-ended questions to encourage student teachers to think about possible behavioural, cognitive and meta-cognitive responses to feedback. It can be helpful for student teachers to consider their own feedback experiences.

You will be able to assess understanding by observing student teachers' work and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.



Possible student teachers' responses

Given the open-ended nature of this learning activity, there are many different possible responses. Box TG 8.3 provides an overview of possible responses, based on three extensive reviews of feedback research.

Box TG 8.3. T-chart of possible effects of feedback on learning¹⁶ – completed

Feedback is likely to have a positive effect on student learning if...	Feedback is unlikely to have a positive effect on student learning if...
<ul style="list-style-type: none"> • it causes students to feel inspired, encouraged or acknowledged. • students correct errors or misconceptions based on feedback. • the feedback helps students understand the learning goal. • the feedback does clearly convey how students are progressing in relation to the goal. • the feedback helps students identify the next step in their learning. 	<ul style="list-style-type: none"> • it causes students to experience feelings of hopelessness. • students ignore or do not act on the feedback. • the feedback does not help students understand the learning goal or is misaligned to the goal. • the feedback does not clearly convey how students are progressing in relation to the goal. • the feedback does not help students identify the next step in their learning.

16 Hattie, J., & Timperley, H. (2007); Shute, V. J. (2008); Van der Kleij et al. (2019).

Feedback is likely to have a positive effect on student learning if...	Feedback is unlikely to have a positive effect on student learning if...
<ul style="list-style-type: none"> • use feedback to identify, select and use more appropriate strategies. • students increase effort. • engage with the feedback at a deep level in a way that aligns with the learning goals. • it encourages students to aim for more advanced learning goals. • students know how to use feedback or are supported by the teacher to use it appropriately. • students experience reduced cognitive load in response to feedback, freeing up more space for cognitive processing of information (this is particularly relevant for novice learners, see Unit 5). • students build on feedback to provide further feedback to themselves or their peers. 	<ul style="list-style-type: none"> • the feedback does not clearly convey how students are progressing in relation to the goal. • the feedback does not help students identify the next step in their learning. • students misinterpret the feedback and do not change their strategy use appropriately • students reduce effort. • students only enact feedback superficially, using quick-fix strategies. • students lower or abandon the learning goal. • students do not know how to use feedback. • students experience cognitive overload as a response to feedback. • students do not use feedback to inform further feedback.

[See Box 8.3 in textbook.]



Learning activity 2. Group discussion: Designing feedback to promote learning

Time	15 minutes
Class organisation	Whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on how to design feedback to encourage students to respond to feedback in a way that promotes learning.

1. This activity builds on Learning activity 1. Facilitate a group discussion that focuses on how teachers can design feedback in a way that promotes student learning.
2. Encourage student teachers to record the most important conclusions of the group discussion in their textbooks.



Assessment

You will be able to assess student teachers' understanding by evaluating their contributions to the whole class discussion. The discussion will provide student teachers with feedback on their understandings of designing feedback to promote learning.



Possible student teachers' responses

Given the open-ended nature of this learning activity, there are many different possible responses. An indication of possible responses is provided here.

Well-designed feedback...

- is clear;
- is specific yet focused and relevant to the learning goals;
- does not compare student performance to that of others;
- identifies how students are progressing towards the goal;
- identifies next steps in learning, taking account of the students' zone of proximal development;
- is formulated in an encouraging manner;
- is provided in a timely manner; and
- is tailored to student ability levels; novice learners require more explicit guidance compared to more proficient learners.

Important process-related factors to consider are:

- The timing of feedback: Feedback needs to be provided at a point in time where students have an opportunity to revise or improve their work. Students also need to be given time to use feedback.

- Teachers need to follow up on feedback to ensure students understand and use feedback.
- Students are most likely to use feedback that they feel is relevant; having students request feedback is helpful.
- Depending on the nature of the feedback, it may be a good idea to provide feedback in private.
- Ensure students get the opportunity to think deeply before feedback is provided.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers questions to gauge their emerging understandings of how to design feedback to promote learning.
- Allow opportunity for student teachers to reflect on the most important things they have learnt during this period.
- Ask student teachers how they believe their knowledge of feedback will help them design feedback to promote student learning.

Period 2

Feedback to promote learning

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 3	20 minutes
Explicit teaching	5 minutes
Learning activity 4	10 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for this period.
By the end of this period, student teachers will be able to:
 - Design feedback to promote learning for lower middle school students.
2. Explain that the key focus of this period will be on further expanding understandings of feedback to promote learning.
3. Provide direct instruction based on the section, ‘Designing feedback to promote learning’ in the textbook.
4. Provide the opportunity for student teachers to ask questions and discuss their understandings with a peer.



Learning activity 3. Feedback design: Feedback questions and levels

Time	20 minutes
Class organisation	Groups of 3 or 4 and whole class

Purpose

The purpose of this learning activity is for student teachers to design feedback for lower middle school students using the three feedback questions and three feedback levels.

1. Assign student teachers to groups of 3 or 4. Direct student teachers to Learning activity 3 in the textbook.
2. Allow approximately 15 minutes for each group to complete the activity.
3. After 15 minutes, ask some groups to share their responses and justify their design choices. Provide constructive feedback and discuss the different forms of feedback across the levels and questions in Table 8.8.



Assessment

Ask open-ended questions to encourage student teachers to think about and discuss different ways to design feedback using the table.

You will be able to assess understanding by observing student teachers' work and selecting student teachers to share their group's responses with the class. Ensure that you select both female and male student teachers. The group work and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Given the broad nature of this activity, there is a wide variety of possible student teacher responses. Possible student teacher responses are provided in Table TG 8.4.

Table TG 8.4. Feedback levels and questions¹⁷ – completed

	Where am I going?	How am I going?	Where to next?
Task	<p>The success criteria are...</p> <p>The goal is for you to learn...</p> <p>To be successful in this task, you need to...</p>	<p>When I compare your work to the rubric, I can see that you have/have met criteria... because...</p> <p>You have demonstrated understanding of ... but have not demonstrated you understand ...</p>	<p>To meet the learning goal, you could...</p> <p>Changing ... would improve your work</p>
Process	<p>Skills you will need to apply for this task are...</p> <p>To complete this task, you need to use the following strategies...</p>	<p>You have used ... strategies to complete the task.</p> <p>Your response shows that you have/have not applied strategies correctly.</p>	<p>To complete the task, consider these strategies...</p> <p>You could improve your skills by practicing ...</p>
Self-regulation	<p>What strategies have you used in the past to achieve similar learning goals?</p> <p>How will you use the success criteria?</p>	<p>How do you know if you have achieved the learning goal?</p> <p>What progress have you made in relation to your goals?</p>	<p>How do you think you can further improve your work?</p> <p>Can you challenge yourself to do better?</p> <p>How do you know what your next step is?</p>

[See Table 8.8 in textbook.]

¹⁷ Based on Brooks et al. (2019).

Explicit teaching

Time	5 minutes
Class organisation	Whole class

1. Provide direct instruction based on the section, ‘Designing sustainable feedback’ in the textbook. You may want to ask a student teacher volunteer to read the quote in Box 8.5 out loud.
2. Provide opportunity for student teachers to ask questions.



Learning activity 4. Think-pair-share: Designing sustainable feedback

Time	10 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on and discuss how to design sustainable feedback.

1. Direct student teachers to Learning activity 4 in the textbook. Allow approximately five minutes for student teachers to individually complete the activity.
2. After 5 minutes, direct student teachers to discuss their responses with a peer. Ask some volunteers to share their responses with the class.



Assessment

Support student teachers as they complete the activity by helping them reflect on this lesson’s content. Ask open-ended questions to encourage student teachers to think about how they can design feedback sustainably.

You will be able to assess understanding by observing student teachers’ work and selecting some volunteers to share their responses with the class. Ensure that you select both female and male student teachers. The peer sharing activity and class discussion will provide student teachers with feedback.



Possible student teachers' responses

Given the broad nature of this activity, there is a wide variety of possible student teacher responses. Possible student teacher responses are provided in Table TG 8.5.

Table TG 8.5. Sustainable feedback design principles for students at the competent and proficient stages – completed

Competent	Proficient
<ul style="list-style-type: none"> • Provide feedback at the task and process level. • Involve students in setting challenging yet achievable goals. • Help students understand the assessment criteria. For example, show them what quality performance looks like. Exemplars can be helpful in showing what performance at different criteria levels looks like. • Ensure feedback focuses on key aspects for improvement related to the learning goals and success criteria, rather than pointing out or correcting all mistakes. What is the most important thing that students need to do or understand for them to be able to progress their learning? It is important to provide corrective feedback on major misconceptions. • Follow up on feedback to make sure students understand how to proceed. • Encourage students to request feedback when needed. 	<ul style="list-style-type: none"> • Provide feedback at the regulation level before providing feedback at the process or task levels. • Encourage students to continue to set challenging goals. • Encourage students to use the assessment criteria. Make limited use of exemplars. These may still be useful when working on highly challenging tasks. • Encourage self-assessment using the criteria. • Encourage students to self-identify next steps in their learning using the criteria. • Encourage students to provide feedback to a peer. • Provide feedback when requested by students.

[See Table 8.9 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Ask student teachers questions to gauge their understandings of designing feedback to promote learning.
- Allow opportunity for student teachers to reflect on the complex relation between feedback and learning.
- Ask student teachers to reflect on the importance of feedback for student learning. Why do they think this is important? How do they believe they will apply knowledge of designing feedback in their teaching practice?



Expected student teachers' responses for the review questions in TB

Question 1: What roles does assessment play in the teaching and learning processes?

Answer: *Assessment is important at all stages of the teaching and learning process.*

1. *It enables teachers to diagnose what students know and what they are ready to learn next. This informs planning for teaching and learning and goal-setting.*
2. *It enables teachers and students to monitor learning progress and provides opportunities for teachers to give feedback to students to enhance their learning.*
3. *It enables teachers to identify the needs of individuals, groups and the whole class.*
4. *It enables teachers to assess how well the students have progressed in their learning over time.*
5. *It enables teachers to reflect on the effectiveness of their teaching practice and improve.*
6. *It enables teachers to report on student learning to different stakeholders.*

Question 2: How can learning taxonomies and learning progressions support the teaching and learning process?

Answer: *Learning taxonomies provide a framework through which we can observe learning progress in different broad skills, such as developing higher order thinking (Bloom's Taxonomy), developing different attitudes (Krathwohl's Affective Domain), developing skills (Dreyfus' Model of Skills Acquisition), developing complexity of thought (SOLO Taxonomy).*

Learning progressions provide more detail about how concepts and skills in specific learning domains usually develop.

Learning taxonomies and learning progressions can be used as maps to monitor student learning and predict the next steps that they are ready to develop.

Question 3: Explain the four levels of feedback and evaluate how well they support student learning.

Answer: *Feedback can be used to promote learning at four levels:*

Self – which is the least effective level, because it is about the student, not their work.

Task – this level of feedback provides correction, but may not support deep understanding and improvement in learning.

Process – this feedback helps students to understand the process in relation to how they can improve in their learning.

Self-regulation – this type of feedback helps students to develop metacognition. It is particularly useful for proficient learners because it helps students to improve in self-directed learning.

Question 4: Why are peer and self-assessment important skills for students to develop?

Answer: *Self-assessment can empower learners to self-regulate their own learning. It can help students to develop in their academic performance and can support self-efficacy. However, if a student does not have the metacognitive structures to support self-assessment in a particular area of learning, they cannot self-assess accurately.*

Peer-assessment can enable students to see how others approach a task. It can enable them to gain insight into their own learning and help them to understand the task criteria better. It can help to increase self-regulated learning as well as social regulation of learning. However, effective peer-assessment is also dependent upon students having the insight and metacognitive structures to understand the skills and knowledge and build on what they have learnt.

8.3. School-based Assessment: Designing

Tools and Analysing Achievement

In this sub-unit, student teachers will examine different ways to gather and analyse assessment data. The sub-unit begins with exploring the role of rubrics in assessment. Student teachers will develop techniques to create robust rubrics that maximise validity and reliability. They will also use techniques to analyse rubric data.

In Lesson 8.3.2, student teachers will review the concept of measures of centrality and measures of variability. They will examine representations of variability through analysing box-and-whisker plots and histograms.

Lesson 8.3.3 presents the concepts of percentiles and percentile rank. Student teachers will calculate percentiles and percentile ranks using a linear model. They will take a critical perspective in relation to how percentiles and percentile ranks can and should be used.

Finally, in Lesson 8.3.4, student teachers will calculate correlation coefficients using two methods. The first method, Q-correlations, provides a fast and simple way to estimate the correlation between two variables (such as a pre- and post-test). The second method provides a more accurate calculation of correlation using Pearson's r correlation coefficient.

Throughout this sub-unit, student teachers are encouraged to take a critical perspective on the use of statistics in educational assessment. What are the uses of statistics? What are their strengths and limitations in understanding student learning and providing accurate meaningful reports to stakeholders?

8.3.1. Designing assessment rubrics for lower middle school contexts

Expected learning outcomes

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

- Design rubrics in line with the assessment principles to assess students in the Lower Middle school; and
- Analyse and interpret rubric data for students in the Lower Middle school.



Competencies gained

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

B2.1.2 Use assessment information to plan lessons

B2.2.1 Record students learning progress accurately and consistently

B2.2.2 Use varied assessment practices to monitor and record students' learning progress and inform further planning of the curriculum

D1.1.1 Use evidence of students learning to reflect on the impact of own teaching practice

D1.1.2 Use information from a variety of sources to improve teaching practice and student learning



Time: Five periods of 50 minutes



Learning strategies

Learning activity 1. Group analysis: Validity and reliability in judgement-based assessment

Learning activity 2. Group activity: Assessing creativity

Learning activity 3. Think-pair- share: Reflecting on the purpose of rubrics

Learning activity 4. Group activity: Breaking down constructs

Learning activity 5. Collaborative activity: Creating rubrics for an assessment task

Learning activity 6. Collaborative activity: Using learning taxonomies as a framework for developing levels of quality

Learning activity 7. Collaborative scoring and critique: Determining rubric scoring

Learning activity 8. Group calculation and analysis: Analysing rubric data



Assessment approaches: Questioning, observation, peer and whole-class discussion



Preparation needed: N/A



Resources needed

Learning activity 1. Flip chart and pens for each student group

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 4. The list of constructs; Flip chart and pens for each student group; Blue tack or thumb tacks or sticky tape to pin group work around the room.

Learning activity 5. Copies of task descriptions for Grade 7 assessment tasks (Annex 4 in this guide) (one for each group of student teachers); Flip chart and pens for each group (make sure each group has several sheets of paper)

Learning activity 6. The same flip chart as learning activity 5 for each group and pens. Spare copies of task description for Grade 7 assessment tasks

Learning activity 7. The same flip chart as learning activity 5 for each group and pens.

Learning activity 8. Calculators

Period 1

Designing assessment rubrics for lower middle school contexts

This period is structured as follows:

Introduction/Explicit teaching	15 minutes
Learning activity 1	10 minutes
Explicit teaching	5 minutes
Learning activity 2	15 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	15 minutes
Class organisation	Whole class

1. Write and outline the learning objectives on the board.
2. Ask student teachers to recall what they know about rubrics.
 - a. What are rubrics? Why are they important?
3. Ask student teachers to open their textbooks to Lesson 8.3.1, Period 1. Ask them to read the section, 'Rubrics'.
4. Ask student teachers:
 - a. What is the difference between subjective judgement and objective judgement?
 - b. Why is it important for teachers to be objective when they assess students?
5. Ask student teachers to read from their textbooks Lesson 8.3.1, Period 1, section, 'Judgement based assessment'.



Learning activity 1. Group analysis: Validity and reliability in judgement-based assessment

Time	10 minutes
Class organisation	Small groups

Purpose

The purpose of this learning activity is to reflect critically on the pros and cons of judgement-based assessment.

1. Divide student teachers into small groups of three to four people. Hand out flip chart and pens.
2. Allocate ONE type of assessment task from Table 8.10 in the textbook to each group. (Do not allocate “A painting” because this is used as an exemplar).
3. Direct student teachers to the three questions listed in Learning activity 1.
4. Ask students to discuss their assessment type in relation to each of the questions and write their responses.
5. When the groups have discussed their responses, ask each group to report briefly back to the class about their assessment type and their responses.



Assessment

Walk around the room and pay attention to the dynamics between teams. Are all student teachers participating meaningfully? Do they understand the issues with judgement-based assessment? Use questioning techniques to help student teachers to think critically about judgement-based assessment.



Possible student teachers' responses

There are many possible responses for these types of assessment. Table TG 8.6 shows examples of some ideas that student teachers may discuss.

Table TG 8.6. Analysis of judgement-based assessment – completed

Type of assessment task	Purpose for using this form of judgement-based assessment.	Challenges for assessing accurately and objectively	Strategies to increase reliability and validity in assessment
A painting (<i>exemplar</i>)	<p>Assess understanding and use of colour.</p> <p>Assess artistic representation.</p> <p>Assess technique and composition.</p>	<p>Assessors tend to have opinions about what they like and do not like.</p> <p>Assessors need to be experienced in order to understand all criteria that are being assessed.</p>	<p>Create rubrics that have criteria that address technical and artistic conventions.</p> <p>Use moderation to ensure that assessors are marking in the same way.</p>
An inquiry project	<p>To assess a range of 21st century skills.</p> <p>To develop self-regulation of learning.</p> <p>To help students engage with the content.</p> <p>To develop critical and creative thinking and questioning techniques.</p>	<p>Often students will have different topics – how do you assess it equitably?</p> <p>There are many skills that students need to develop to complete a research project, but the skills are all integrated – how does a teacher observe all skills accurately?</p>	<p>Create rubrics for each stage in the research process to capture different skills.</p> <p>Provide exemplars.</p> <p>Moderate assessment with other teachers.</p>
A written recount	<p>To assess language development.</p> <p>To assess the ability to communicate personal experience.</p> <p>To help students develop the ability to write for a particular audience.</p>	<p>Teachers may be biased against the quality of student ideas, particularly if the student is not able to write neatly.</p>	<p>Use rubrics to mark the essay.</p> <p>Students may be involved in writing the criteria.</p> <p>Use exemplars.</p> <p>Moderate assessment with other teachers.</p>
A musical performance	<p>To help students develop the skills of performing in front of other people.</p> <p>To encourage students to practise and develop in their musical abilities.</p> <p>To engage students in music.</p>	<p>Should teachers assess effort or the quality of the performance? Is assessment being used as a reward?</p> <p>There is often a very diverse range of abilities in music across the class – how do you assess fairly?</p>	<p>Use rubrics.</p> <p>Provide opportunity in the rubrics to encourage effort, even if the performance is not perfect.</p>
An oral presentation	<p>To improve in presenting ideas or arguments to live audiences.</p> <p>To improve skills in creative and critical thinking, justification of ideas and formulating arguments.</p> <p>To improve oral communication skills.</p>	<p>Teachers may be biased against the student’s ideas. The teachers may not be fair in assessing students with additional needs that impact on oral presentations.</p>	<p>Use marking rubrics.</p> <p>Provide ways in which students with additional needs can communicate their learning and ideas in a safe environment.</p>

A diorama	To communicate learning in visual ways that are specific to different disciplines, such as Science and Social Studies. To communicate learning effectively with a wide audience. To develop creative thinking and problem-solving skills.	Teachers may place too much emphasis on the neatness, or prettiness of the diorama, rather than assess the learning progress that has been presented.	Use marking rubrics and checklists to guide marking. Use moderation processes to ensure that marking is objective.
An art portfolio	<i>Developmental portfolio:</i> To observe and assess student progress as they develop over time. OR <i>Showcase portfolio:</i> To enable students to showcase the best samples of work that they have produced.	<i>Developmental portfolio:</i> Teachers may not recognise the underlying developmental process that students have gone through. They may hold subjective opinions that colour their judgement of the artwork. <i>Showcase portfolio:</i> Teachers may allow their subjective preferences or other opinions of about the student's ability to colour their judgement.	Use marking rubrics and checklists to guide the marking process. Moderate marking with other teachers. Establish common understanding of criteria with the students.
Team sport – Soccer	To develop team skills and communication skills within a team. To help students to understand the importance of playing fairly according to rules. To develop coordination and fitness. To develop attitudes of sportsmanship.	Teachers may favour students who are physically coordinated and who are naturally good at soccer.	Create clear criteria and rubrics that enable all students to demonstrate how they are developing in the range of skills that are required in order to play soccer.
A problem-based assessment task	To approach a real-world problem with innovation and creative thinking. To apply skills or information learnt in class to the real world. To develop critical and creative thinking.	Teachers may have preconceived ideas about the solutions that could be applied to the problem. They may assess using subjective opinions or may look only at the end product without assessing critical and creative process.	Create clear criteria and rubrics that enable assessment of process and product. Create checklists for students. Develop a common understanding of the requirements of the task with the students. Moderate marking and feedback with colleagues.

[See Table 8.10 in textbook.]

Explicit teaching

Time	5 minutes
Class organisation	Whole class

1. Ask student teachers to turn to Lesson 8.3.1, Period 1, section, 'Rubrics and their uses'.

2. Reiterate the importance of clear rubrics that describe the evidence that teachers need to see when assessing learning. Explain the importance of having observable evidence (what students do, say, make and/or write). This is because we cannot guess what the students think or understand, but we can observe the evidence and infer what they think or understand from what they produce.



Learning activity 2. Group activity: Assessing Creativity

Time	15 minutes
Class organisation	Small groups

Purpose

The purpose of this learning activity is to consider how teachers can assess concepts and skills that tend to be subjective.

1. Student teachers should remain in the same small groups for this activity. Ask student teachers to take notes of their discussions because they will report back to the class at the end.
2. Explain to student teachers that creativity is one area that can be difficult to view objectively.
3. Ask student teachers to read Step 1 in Learning activity 2. For this part of the activity, they should be subjective. Ask student teachers to reflect on the range of opinions in the group.
4. Ask student teachers to move to Step 2 in the learning activity. For this part of the activity, they should try to be objective. They should work through questions a, b, c, and d. They should take notes of the conversation.
5. As a class discuss the questions:
 - Which process enabled you to view the photographs more objectively? Why?
 - Were you able to come to a universal decision about which photograph would win? What enabled you to come to that decision?



Assessment

As you walk around the room, pay attention to the dynamics within each group. Are all students participating meaningfully? To what extent are they able to resolve

disagreement to come to a united conclusion? To what extent are they able to put aside subjective judgement?



Possible student teachers' responses

There are no correct responses for this activity. Each student teacher will have a different opinion about the photographs. When they discuss criteria, they may look at elements such as composition, light and shade, emotion, context and meaning, texture, etc.

You may suggest some of these criteria to groups if they are unsure of how they should proceed. It is important to ensure that student teachers understand the importance of having shared criteria to evaluate judgement-based assessment tasks.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to reflect on the differences between subjective and objective judgements.

How can teachers make assessment as objective as possible, particularly when they are assessing critical and creative thinking?

Period 2

Designing assessment rubrics for lower middle school contexts

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 3	5 minutes
Explicit teaching	10 minutes
Learning activity 4	20 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write and outline the learning objectives on the board.
2. Explain that the focus will be on analytic rubrics.
3. Ask student teachers to turn to Lesson 8.3.1, Period 2, section, ‘Using analytic rubrics to assess student progress’. Ask them to read the first paragraph.
4. Ask student teachers to read Table 8.11, ‘Uses for analytic rubrics’. Highlight the importance of transparency (that is, making the assessment requirements explicit) in relation to fairness, reliability and validity.



Learning activity 3. Think-pair-share: Reflecting on the purpose of rubrics

Time	5 minutes
Class organisation	Individual – pairs – whole class

Purpose

The purpose of this learning activity is to reflect on the uses of analytic rubrics in assessment, teaching and learning.

1. Direct student teachers to Learning activity 3 in the textbook.
2. *Think* – Ask student teachers to think about their experiences.
3. *Pair* – Ask student teachers to discuss their experiences with the person next to them. Ask them to consider how analytic rubrics might help them to understand tasks better.
4. *Share* – Discuss as a class how teachers can use analytic rubrics to make assessment clearer for students.



Assessment

Observe how student teachers engage in the reflective process. Use questioning techniques to help student teachers think more deeply and critically about the issues around assessment.



Possible student teachers' responses

There will be a wide variety of responses to this activity, depending on the experiences that the student teachers have had with assessment. Refer students back to Table 8.11 throughout the discussion.

Remind them that assessment is not just about students showing what they have learnt, but assessment also provides learning opportunities for students to develop a wide range of skills.

Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Ask student teachers what they remember from Year 2 about the structure of rubrics.
2. Direct student teachers to the textbook and ask them to read Lesson 8.3.1, Period 2, section, 'Rubrics: Understanding underlying constructs'.
3. Reiterate that constructs are big ideas that are often abstract. We need to break them down in order to be able to observe them. Sometimes constructs are made up of many skills and ideas.
4. Direct student teachers to the textbook and ask them to read Lesson 8.3.1, Period 2, section, 'Unpacking constructs'.
5. Point out that constructs can have different subtypes and skills that underpin them, and teachers need to determine which aspects of the construct they will assess. Point out that sometimes constructs and sub-constructs need to be broken down several times in order to know what elements can be observed and understood.



Learning activity 4. Group activity: Breaking down constructs

Time	20 minutes
Class organisation	Small groups

Purpose

The purpose of this activity is to work in groups to break down constructs and develop a shared understanding of the evidence of the construct that can be observed.

1. Direct student teachers to Learning activity 4 in the textbook. Ask student teachers to move into groups of three or four people. Each group will need to have a flipchart and pens as well as blue tack, sticky tape or pins to post their flow charts around the wall.
2. The student teachers will unpack constructs related to 21st century skills. Allocate one construct to each group. These are the constructs that they will unpack:
 - Collaboration
 - Critical thinking
 - Creative thinking
 - Communication
 - IT skills
 - Leadership.
3. Groups should work through the steps outlined in Learning activity 4 (about 15 minutes).
4. Ask all groups to pin their flowchart on the wall. Allow 5 minutes for students to walk around the room to observe how other groups have unpacked the constructs.



Assessment

Walk around the room to observe how the teams work together. They will need to work quickly and collaboratively. Some groups may need to have support to begin unpacking the ideas.

Ask questions, such as:

- What types of collaboration might you ask students to do?
- Is collaboration the same for every learning area, or is it different depending on what the task is?
- If you were watching students collaborate, what behaviours would you expect to see? (Do, say, make or write)

Make sure that each student in each group is contributing meaningfully to the discussion. It is important that the groups end up with a range of actions (what the students do, so make or write) that are observable by the teacher. It is also important that the student teachers within the groups come to a consensus about how the constructs should be broken down. They may use the curriculum to guide their ideas. For example, communication may contain sub-types of reading, writing, listening and speaking.



Possible student teachers' responses

There are no set responses, however students within each group need to come to a consensus about how to break down the construct. The following are just examples of how groups might break down the constructs (note there may be individual or cultural differences).

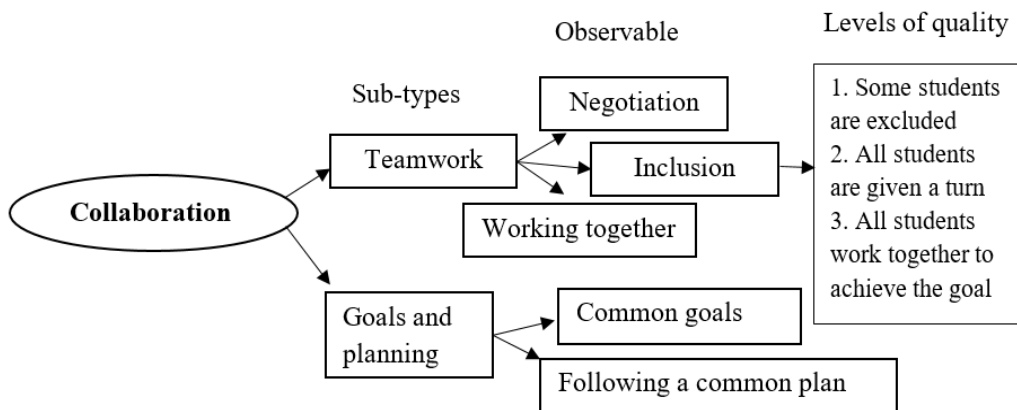


Figure TG 8.1. Breaking down constructs¹⁸



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

¹⁸ Image by author, used with permission.

Ask student teachers to reflect on the following:

1. What are constructs and why can they be difficult to assess?
2. How does the process of breaking down constructs into observable elements enable greater validity and reliability in assessment?

Period 3

Designing assessment rubrics for lower middle school contexts

This period is structured as follows:

Introduction/Explicit teaching	5 minutes
Learning activity 5	40 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	5 minutes
Class organisation	Whole class

1. Write and outline the learning objectives on the board.
2. Review what student teachers learnt in the previous lesson.
3. Outline the three steps they will work through to design analytic rubrics in this lesson:
 - a. Identifying constructs
 - b. Identifying main skills and knowledge to be assessed
 - c. Identifying observable features of the skills and knowledge (criteria).



Learning activity 5. Collaborative activity: Creating rubrics for an assessment task

Time	40 minutes
Class organisation	Small groups

Purpose

The purpose of this learning activity is to begin developing marking rubrics by identifying the constructs that will be assessed in an assessment task.

1. Divide the class into small groups of 3 to 4 people. Tell student teachers that they will remain in these groups in Period 4. Direct student teachers to turn to Lesson 8.3.1, Period 3, Learning activity 5.
2. Give each group of students an assessment task description (see Annex 4 in this guide). The task description has a learning objective, learning outcome and achievement indicators. Also give each group a flip chart and pens.
3. Ask student teachers to work through the steps one by one. Each step is illustrated with an example in the textbook.
4. Suggested timing:
 - a. Step 1: Identifying the constructs (5 minutes)
 - b. Step 2: Breaking down the constructs to identify knowledge and skills (10 minutes)
 - c. Step 3: Breaking down knowledge and skills into observable features (15 minutes)
 - d. Step 4: Designing the table (10 minutes).



Assessment

It will be important to observe the interactions within the groups throughout the process of this activity. How do they collaborate? Are all members of the group participating meaningfully? Are the groups inclusive? When there are disagreements, how do they resolve them?

In Step 1, it will be important for groups to be able to identify the main constructs that will be assessed. If groups are struggling to identify the constructs, ask questions that lead them to an answer, such as: *What is the main purpose of the assessment task? What are the main underlying skills and knowledge that are being assessed?*

In Step 2, it will be important for the student teachers to be able to break down the constructs into their component elements. If student teachers are struggling to do this, ask guiding questions, such as: *What skills do students need to develop to demonstrate that they understand or can do [the construct]?*

In Step 3, it will be important for student teachers to write down observable evidence that would demonstrate the skills and ideas that are being assessed. If it is not observable evidence, ask student teachers to think about what their students would need to do, say, make or write to demonstrate that they understand the skill that is being assessed.

In Step 4, ask student teachers to begin designing the table to create their rubrics. They should refer to Annex 4 in the textbook for an example and use Table 8.12, ‘Example of page setup to design rubrics’ to guide their construction. Make sure that the student teachers have enough levels to fit the learning taxonomy (remember they may want to combine two levels of the taxonomy in their rubric). Check that they understand why they are using the framework. Tell the student teachers that they will continue working on their rubrics in Period 4.



Possible student teachers' responses

There will be many different possible responses. Please see the textbook for an example of how student teachers should approach the task.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers about the process so far of writing analytic rubrics. What did they find easy? What was challenging? What strategies might they use to overcome the challenges?

Period 4

Designing assessment rubrics for lower middle school contexts

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 6	30 minutes
Check student teachers' understanding	10 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write and outline the learning objectives on the board.
2. Direct students to their textbook Lesson 8.3.1, Period 4, section, 'Building analytic rubrics – identifying levels of quality'.
3. Ask student teachers what they remember about learning taxonomies. Discuss why it is important to use learning taxonomies as a framework for writing levels of competence in rubrics.
4. Direct students to their textbook Lesson 8.3.1, Period 4, section, 'Rules for writing levels of quality'. Student teachers should read through each rule one by one.
5. Reinforce that these rule help to make the rubrics more reliable.



Learning activity 6. Collaborative activity: Using learning taxonomies as a framework for developing levels of quality

Time	30 minutes
Class organisation	Small groups

Purpose

The purpose of this learning activity is to develop level descriptors for criteria in a rubric.

1. Student teachers will need to move into the same groups they were in for Period 3. They should also have the same flip chart that they were using in Period 3. They will also need to have pens.
2. The groups will need to discuss which learning taxonomy would be most appropriate. Some students may state that their assessment task requires more than one taxonomy, because it is assessing different things (such as higher order thinking as well as skill development). It should be noted that more than one taxonomy can be used, when needed. (2 minutes)
3. The groups will need to allocate the different levels. (5 minutes)



Facilitator's notes

Remind them that there should be no more than 4 levels (plus a zero level), but they can have fewer levels if it makes sense to do so. However, too few levels can also compromise reliability and validity, because they may not provide enough stretch for the highest achievers or may not allow the lowest achievers to show what they know and can do.

4. Student teachers need to divide the criteria amongst their team. Each person in the team will be responsible to write the levels descriptors for their particular criteria. (15 minutes).
5. Student teachers should review each other's work, and then write their descriptors into the table they developed in Period 3.



Assessment

Observe the group's choices of learning taxonomy for their rubrics. Ask groups why they have chosen their learning taxonomy. Ask them to justify why they have decided to allocate the levels of the learning taxonomy to the levels on the rubrics.

As student teachers write the level descriptors, encourage them to check their descriptors against the rules. Encourage peer-assessment by recommending that they ask others in the group to read their work and make recommendations. Remind student teachers about the importance of constructive but supportive peer feedback.



Possible student teachers' responses

Student teachers' responses will vary considerably and will be a product that has evolved over time. See Annex 4 in the textbook for an example.



Check student teachers' understanding

Time	10 minutes
Class organisation	Whole class

- Ask student teachers to share their rubrics with the class.
- Ask student teachers to reflect on the process of writing rubrics. What parts did they find easy? What parts were challenging? What do they need to practice more?

Period 5

Designing assessment rubrics for lower middle school contexts

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 7	15 minutes
Explicit teaching	10 minutes
Learning activity 8	10 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write and outline the learning outcomes on the board.
2. Ask students to think back to Year 2 (Lesson 8.2.4), when they analysed test data using charts with 1s and 0s. How did the charts show rough levels of reliability and validity? How were they used to analyse student work? Explain that this method can also be used to analyse rubric data and interpret students' levels of achievement and skill.
3. Direct student teachers to their textbook Lesson 8.3.1, Period 5. Ask them to read sections, 'Analysing and interpreting analytic rubrics' and 'Scoring'.



Learning activity 7. Collaborative scoring and critique: Determining rubric scoring

Time	15 minutes
Class organisation	Small group

Purpose

The purpose of this learning activity is to calculate the total score for the rubrics the student teachers designed in the previous period.

1. Ask student teachers to move into the same small groups they were in during Periods 3 and 4.
2. Using the method described in the textbook, ask the groups to calculate the total score for the rubrics.
3. Once they have the total score, they should critically evaluate their rubrics. Ask them to change elements that need to be improved.



Assessment

Observe that they calculate the total raw score accurately.



Possible student teachers' responses

Responses will vary, depending on the number of level descriptors they have for each criterion. Make sure that there is no weighting added to the scores.

Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Direct student teachers to Lesson 8.3.1, Period 5, section, 'Recording results for analysis'. Ask student teachers to read through the steps to organise the data. Tell student teachers that this can be done quite easily using a computer spreadsheet programme, such as excel. Direct them to the video¹⁹ in 'Further reading' for instructions and a demonstration on how to do this.
2. Highlight Table 8.19, 'Checking the overlap between the 1s and 0s'. Remind student teachers that the wider and more scattered the overlap is, the less reliable the data.
3. Ask student teachers to read to Lesson 8.3.1, Period 5, section, 'Calculating the coefficient of reproducibility'. They will use these steps to analyse the rubric data in Learning activity 8.



Learning activity 8. Group calculation and analysis: Analysing rubric data

Time	10 minutes
Class organisation	Whole class

Purpose

The purpose of this learning activity is to analyse rubric data and calculate the Coefficient of Reproducibility.

¹⁹ Richardson Grichting, K. (2021).

1. Students should remain in the same groups as the previous learning activity.
2. Direct student teachers to Learning activity 8. Ask them to read the scenario.
3. Tell student teachers that Table 8.21, 'Raw scores for each criterion based on the rubric' provides the raw scores, which have been broken down into 1s and 0s in Table 8.22 'Chart of student scores that has been converted to 1s and 0s and organised'. They will need to focus on Table 8.22.
4. Ask the groups to respond to the three questions (write these on the board):
 - i. Calculate the Coefficient of Reproducibility.
 - ii. A coefficient of 0.9 or higher is desirable. What does the coefficient say about the reliability of the data?
 - iii. What factors might have contributed to the level of reliability? Could these factors be changed to improve the reliability for next time?



Assessment

Observe how student teachers identify the 1s and 0s that are out of place. Have they identified them correctly?



Correct student teachers' response

1. Calculate the Coefficient of Reproducibility.

Response:

Errors = 22

$$CR = 1 - \frac{22}{360}$$

$$CR = 0.938 \dots$$



Possible student teachers' response

- A coefficient of 0.9 or higher is desirable. What does the coefficient say about the reliability of the data?
Possible response: According to this method of calculation, the data from this set of rubrics is quite consistent and therefore, contributes to reliability.
- What factors might have contributed to the level of reliability? Could these factors be changed to improve the reliability for next time?

Possible response: the quality of the rubrics; Student motivation and engagement may impact on the amount of error; class time, environment and teacher support may impact on the level of error; etc. Remembering that reproducibility and consistency over time is a quality of reliability, if the CR was to change dramatically over time, it would call into question the reliability of the rubrics.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask students to reflect on the different factors that can impact on the reliability of an assessment tool. To what extent can teachers control these factors?

8.3.2. Interpreting data using measures of centrality and measures of variability

Expected learning outcomes

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

- Calculate measures of central tendency;
- Explain the uses and limitations of using measures of central tendency to analyse assessment data;
- Explain the uses and limitations of measures of variability when analysing assessment data; and
- Compute the value measures of variability.



Competencies gained

B2.2.1 Record students learning progress accurately and consistently

B2.2.2 Use varied assessment practices to monitor and record students' learning progress and inform further planning of the curriculum

D1.1.1 Use evidence of students learning to reflect on own teaching practice

D1.1.2 Use information from a variety of sources to improve teaching practice and student learning



Time: Three periods of 50 minutes



Learning strategies

Learning activity 1. Calculate and reflect: Measures of central tendency

Learning activity 2. Group discussion: Using measures of central tendency to understand student achievement

Learning activity 3. Representing data variability: Box and whisker plot

Learning activity 4. Group discussion: Interpreting variability using box and whisker plots

Learning activity 5. Data interpretation: Histograms

Learning activity 6. Calculating and interpreting: Standard deviation



Assessment approaches: Questioning, observation, peer and whole-class discussion, reviewing student work



Preparation needed

Read the educational studies student teacher textbook Lesson 8.3.2.

Write relevant learning outcomes on board.



Resources needed

Learning activity 1. Depending on available resources, student teachers may use a calculator or Excel spreadsheet for this activity.

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. Depending on available resources, student teachers may use a calculator or Excel spreadsheet for this activity.

Learning activity 4. N/A (other than textbook, note paper, and pen)

Learning activity 5. N/A (other than textbook, note paper, and pen)

Learning activity 6. A calculator or Excel spreadsheet is required to complete this activity. It is useful to display the worked out examples of calculations using a blackboard, whiteboard or flip paper.

Period 1

Interpreting data using measures of centrality and measures of variability

This period is structured as follows:

Introduction	10 minutes
Learning activity 1	15 minutes
Learning activity 2	20 minutes
Check student teachers' understanding	5 minutes

Introduction

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to Lesson 8.3.2. Explain that the focus of this lesson will be on interpreting assessment data using measures of centrality and measures of variability. This period will focus on measures of centrality.
2. A useful way to enable learners to make connections to prior knowledge and gauge levels of student knowledge and understanding is to ask questions. For example, ask some student teachers to share what they remember about measures of centrality. Can they name the three measures of centrality and explain how these are calculated? Briefly explain the three measures of central tendency based on the section, ‘Using measures of central tendency to understand assessment data’ in the textbook.
3. Briefly ask student teachers to reflect on why analysis of assessment data is important for teachers. Explain that this lesson will focus on foundational statistical methods for understanding classroom assessment data.
4. Explain to student teachers that the textbook summarises key points from the previous years for their reference.



Learning activity 1. Calculate and reflect: Measures of central tendency

Time	15 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to calculate measures of central tendency using a sample data set and reflect on their meaning.

1. Explain that this activity is designed to consolidate student teachers’ understanding of calculating measures of centrality. The data set to be used for the activity has been designed to be reflective of a data set created by a teacher.
2. Direct student teachers to complete Learning activity 1 in the textbook. The activity has been designed to be completed in pairs.
3. Support and prompt individual student teachers as they complete the activity. Remind students that they can look back at information in the section, ‘Using measures of central tendency to understand assessment data’ in the textbook.

Also remind students that they need to rearrange the values in the dataset to determine the median and mode.

4. Ask for volunteers to share the solutions to their calculations and reflections.



Assessment

Check and support peer dyads during the activity. Try to do this by encouraging conversation and pointing to information pertaining to strategies rather than checking for right or wrong answers.

You will be able to assess understanding by observing student teacher work and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.



Possible student teachers' responses

- The *mean* is 51.36 (sum is 1849, divided by 36).
- The *median* is 54.5 (the number of data points is uneven, which means that the median needs to be calculated using the mean of the two middle values; 54 and 55).
- The *mode* is 65; five students in the data set have achieved this score.

Student teachers may share various reflections. For example, they may identify that the mean shows the group performed well overall. They may observe that the median is higher than the mean, which suggests that the data are not evenly distributed around the mean. They may observe that the mode is particularly high in comparison to the mean and median.



Learning activity 2. Group discussion: Using measures of central tendency to understand student achievement

Time	20 minutes
Class organisation	Whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on the benefits and limitations of measures of central tendency to understand student achievement.

1. Explain that this activity builds on the previous activity. The outcomes of the previous activity will be used to encourage student teachers to reflect on the benefits and limitations of measures of central tendency.
2. Draw student teachers' attention to Learning activity 2. Lead a whole-class discussion on the benefits and limitations of measures of central tendency using the discussion questions.
3. Prompt and support student teacher pairs as they complete the activity. Encourage student teachers to take note of key points in Table 8.24. Use questions to encourage student teachers to elaborate and explain their answers and respond to each other's contributions.



Assessment

You will be able to assess understanding by listening to responses from student teachers in the discussion. Ensure that each student teacher get the opportunity to contribute to the discussion. Ask open-ended questions to stimulate discussion and encourage student teachers to further explain their responses. This will help you assess their understanding.



Possible student teachers' responses

Possible responses are provided in Table TG 8.7. Ensure that students are aware of the most important limitations, which relate to the inability of measures of central tendency to sketch a picture of the distribution of the data. This will be the focus of the subsequent two periods.

Table TG 8.7. Benefits and limitations of using measures of central tendency to understand student achievement – completed

Benefits	Limitations
<ul style="list-style-type: none">• Provide a quick overview of the group's overall achievement.• When compared to the pass/fail benchmark, these numbers become meaningful.	<ul style="list-style-type: none">• The numbers do not take account of the precise individual values in the dataset' hence, they cannot say anything about individual student achievement.• It does not tell the teacher what students can or cannot do.

Benefits	Limitations
<ul style="list-style-type: none"> • Easy to calculate. • The mean can be used to examine trends in student achievement over time. • The mean can be used for numeric data that is continuous and discrete. • The median provides a better representation of the class average than the mean when there are outliers (values at the extreme ends of the distribution) or if the distribution is not symmetrical. • The mode can tell teachers something about the extent to which the assessment has been designed in a way that discriminates between students. • The mode can be used for numerical and categorical data. 	<ul style="list-style-type: none"> • Not meaningful to calculate on very small samples. • Not suitable for use with categorical data. • The mean is susceptible to the influence of outliers; if there are extreme values, these will influence the mean value; for example, student 12 achieved a very low score and is a clear outlier. • The numbers are not meaningful unless compared against a pass/fail benchmark. • The numbers are only meaningful when they are based on valid and reliable assessments. • The numbers do not clearly represent the distribution of scores across individual students. • It does not provide detailed information that teachers can use to inform their teaching. • In some data sets, there is no mode. • Data sets consisting of categorical data do not have a median as these data cannot be ordered.

[See Table 8.24 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Allow opportunity for student teachers to ask questions.
- Allow opportunity for student teachers to reflect on the usefulness of calculating measures of central tendency for assessment data. What other analyses could they think of that teachers could use to sketch a more accurate picture of student achievement?
- Encourage student teachers to practise calculating measures of central tendency in their own time. They could use fictional or other available data sets.
- Explain that the next two periods will focus on measures of variability to understand assessment data.

Period 2

Interpreting data using measures of centrality and measures of variability

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 3	25 minutes
Learning activity 4	10 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to the second period of the lesson. Explain that this period will focus on measures of variability to understand assessment data.
2. Ask some student teachers to share what they know about measures of variability. For example, you can ask if they can name measures of variability and what these measures can tell you.
3. Provide explicit instruction based on the contents of the section, 'Using measures of variability to understand assessment data – range and box and whisker plots' in the textbook. Provide opportunity for student teachers to ask questions.



Learning activity 3. Representing data variability: Box and whisker plot

Time	25 minutes
Class organisation	Pairs

Purpose

The purpose of this learning activity is for student teachers to understand how to represent variability in the data using box and whisker plots.

1. Direct student teachers to Learning activity 3 and ask them to partner with a peer. Explain that this activity involves several steps. Student teachers should spend no more than five minutes on the first step to allow sufficient time for creating their own box and whisker plot. Depending on available resources, student teachers may use calculators or Excel for completing this activity.
2. Prompt and support student teacher pairs as they complete the activity. Use questions to encourage thinking about the different statistics.



Facilitator's notes

If needed, remind student teachers to consult the information and illustrative figures in the textbook.

3. After approximately 20 minutes, ask some volunteers to share their responses and their box and whisker plot with the class.



Assessment

Check and support student teacher pairs during the activity. Try to do this by encouraging peer discussion and conversation rather than checking for right or wrong answers.

You will be able to assess understanding by observing student teacher work and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.



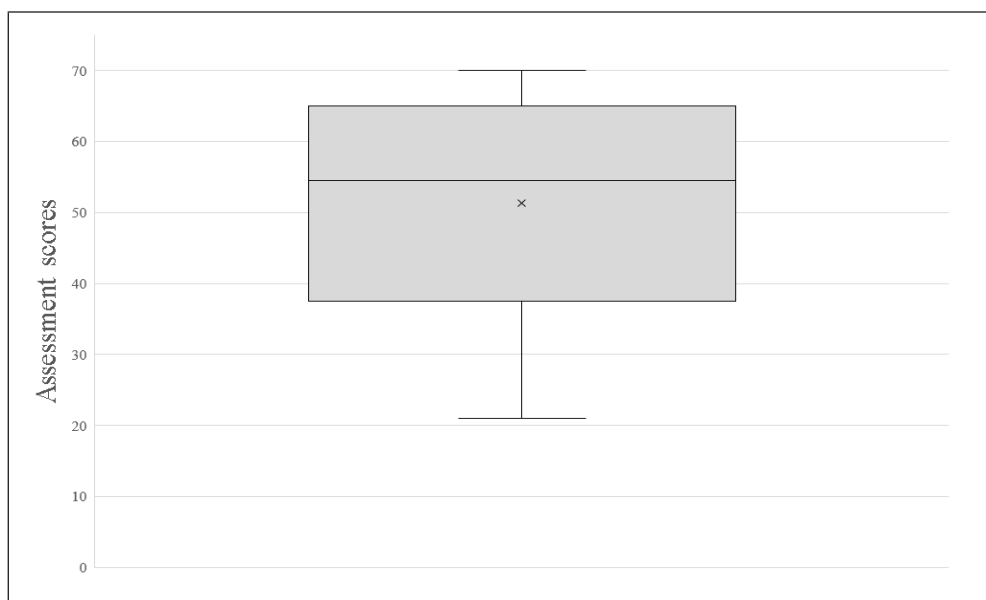
Possible student teachers' responses

Table TG 8.8. Values of descriptive statistics in Figure 8.14 and the Grade 6 Science student assessment scores dataset – completed

Descriptive statistic	Approximate value in Figure 8.14	Value in the Grade 6 Science student assessment scores dataset
Minimum	22	21
Q1	35	40.50
Median	45.5	54.50
Q3	49	65
Maximum	69	70
Range	47	49
Inter-quartile range	14	24.50
Mean	44	51.36

[See Table 8.26 in textbook.]

Box TG 8.4. Create a box and whisker plot based on the Grade 6 Science student test scores dataset²⁰ – completed



[See Box 8.7 in textbook.]

²⁰ Image by author, used with permission.



Learning activity 4. Group discussion: Interpreting variability using box and whisker plots

Time	10 minutes
Class organisation	Pairs and whole class

Purpose

The purpose of this learning activity is for student teachers to explore the benefits and limitations of using the range and interquartile range to interpret student assessment data.

1. Explain that this activity builds on the previous activity. In this activity, student teachers will be asked to reflect on the benefits and limitations of box and whisker plots. The box and whisker plot created in the previous activity will serve as a stimulus for the discussion.
2. Direct student teachers to Learning activity 4 in the textbook. Give students a couple of minutes to prepare their contributions to the discussion using the discussion questions.
3. Lead a whole class discussion using the listed discussion questions as a guide. Invite student teachers to reflect on the benefits and limitations of box and whisker charts more generally based on the example.



Assessment

You will be able to assess student teacher understanding by evaluating their contributions to the whole class discussion. The discussion will provide student teachers with feedback on their understandings of the benefits and limitations of box and whisker plots.



Possible student teachers' responses

Given the broad nature of this learning activity, there are many possible responses. Table TG 8.9 outlines the most important benefits and limitations of box and whisker plots as related to the plot created in Learning activity 3.

Table TG 8.9. Benefits and limitations of using box and whisker plots to understand student achievement – completed

Benefits	Limitations
<ul style="list-style-type: none"> • The plot provides a clear summary that is easy to interpret. • The plot shows that many students scored relatively high on the assessment task. • The plot shows how student achievement scores are distributed across the group. • The plot shows that 50% of student scored between approximately 38 and 65 marks. • The plot shows the range of student scores. • The plot shows that the median is higher than the mean. • The plot shows that the mean is influenced by several low assessment scores. • The plot is appropriate to represent the distribution of student achievement in the group. • The plot can show the variability in assessment scores no matter the distribution of the data. • Multiple plots can be displayed next to each other to enable comparisons between different student groups and/or assessments. 	<ul style="list-style-type: none"> • The plot does not show the individual values of students that the teacher may be most concerned about (i.e., the bottom quartile). • The plot does not tell the teacher what students can or cannot do. • The plot does not allow the teacher to track individual student progress as it represents a point-in-time assessment of the group. • The plot does not allow the teacher to detect any unusual or unexpected student scores; for example, a student may score much lower than they usually do. • The plot would not accurately represent data in small classes; the data set needs to include at least about 20 values. • The data only become meaningful when compared to a benchmark. • Overall, the box and whisker plot only provides generic information to inform teaching and learning.

[See Table 8.27 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Allow opportunity for student teachers to ask questions.
- Allow opportunity for student teachers to reflect on how the measures of central tendency and box and whisker plot represent the Grade 6 Science achievement compared to the? Which way of representing data do they find most useful for understanding student achievement? How can this information inform teaching and learning?
- Encourage student teachers to reflect on how they may use box and whisker plots to examine differences between groups of students or differences in student achievement over time.
- Explain that the subsequent period will focus on other ways to examine variability; histograms and the standard deviation.
- Thank student teachers for their participation and attentiveness.

Period 3

Interpreting data using measures of centrality and measures of variability

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 5	15 minutes
Explicit teaching	10 minutes
Learning activity 6	10 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Welcome student teachers to the final period of the lesson. Explain that this period will focus on using histograms and the standard deviation to understand variability in assessment data.
2. Provide explicit instruction based on the contents of the section, 'Histograms' in the textbook. Provide opportunity for student teachers to ask questions.



Learning activity 5. Data interpretation: Histograms

Time	15 minutes
Class organisation	Groups of 3 or 4 and whole class

Purpose

The purpose of this learning activity is for student teachers to examine histograms to understand assessment data.

1. Assign students to groups of 3 or 4 for this activity.
2. Draw student teachers' attention to Learning activity 5. The activity will instruct them to examine two histograms, representing the mathematics assessment scores of Class A and Class B (Figure 8.19).
3. Allow approximately 10 minutes for each group to interpret the histograms and record their responses in Box 8.8. Prompt and support groups as they complete the activity.
4. After 10 minutes, ask some groups to share their responses and discuss the most important information represented in the histograms.



Assessment

Support student teacher groups during the activity. Try to encourage discussion within the groups and get student teachers to discuss their reasoning.

You will be able to assess understanding by observing group conversations, observing group work, and selecting student teachers to share their group's responses with the class. Ensure that you select both female and male student teachers. The class discussion will provide student teachers with feedback.

During the whole group sharing - ask open-ended questions to encourage student teachers to explain responses. The group discussion provides a good opportunity to remind student teachers of the importance of understanding variability; the two histograms sketch a very different picture of achievement in Class A and B, despite both having the same mean score.



Possible student teachers' responses

Possible interpretations of the two histograms are:

- Students in both classes performed average overall, with only 50% passing the assessment.
- Although the mean in both classes is 50, the distribution of assessment scores looks very different for Class A and B.
- The scores of students in Class A are much closer to the mean than those in Class B.
- There are more students with a very low and very high score in Class B compared to Class A.

- The differences in student achievement are much greater for students in Class B compared to Class A.
- Overall, the results of both Class A and Class B suggest that the teacher needs to re-teach the material to half of the class, perhaps using a different teaching strategy.
- In class A there is a large group of students who achieved a score of around 50; achievement in Class B is more dispersed, suggesting these students may have more diverse learning needs that teachers need to cater to.
- The histograms do not display student (individual) growth over time or student membership to a particular score group (or bin).
- The histograms do not show the students' strengths and weaknesses.

Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Provide explicit instruction based on the contents of the section, 'Standard deviation' in the textbook. Provide opportunity for student teachers to ask questions.
2. To check student teachers' understanding, you could ask them to examine the histograms in Figure 8.19, and ask which of these data set has a larger standard deviation and why.



Learning activity 6. Calculating and interpreting: Standard deviation

Time	10 minutes
Class organisation	Individual and pairs

Purpose

The purpose of this learning activity is for student teachers to calculate and interpret the standard deviation of a data set. This will help them identify the variability in a data set using the standard deviation.

1. Direct student teachers to Learning activity 6 in the textbook.
2. Ask student teachers to complete the calculations and interpret the results.



Facilitator's notes

If student teachers use an Excel spreadsheet, make sure they still follow the steps for calculating the standard deviation (rather than the Excel formula).



Assessment

Ask open-ended questions to encourage student teachers to follow each of the steps for calculating the standard deviation. You will be able to assess understanding by observing student teacher work and selecting student teachers to share their responses with the class. Ensure that you select both female and male student teachers. At the end of the activity, display a worked out example of the calculations so student teachers can self-assess.



Possible student teachers' responses

In these calculations, all values have been rounded off to two decimal points.

Step 1: First, student teachers need to calculate the mean, which is 17.11.

Results for *Steps 2* and *3* are provided.

Table TG 8.10. Step 2 and 3 results

Assessment score	Distance to the mean (Step 2)	Square of distance to the mean (Step 3)
15	-2.11	4.45
23	5.89	34.69
8	-9.11	82.99
13	-4.11	16.89
20	2.89	8.35
21	3.89	15.13
17	-0.11	0.01

Assessment score	Distance to the mean (Step 2)	Square of distance to the mean (Step 3)
18	0.89	0.79
26	8.89	79.03
13	-4.11	16.89
16	-1.11	1.23
17	-0.11	0.01
11	-6.11	37.33
17	-0.11	0.01
14	-3.11	9.67
11	-6.11	37.33
20	2.89	8.35
20	2.89	8.35
23	5.89	34.69
19	1.89	3.57
11	-6.11	37.33
12	-5.11	26.11
14	-3.11	9.67
22	4.89	23.91
19	1.89	3.57
16	-1.11	1.23
18	0.89	0.79
16	-1.11	1.23
13	-4.11	16.89
22	4.89	23.91
19	1.89	3.57
16	-1.11	1.23
21	3.89	15.13
16	-1.11	1.23
21	3.89	15.13
18	0.89	0.79

Step 4: The sum of values in Step 3 is 581.56.

Step 5: Divide 581.56 by 35 ($n - 1$); this gives 16.62.

Step 6: The square root of 16.62 is 4.08.

Thus, the standard deviation of the sample is 4.08.

Under the assumptions of a normal distribution, this means that:

- 68% of the values in the sample are located between 13.03 and 21.19
- 95% of the values in the sample are located between 8.95 and 25.28
- 95% of the values in the sample are located between 4.87 and 29.36.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

- Allow opportunity for student teachers to ask questions and reflect on their learning.
- Allow opportunity for student teachers to reflect on the common benefits and limitations of descriptive statistics for understanding assessment data.
- For example:
 - All of these statistics provide a quick overview (benefit)
 - None of these statistics can tell the teacher anything about what students know and do not know (limitation).
- Allow opportunity for student teachers to consolidate their understanding of measures of centrality and measures of variability.
- Encourage student teachers to reflect on which methods for data analysis are most useful to teachers for understanding assessment data and why.

8.3.3. Percentile and percentile rank

Expected learning outcomes

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

- Examine the benefits and limitations of using percentiles and percentile ranks to describe learning progress; and
- Calculate the values of percentile and percentile rank.



Competencies gained

B2.2.1 Record students learning progress accurately and consistently

B2.2.2 Use varied assessment practices to monitor and record students' learning progress and inform further planning of the curriculum

D1.1.1 Use evidence of students learning to reflect on the impact of own teaching practice

D1.1.2 Use information from a variety of sources to improve teaching practice and student learning



Time: Two periods of 50 minutes



Learning strategies

Learning activity 1. Calculation: Calculating percentiles

Learning activity 2. Calculation: Calculating percentile rank

Learning activity 3. Group discussion: Critiquing the use of percentile rank to report achievement



Assessment approaches: Questioning, observation, peer and whole-class discussion



Preparation needed: N/A



Resources needed

Learning activity 1. Calculators; paper and pens

Learning activity 2. Calculators; paper and pens

Learning activity 3. Flip charts and pens for each group

Period 1

Percentile and percentile rank

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 1	35 minutes
Check student teachers' understanding	5 minutes

Introduction and Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write and outline the learning objectives on the board.
2. Ask student teachers how percentiles might be used in education.
3. Direct student teachers Lesson 8.3.3, Period 1. Ask them to read the sections, 'Defining percentiles and percentile rank' and 'Percentiles'.
4. Ask student teachers to continue to read the section, 'Here is an example to illustrate the process'.



Learning activity 1. Calculation: Calculating percentiles

Time	35 minutes
Class organisation	Small groups and whole class

Purpose

The purpose of this learning activity is to calculate percentiles for a group of students.

1. Ask student teachers to work in groups of two or three people. Ensure that each small groups or pair has access to a calculator.
2. Ask student teachers to decide who will calculate the 90th percentile, 50th percentile and the 10th percentile.

3. Student teachers should calculate their percentile and report back to the group.
4. Ask the groups to discuss the questions in Step 3.
5. As a class, discuss the questions in Step 4.



Assessment

The aim of this activity is to understand the formula for calculating percentiles. It is also important to encourage student teachers to think critically about how percentiles are used in education.

Observe student teachers as they discuss the implications of the results for the class. Use questions to drill down into some of the issues that teachers should consider. What does this say about learning and teaching? What does it tell the teacher about the students? What does it tell the teacher about their own teaching?



Correct student teachers' responses

90th percentile R=3 Score = 49

50th percentile R=15 Score = 40

10th percentile R=27 Score =20



Possible student teachers' responses

- How did the class achieve in general?
This class achieved relatively low results for this test on the whole.
- What do you notice about the achievement of the majority of the class (refer to the 90th percentile)
The majority of the class fell below a score of 49/70 (below 70%).
- What do you notice about the achievement of the lower half of the class (refer to the 50th percentile)
Half of the class fell below 40/70 (below 57%)
- What do you notice about the lowest levels of achievement?
There were 11 students who failed. Three students sat on the 10th percentile - 20/70 (28.5%) and the lowest grade was 19/70.

- What factors might influence this result?
- Possible responses – the students didn't understand the content; the content was too difficult; the teacher did not teach it in a way that students could understand; badly written test

If you were the teacher, what questions might you ask in order to understand the implications of these results for learning and teaching?

Possible responses:

- Which questions did students find the most difficult to answer?
- Were there questions that were ambiguous or difficult to understand, or unfair?
- Was the content in the test taught during class?
- Was there anything that may have distracted students or caused them to disengage in the content?
- Was the test pitched at a suitable level of difficulty?



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to reflect on how percentiles can be used to analyse class data. Are there situations when percentiles may not be an appropriate way to analyse achievement?

Period 2

Percentile and percentile rank

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 2	20 minutes
Learning activity 3	15 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write and outline the learning outcomes on the board.
2. Ask students to recall what they know about percentiles. How are percentile ranks different?
3. Direct student teachers to Lesson 8.3.3, Period 2. Ask them to read section, 'Percentile ranks and here is an example to illustrate the process'.



Learning activity 2. Calculation: Calculating percentile rank

Time	20 minutes
Class organisation	Pairs

Purpose

The purpose of this learning activity is to calculate percentiles for a group of students.

1. Student teachers will work in pairs for this activity. Ask them to work with a student sitting next to them. Make sure each group has access to a calculator.
2. Student teachers should read the scenario for Learning activity 2. In pairs, one student should calculate the percentile ranks for the first column of students and the other person should calculate the percentile ranks for the second column of students.



Assessment

The aim of this activity is to give student teachers practice calculating percentile ranks. Observe student teachers as they calculate, ensuring that they use the formula.



Correct student teachers' responses

Table TG 8.11. Scores for Planet Earth Science test – completed

Student	Score /120	Rank	CC	RC	PR	Student	Score /120	Rank	CC	RC	PR
Student 22	120	1	29	1	98	Student 4	78	16	14	1	48
Student 14	101	2	27	2	93	Student 16	75	17	13	1	45
Student 21	101	2	27	2	93	Student 3	71	18	11	2	40
Student 18	95	4	26	1	88	Student 27	71	18	11	2	40
Student 28	94	5	25	1	85	Student 17	70	20	10	1	35
Student 7	91	6	24	1	82	Student 6	69	21	9	1	32
Student 19	87	7	22	2	77	Student 1	66	22	7	2	27
Student 30	87	7	22	2	77	Student 11	66	22	7	2	27
Student 12	86	9	20	2	70	Student 8	65	24	5	2	20
Student 26	86	9	20	2	70	Student 9	65	24	5	2	20
Student 10	85	11	18	2	63	Student 23	60	26	4	1	15
Student 24	85	11	18	2	63	Student 15	55	27	3	1	12
Student 25	82	13	17	1	58	Student 20	48	28	2	1	8
Student 2	81	14	15	2	53	Student 5	47	29	1	1	5
Student 13	81	14	15	2	53	Student 29	43	30	0	1	2

[See Table 8.38 in textbook.]



Learning activity 3. Group discussion: Critiquing the use of percentile rank to report achievement

Time	15 minutes
Class organisation	Small group

Purpose

The purpose of this learning activity is to discuss the strengths, limitations and issues in using percentile ranks to compare student achievement.

1. Each pair of student teachers from the previous learning activity, should join with another pair for this discussion (i.e., about 4 people in a group). Each group will need a flip chart and pens. They should draw a PMI chart on a

large sheet of paper, like Table 8.39, ‘Critical evaluation of percentile rank using a plus, minus and interesting chart’.

2. Student teachers will need to think critically about the use of percentile ranks in reporting student achievement. They will discuss their ideas in their groups and record their ideas on the PMI chart.
3. Encourage student teachers to consider other theories they have learnt, such as self-efficacy, motivation, growth mindset, learnt helplessness, etc.



Assessment

The aim of this activity is to encourage student teachers to think critically about the benefits and issues that percentile ranks may cause for different students.

Observe the groups of students as they discuss the pros and cons of percentile ranks. Encourage student teachers to explain their reasoning. Use questioning to help them to drill down further into the issues. Encourage them to think about how percentile ranks may impact on learning and development for different groups of students.



Possible student teachers’ responses

There are many different arguments for and against ranking students. Some may include:

- Students at the top end benefit from success;
- Students at the lower end may experience issues with self-efficacy, which impacts on self-regulation of learning (see Unit 3); and
- Percentile ranks do not allow students to see growth. Does this lead to fixed mindset approach to achievement?



Check student teachers’ understanding

Time	5 minutes
Class organisation	Whole class

Ask students to reflect on their own experiences with percentiles and percentile ranks. How do they impact on students and their learning?

8.3.4. Correlation

Expected learning outcomes

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

- Explain how correlations can be used to analyse assessment data;
- Compute the value of Q-correlation coefficient; and
- Compute the value of Pearson's r correlation coefficient.



Competencies gained

B2.2.1 Record students learning progress accurately and consistently

B2.2.2 Use varied assessment practices to monitor and record students' learning progress and inform further planning of the curriculum

D1.1.1 Use evidence of students learning to reflect on the impact of own teaching practice

D1.1.2 Use information from a variety of sources to improve teaching practice and student learning



Time: Two periods of 50 minutes



Learning strategies

Learning activity 1. Calculation: Calculating the Q-correlation coefficient for assessment data.

Learning activity 2. Calculation: Calculating Pearson's r



Assessment approaches: Questioning, observation, peer and whole-class discussion



Preparation needed: N/A



Resources needed

Learning activity 1. Calculators, paper and pens

Learning activity 2. Calculators, paper and pens

Period 1

Correlation

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 1	35 minutes
Check student teachers' understanding	5 minutes

Introduction and Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write and outline the learning objectives on the board.
2. To elicit prior knowledge, ask students: *What are correlations? How might correlations be useful for teachers?*
3. Direct student teachers to Lesson 8.3.4, Period 1. Ask them to read the sections, 'Using correlations to analyse assessment data' and 'Correlation versus causation'.
4. Ask students to think about the importance of not confusing correlation with causation. Have they come across instances when correlations have been used (incorrectly) to explain causation?

5. Direct student teachers to Lesson 8.3.4, Period 1. Ask them to read section, ‘Estimating the strength of a relationship using the Q-correlation coefficient’ and ‘Here is an example to illustrate the process of calculating the Q-correlation coefficient’.
6. Reinforce that this method is an estimate and may not be as accurate as other methods.



Learning activity 1. Calculation: Calculating the Q-correlation coefficient for assessment data

Time	35 minutes
Class organisation	Individual and pairs

Purpose

The purpose of this learning activity is for student teachers to practise calculating the Q-correlation coefficient and interpret what it means.

1. Each student teacher should use a ruler and pens to complete this task. They can complete it using the scatterplot in their textbook.
2. Ask student teachers to follow the steps to calculate the Q-correlation coefficient.
3. When student teachers have finished, they should compare their results with the person sitting next to them. Did they reach the same answer? If not, why not?
4. Ask student teachers to discuss the scatterplot and correlation coefficient with the person sitting next to you. What does this graph and the correlation coefficient say about the achievement of this group of students?



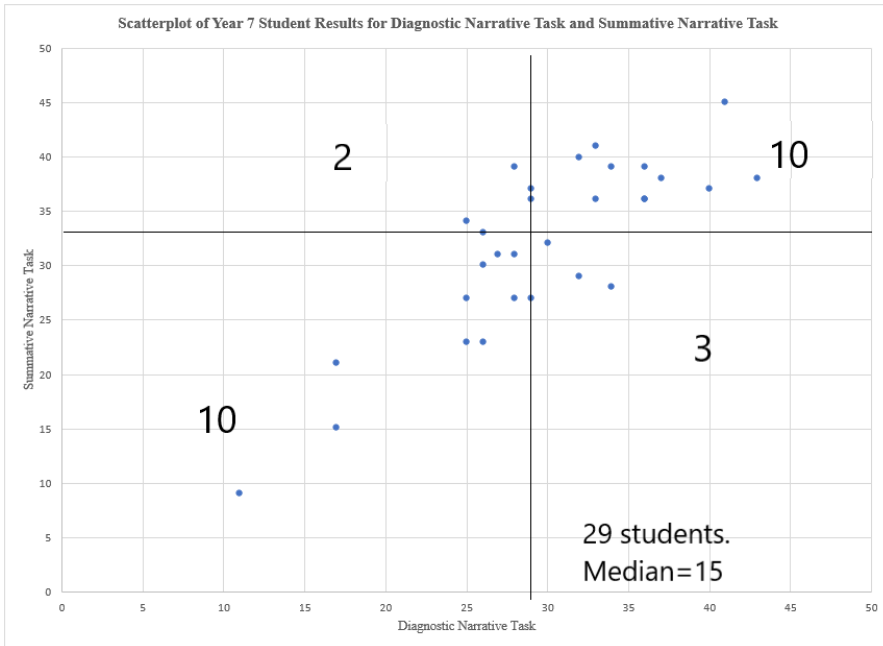
Assessment

The aim of this activity is to practise calculating the Q-correlation coefficient for a set of data. Observe student teachers as they calculate the Q-correlation coefficient. Do they understand the process?

Use questioning techniques to see how well student teachers can read the scatterplot and understand the relationship between the data that it represents.



Correct student teachers' responses



[See Figure 8.26 in textbook.]

Figure TG 8.2. Scatterplot of Year 7 results for two narrative assessment tasks²¹ – completed

$$Q = \frac{(10 + 10) - (2 + 3)}{10 + 2 + 10 + 3}$$

$$Q = \frac{15}{25}$$

$$Q = 0.6$$



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers, when could a correlation coefficient estimate be useful? When might they need a more accurate calculation?

²¹ Image by author, used with permission.

Period 2

Correlation

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 2	35 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Write and outline the learning outcomes on the board.
2. Direct student teachers to Lesson 8.3.4, Period 2. Ask them to read section, 'Pearson's r correlation coefficient and Calculating Pearson's r '.



Learning activity 2. Calculation: Calculating Pearson's r

Time	35 minutes
Class organisation	Small groups

Purpose

The purpose of this learning activity is to calculate Pearson's r to analyse the relationship between a diagnostic test and a summative test.

1. Ask student teachers to move into groups of three or four people.
2. As a group, they will go through the steps for calculating Pearson's r for the table in Annex 6 in the textbook. They should fill in the table.
3. Once they have completed the table in Annex 6 in the textbook, ask the students to move onto Part 2 of the activity.



Assessment

The aim of this activity is to give student teachers practice in calculating Pearson's r and to consider when it would be useful to use the more accurate measure to analyse assessment data.

As you walk around the room, observe how the student teachers work together to complete the table. Remind them that accuracy is important with this method.

Use questioning to encourage student teachers to think about why correlations may be helpful for classroom teachers.



Correct student teachers' responses

Part 1: See Annex 5 in this guide for the completed table of calculations for Pearson's r .



Possible student teachers' responses

Part 2: Interpret Pearson's r in relation to the data.

- What does the result indicate about the strength of the correlation?
It is a very strong relationship.
- What does this mean about the achievement of students on the summative assessment in comparison with the diagnostic test?
This means that the students performed as we might have expected. The strong students did well in the final assessment, while those who achieved a low grade for the diagnostic test did not achieve well for the summative assessment.
- As a teacher, when and how might you use this information?
A teacher might use Pearson's r to check that there was a clear relationship between two related assessments.
It could also be used to see if the correlation between the same two tests was consistent across teachers.
It could be used to check whether students had performed in similarly across different classes.

It could be used to confirm a teacher's predictions about how students have progressed in their learning over time.

Part 3: Compare the correlation coefficients for your calculations of the Q-correlation and Pearson's r . Remember that Q-correlations are an estimate, while Pearson's r is a more accurate measure.

- When would Q-correlations be a useful method to use to analyse student data?
Q-correlations are useful when the data are not readily available and there is only a dot plot. They are also useful if the teacher wants to make a quick estimation about the correlation.
- When would Pearson's r be a more appropriate method?
Pearson's r would be more appropriate when the data are available or the teacher wants a more precise measure.
- Discuss the benefits and limitations of both methods of calculating a correlation coefficient.

Benefits:

Correlations can be used to observe growth over time.

Correlations can be used to compare groups or achievement over time.

Limitations:

These correlations expect a linear relationship or direct variation. They do not allow for non-linear relationships.

Correlation indicates a relationship and cannot indicate causation.

Spurious correlations may mean that two unconnected ideas look like they are related to each other, but there is no connection in reality.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to reflect on the processes and outcomes of Q correlations and Pearson's r . What are their uses for classroom assessment, learning and teaching?



Expected student teachers' responses for the review questions in TB

Question 1: What is the role of judgement-based assessment in education? What are the benefits and limitations? How can teachers minimise the limitations and maximise the benefits?

Answer: Judgement-based assessment may be necessary for assessing complex tasks and knowledge.

The benefits are: Students can demonstrate what they know and can do particularly for complex or high-order tasks; Teachers can assess student learning in different ways, so these types of tasks can be more inclusive (if well designed); these types of tasks can also be formative and part of the learning process.

Limitations include: They are more subjective than closed ended assessments; they can require careful scaffolding and development of tools such as rubrics. They may take longer to mark and they require additional methods to ensure validity, reliability and objectivity when teachers assess student work.

Question 2: What are the purposes of rubrics in assessment? How can rubrics be used to make assessment more objective, valid and reliable?

Answer: : Rubrics can serve different purposes in assessment. Teachers can use them to guide the assessment process and to maintain validity and reliability when marking student work. Students can use them for self-assessment and peer-assessment. Students can also use them to guide their development of the assessment task.

Rubrics can be used to make assessment more objective, valid and reliable by:

- *making the marking criteria more transparent;*
- *providing clear criteria to measure student achievement against;*
- *enabling more consistent judgement between teachers;*

- *helping students to understand what is required in an assessment task; and*
- *reduces the subjectivity in marking.*

Question 3: Which measures of central tendency may teachers use to understand assessment data in their classrooms?

Answer: *Mean, median, mode.*

Question 4: Why is it important for teachers to look at measures of variability in addition to measures of central tendency when trying to understand assessment data in their classrooms?

Answer: *Measures of central tendency do not account for the range or variability of the achievement of the whole class. They do not provide enough information to inform teaching and learning decisions for all students. Measures of variability can show how student achievement is spread across the class.*

Question 5: What are the pros and cons of using percentiles and percentile rank to analyse and report student achievement?

Answer: *Pros – Percentiles can be used to compare student achievement in relation to the larger group. Percentile rank can help to rank students in relation to others in the group.*

Cons – Percentiles and percentile ranks cannot tell a teacher what a student knows or does not know. They cannot be used on their own to inform planning for teaching and learning. They may impact negatively self-efficacy of students in the lower groups.

Question 6: Evaluate the use of correlations in analysing student assessment data.

Answer: *Correlations can be helpful to gauge how well a pre-test and post-test are related to each other. They may be used to observe student learning over time or to compare different groups. However, teachers need to be careful that the variables that are being compared are related to each other.*

They also need to be careful not to interpret causation from the results. Teachers need to be aware of uncontrolled or unknown variables that may influence the strength of the relationship.

Unit Summary



Key messages

- The four pillars of assessment in the National Assessment Policy outline the different roles of assessment plays at different levels and for different stakeholders in education.
- The National Assessment Policy provides objectives that outline what assessment is expected to support or achieve in education.
- Assessment is a core component of the learning and teaching cycle. It needs to be valid, reliable, objective and fair so that it can be used to inform effective planning for teaching and learning.
- Learning taxonomies can be used as a framework to observe student learning as it progresses and to map the steps students are likely to take as they progress towards their learning goals.
- Peer and self-assessment can be beneficial tools to support learning and student self-regulation of learning. However, teachers also need to be aware of the limitations and minimise the risks of peer and self-assessment.
- Teachers should develop strategies to make feedback effective for supporting student learning. Feedback should also be given in a way that is sustainable for teachers.
- Judgement-based assessment is essential for assessing a range of different skills, however, it is subjective in nature. Teachers need to build tools to minimise subjectivity and maximise objectivity, reliability and validity in assessment.
- Rubric data can be analysed and used to inform teaching and learning. It can also be analysed to determine the reliability and validity of the tool.
- Measures of central tendency can help teachers to analyse the general progress of groups of students.
- Measures of variability enable teachers to analyse the range of proficiency levels within a class. They can also be used to analyse the shape of the data to see different trends in achievement of groups of students.
- Percentiles enable teachers to compare individual student achievement with a larger group. However, percentiles do not provide specific information about how teachers should plan for teaching and learning.

- Percentile rank enables teachers to rank students according to their level of achievement. Percentile rank has a range of limitations which need to be weighed against the benefits.
- Q-Correlations provide a relatively fast and effective way to analyse two sets of data. However, it provides an estimate and is less accurate than Pearson's r.
- Pearson's r provides an accurate way to analyse linear relationships between two variables.



Unit reflection

In this unit, student teachers deepened their knowledge about assessment and how it can be used effectively to enhance teaching and learning.

What did they learn well in this unit?

What do student teachers think they need to work on to improve their learning?

How will student teachers put what they have learnt about feedback, self-assessment and peer-assessment into practice in their own learning and in their teaching?

What are the benefits, limitations and challenges in using statistics to inform teaching and learning?



Further reading

8.1. Four Pillars of Assessment and the Teacher's Role

Masters, G. (2013). *Reforming educational assessment: Imperatives, principles and challenges*. Australian Council for Educational Research. <https://research.acer.edu.au/aer/12/>

8.2. Classroom Level Assessment in the Lower Middle School

Andrade, H., & Brookhart, S. M. (2016). The role of classroom assessment in supporting self-regulated learning. In D. Laveault & L. Allal (Eds.), *Assessment for learning: Meeting the challenge of implementations* (pp. 293–309). Springer.

Australian Institute for Teaching and School Leadership. (2017). *Spotlight: Reframing feedback to improve teaching and learning*. <https://www.aitsl.edu.au/docs/default-source/research-evidence/spotlight/spotlight-feedback.pdf>

Reynolds, L. (n.d.). *20 ways to provide effective feedback for learning*. TeachThought. <https://www.teachthought.com/pedagogy/20-ways-to-provide-effective-feedback-for-learning>

8.3. School-based Assessment: Designing Tools and Analysing Achievement

Griffin, P., & Robertson, P. (2018). Writing assessment rubrics. In P. Griffin (Ed.), *Assessment for Teaching* (2nd ed., pp. 125–155). Cambridge University Press.

Richardson Grichting, K. (2021, July 24). *Creating a Guttman chart with partial credit (e.g., rubric data)* [Video]. YouTube. <https://www.youtube.com/watch?v=fGhHz9rUvUk>

Soh, K. (2016). On correlation: What is between them? *Understanding test and exam results statistically: An essential guide for teachers and school leaders* (pp. 35–45). Springer.

Unit 9

Supportive and Safe Learning Environment

In this unit, student teachers will consolidate understanding of building a supportive, safe, and stimulating learning environment for lower middle school students. They will explore aspects of inclusive education, teacher beliefs about students and learning, teacher–student and student–student relationship building, the physical learning environment, the role of technology in enhancing inclusion, innovation and citizenship, and classroom procedures, rules, and proactive management techniques.

Expected learning outcomes



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

- Outline characteristics of an educational system that is becoming inclusive;
- Reflect on characteristics of a classroom that is becoming inclusive to identify supporting strategies in lower middle school settings;
- Outline strategies that foster highly productive and positive teacher–student and student–student relationships in lower middle school classrooms;
- Design the physical learning environment to maximise lower middle school student engagement, learning, and inclusion;
- Reflect on how technologies can support inclusion in Myanmar lower middle school classrooms;
- Reflect on personal use of technologies to support creativity and innovation;
- Review literature-informed characteristics of global citizenship to scope aligned lower middle school teaching and learning activities and supporting technologies;

- Generate appropriate procedures for different areas of lower middle school classroom activity;
- Compile a checklist to ensure a safe lower middle school classroom learning environment;
- Outline elements of an evidence-informed framework of effective and inclusive classroom management; and
- Consider how a teacher in a large lower middle school classroom may use proactive classroom management techniques.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information and Communication Technology (ICT) in teaching and learning

A3.2 Demonstrate respect for the social, linguistic, and cultural diversity of the students and their communities

B3.1 Demonstrate capacity to create a safe and effective learning environment for all students

B3.2 Demonstrate strategies for managing student behaviour

C1.1 Demonstrate values and attitudes consistent with Myanmar's tradition of perceiving teachers as role models

C1.3 Demonstrate understanding of the possible effect of local culture and context on student participation in school

C2.1 Demonstrate commitment to serving the school and community as a professional member of the teaching profession

C3.1 Demonstrate a high regard for each student's right to education and treat all students equitably

C3.2 Demonstrate respect for diversity of students and the belief that all students can learn according to their capacities

9.1. Social and Physical Environment

In this sub-unit, student teachers will explore how to create a more inclusive social and physical learning environment for lower middle school students.

9.1.1. Creating an inclusive learning environment

Expected learning outcomes

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

- Outline characteristics of an educational system that is becoming inclusive;
- Reflect on characteristics of a classroom that is becoming inclusive to identify supporting strategies in lower middle school settings;
- Outline strategies that foster highly productive and positive teacher–student and student–student relationships in lower middle school classrooms; and
- Design the physical learning environment to maximise lower middle school student engagement, learning, and inclusion.



Competencies gained

A3.2.1 Give examples of inclusive communication to support all students' participation and engagement in classroom activities

A3.2.2 Be aware of social and cultural background of parents, community elders and leaders when interacting with them

B3.1.1 Use space and classroom materials and resources to ensure involvement of all students in learning activities

B3.1.2 Encourage students to interact with each other and to work both independently and in teams

C1.1.2 Consistently express positive attitudes, values and behaviours, consistent with what is expected of teachers by students, colleagues, parents and communities

C1.3.1 Show interest in and take time to learn about the students' culture, language and community

C2.1.2 Demonstrate model behaviour as a teacher serving and working in school and community responsibly and accountably

C3.1.2 Recognise the different social situations and background of students and treat all students equally

C3.2.1 Organise the classroom to encourage all students' participation in the lesson content, activities and interactions with the teacher



Time: Four periods of 50 minutes



Learning strategies

Learning activity 1. Evaluation: Myanmar's education system

Learning activity 2. Cooperative group task: Classroom strategies for inclusion

Learning activity 3. Practice story: Building relationships

Learning activity 4. Poster: Design of physical learning environment



Assessment approaches: Questioning, observation, peer and whole-class discussion, peer and self-assessment, reviewing student work



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 9.1.1.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 4. Flip chart paper and marker pen

Period 1

Creating an inclusive learning environment

This period is structured as follows:

Introduction/Explicit teaching	15 minutes
Learning activity 1	30 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	15 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.

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

- Outline characteristics of an educational system that is becoming inclusive.

2. Direct student teachers to textbook section, ‘Linking to prior learning – inclusive school and classroom’.
3. Highlight for student teachers that, in Year 2 Educational Studies, they explored characteristics, as outlined by UNESCO’s International Bureau of Education, of:
 - A *classroom* that is becoming inclusive (in Unit 3, ‘Strategies for Effective Learning’); and
 - A *school* that is becoming inclusive (in Unit 9, ‘Creative a Supportive and Safe Learning Environment’).
4. Direct student teachers to Box 9.1. Ask student teachers to read through the sets of characteristics with their peer, relating to:
 - A classroom that is becoming inclusive; and
 - A school that is becoming inclusive.



Facilitator’s notes

You may ask student teachers to rank characteristics in order of their perceived importance. In this way, student teachers will discuss every characteristic.

Or you may highlight certain characteristics and concepts; for example:

#8 A school that is becoming inclusive monitors the presence, participation, and achievement of all students.

- Presence: This means that students are attending school.
- Participation: This means that students are actively involved in learning.
- Achievement: This means that all students are progressing in terms of their learning.

5. Explain to student teachers that:
 - In addition to a classroom and school, UNESCO’s International Bureau of Education also identified characteristics of an educational system that is becoming inclusive.
 - These characteristics (Box 9.2) are organised according to four dimensions (Figure 9.1).

6. Ask student teachers to explain in their own words what is meant by the reference, 'becoming inclusive'.
7. Highlight that:
 - Inclusion is an ongoing process of learning; and
 - At no point is a classroom, school, or educational system ever entirely inclusive.



Learning activity 1. Evaluation: Myanmar's education system

Time	30 minutes
Class organisation	Groups of 4

Purpose

The purpose of this learning activity is for student teachers to discuss indicators of an educational system that is becoming inclusive and arrive at a broad assessment of Myanmar's progress with respect to the indicators.

1. Instruct students teachers to form groups of 4.
2. Direct student teachers to Learning activity 1.
3. Instruct student teachers to:
 - read the background information;
 - discuss the indicators in Box 9.2 in their textbook (presented here as Box TG 9.1);
 - identify those that they believe are Myanmar's [S] Strengths or [W] Weaknesses; and
 - refer to the rating system in Table 9.1 in their textbook to make a broad assessment of Myanmar's progress towards an educational system that is becoming inclusive.

Box TG 9.1. Characteristics of an educational system that is becoming inclusive

Concepts

- Inclusion is seen as an overall principle that guides all educational policies and practices.
- National curriculum and assessment systems are designed to take account of all learners.
- All agencies that work with children and their families understand and support national policy aspirations for promoting inclusive education.
- Systems are in place to monitor the presence, participation, and achievement of all students within the education system.

Policy

- Inclusive education is strongly featured in important national education policy documents.
- Senior staff at national, state/regional, and district levels provide clear leadership on inclusive education.
- Leaders at all levels, including civil society and other social sectors:
 - articulate consistent policy aspirations for the development of inclusive practices in schools; and
 - challenge non-inclusive practices in schools.

Structures and systems

- There is high quality support for vulnerable groups of learners.
- All services and institutions involved with children and families work together in coordinating inclusive policies and practices.
- Resources, both human and financial, are distributed in ways that benefit vulnerable groups of children.
- There is a clear role for specialist services in promoting inclusive education within the understanding of education as a right.

Practices

- Schools have strategies for encouraging the presence, participation, and achievement of all learners from their local communities.
- Schools provide support for children who are vulnerable to marginalisation, exclusion, and underachievement.
- Pre-service teachers are prepared for dealing with learner diversity.
- Teachers have opportunities to take part in continuing professional development regarding inclusive practices.

[See Box 9.2 in textbook.]



Assessment

Select student teachers to share their responses with the class. Facilitate a class discussion.

There may be some indicators that pre-service teachers feel well-positioned to discuss. For instance, student teachers can draw on their:

- immediate experience to discuss:
Practices: Pre-service teachers are prepared for dealing with learner diversity.
- own school experiences and observations at Practicum to discuss:
Practices: Schools provide support for children who are vulnerable to marginalisation, exclusion, and underachievement.

There may be other indicators that student teachers have less direct experience of, such as:

- *Practices:* Teachers have opportunities to take part in continuing professional development regarding inclusive practices.

You may consult:

- Annex 6 in this guide, which presents 2021 research findings from the Myanmar SQASF Baseline Report relating to engagement with an inclusive education agenda in the Myanmar educational system;
- Annex 7 in this guide, which presents draft recommendations in terms of the Ministry of Education's engagement with the social inclusion and inclusive education agendas, as generated through a study conducted by the Department of Education Research, Planning, and Training; and/or
- Professional colleagues/inclusive education experts to find out more information regarding Myanmar's progress in becoming an educational system that is inclusive.



Possible student teachers' responses

There are no incorrect responses. This learning activity provides an opportunity for student teachers to discuss each of the indicators of an educational system that is becoming inclusive, in the context of Myanmar.



Checking student teacher's understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to discuss in their groups how the three sets of characteristics/indicators for an educational system, school and classroom relate to each other.

You may talk about conditions that enable change – that is, the importance of:

- Policy to build a shared understanding across all educational levels;
- Leadership, that is, district/state and township education officers supporting cluster heads and principals and, in turn, school leaders supporting teachers to implement change;
- Professional development to develop the necessary skillsets (e.g., teachers learning how to collect and analyse data in order to plan for differentiation);
- Targeted resourcing and partnerships (e.g., school leaders working with the Department of Basic Education and the community to ensure more accessible buildings and facilities).

Period 2

Creating an inclusive learning environment

This period is structured as follows:

Learning activity 2	35 minutes
Check student teachers' understanding	15 minutes



Learning activity 2. Cooperative group task: Classroom strategies for inclusion

Time	35 minutes
Class organisation	Groups of 4

Purpose

The purpose of this learning activity is for student teachers to reflect on the International Bureau of Education's characteristics of a classroom that is becoming inclusive to identify supporting strategies.

1. Instruct students to form groups of 4.
2. Direct student teachers to Learning activity 2.
3. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Reflect on characteristics of a classroom that is becoming inclusive to identify supporting strategies in lower middle school settings.
4. Instruct student teachers to:
 - review each of the characteristics of a classroom that is becoming inclusive; and
 - outline strategies that can support the fostering of that characteristic in a lower middle school classroom, in Table 9.2.
5. Explain to student teachers that the learning activity is to be enacted as a cooperative group task. Suggest that groups may assign the work as follows:
 - Student teacher 1:
 - Teaching is planned with all students in mind.
 - Lessons encourage the participation of all students.
 - Student teacher 2:
 - Students are actively involved in their own learning.
 - Students are encouraged to support one another's learning.
 - Student teacher 3:
 - Support is provided when students experience difficulties.
 - Classroom discipline is based on mutual respect and healthy living.
 - Student teacher 4:
 - Students feel that they can speak to somebody when they are worried or upset.
 - Assessment contributes to the achievement of all students.
6. Provide time for groups members to share their strategies with the group.



Assessment

Walk around to each group as student teachers are working on their assigned tasks. Observe student teachers responding to the task and provide support through prompt questions, where necessary.



Possible student teachers' responses

There will be a range of student teacher responses. Possible responses are presented in Table TG 9.1.

Table TG 9.1. Strategies to support a lower middle school classroom to become inclusive – completed

Characteristics	Strategies
Teaching is planned with all students in mind	<ul style="list-style-type: none"> Teacher gets to know all students and initiates frequent interaction and meetings with parents/carers to understand students' interests and backgrounds. Teacher assesses students diagnostically and formatively on a daily basis to inform planning.
Lessons encourage the participation of all students	<ul style="list-style-type: none"> Teacher ensures that there are opportunities for students to draw on their prior knowledge and own experiences when starting new lessons or topics. Students have opportunities to discuss lesson topics and concepts with peers.
Students are actively involved in their own learning	<ul style="list-style-type: none"> Teacher facilitates student-centred learning (inquiry-based, problem-based, etc.), wherein students are able to pursue questions and issues of importance and interest. Students engage in self-assessment of learning progress.
Students are encouraged to support one another's learning	<ul style="list-style-type: none"> Students participate in cooperative learning activities, wherein they are assigned group roles and task responsibilities Students engage in peer-assessment, using simple rubrics.
Support is provided when students experience difficulties	<ul style="list-style-type: none"> Teacher provides students one-on-one assistance, when required. Teacher works with small groups in order to provide differentiated support. Teacher provides students with additional resources to support learning.
Classroom discipline is based on mutual respect and healthy living	<ul style="list-style-type: none"> Teacher and students have co-generated the class set of rules. The rules are made explicit to students (e.g., displayed on a wall poster) and monitored. There are consequences for not obeying class rules, however, physical and verbal punishment are never used in the classroom.
Students feel that they can speak to somebody when they are worried or upset	<ul style="list-style-type: none"> Teacher builds respectful and trusting relationships with students. Teacher invites the school counsellor into the classroom so that they can introduce themselves and explain to students their role in the school.
Assessment contributes to the achievement of all students	<ul style="list-style-type: none"> Teacher employs a range of formative assessment tools: observation, questioning, review of student work, and peer and self-assessment. Teacher affords students choice in terms of assessment products or inquiry topics, when appropriate.

[See Table 9.2 in textbook.]



Checking student teacher's understanding

Time	15 minutes
Class organisation	Whole class

Ask student teachers to share their responses with the class. Record responses on board.

Ask student teachers to note those strategies that they think would be particularly effective in supporting a lower middle school classroom to become more inclusive.

Period 3

Creating an inclusive learning environment

This period is structured as follows:

Introduction/Explicit teaching	20 minutes
Learning activity 3	20 minutes
Check student teachers' understanding	10 minutes

Introduction/ Explicit teaching

Time	20 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Outline strategies that foster highly productive and positive teacher–student and student–student relationships in lower middle school classrooms.
2. Direct student teachers to textbook section, ‘Linking to prior learning – teacher practice stories’.

3. Remind student teachers that:
 - In Year 2 of Educational Studies, they explored stories of teachers from New Zealand regarding strategies to build positive and productive relationships with their students.
 - These practice stories were generated through the Te Kotahitanga research and teacher professional development project.
 - This project aimed to improve performance of Indigenous Māori students in Middle schools.
 - The project developed an Effective Teaching Profile – a description of good practice – from data obtained from students, families, and other stakeholders.
 - Indigenous Māori students consistently communicated the effectiveness of teachers, who worked to establish whanau (i.e., extended family-like) relationships with students and their families.
4. Ask student teachers to read Box 9.3 together with a peer and consider why capturing the student voice is important in an educational research project.
Possible response: The student voice – student feedback – is one important data source for teachers to reflect upon when evaluating the effectiveness of their practice.



Learning activity 3. Practice story: Building relationships

Time	20 minutes
Class organisation	Pairs

Purpose

The purpose of this learning activity is for student teachers to outline strategies that create a middle school learning environment, which fosters highly productive and positive teacher–student and student–student relationships.

1. Instruct student teachers to form pairs.
2. Direct student teachers to Learning activity 3.
3. Highlight for student teachers that the strategies that were described in two of the teaching practice scenarios, which they explored in Year 2 of Educational Studies, are outlined in Table 9.3.
4. Review the strategies employed by Jane and Natalie in Table 9.3 to promote productive relationships and ways of working in their middle school classrooms, together as a class.

5. Explain to student teachers that they are going to generate their own practice ‘story’ in Table 9.4 by:
- Identifying a key theme. Note:
 - Jane’s key theme: Creating and nurturing a cooperative environment and community of learners.
 - Natalie’s key theme: Sharing power in the classroom with students.
- In order to arrive at a key theme, ask student teachers:
What do you think is at the heart of relating to and engaging middle school students in learning?
- Outlining strategies that align with that key theme. These may be strategies that:
 - they have implemented successfully on Practicum;
 - were used by highly effective teachers, when they were a middle school student; and/or
 - have been identified in the educational research literature.



Assessment

Walk around to each pair. Listen to student teacher dialogue. Provide support through prompt questions, where necessary. Encourage each student teacher to generate their own practice story – note that the pairing allows them opportunity to discuss their thoughts and practices.



Possible student teachers’ responses

Student teachers will individually document their practice stories. Examples of practice stories are presented in Table 9.3 in the textbook.



Check student teachers’ understanding

Time	10 minutes
Class organisation	Whole class

- Ask student teachers to share their practice stories with the class. Record themes and strategies on the board.

- Ask student teachers to write down those strategies that they think would be particularly effective in fostering highly productive and positive teacher–student and student–student relationships in the lower middle school classroom.

Period 4

Creating an inclusive learning environment

This period is structured as follows:

Learning activity 4	35 minutes
Check student teachers' understanding	15 minutes



Learning activity 4. Poster: Design of physical learning environment

Time	35 minutes
Class organisation	Groups of 4

Purpose

The purpose of this learning activity is for student teachers to design the physical learning environment of a lower middle school classroom to maximise student engagement, learning, and inclusion.

1. Instruct students to form groups of 4.
2. Direct student teachers to Learning activity 4.
3. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Design the physical learning environment to maximise lower middle school student engagement, learning, and inclusion.
4. Instruct student teachers to:
 - read through the design considerations identified in Box 9.4;
 - rank them in order of perceived importance;
 - identify other considerations that they think are important and add to Box 9.4; and

- collaboratively design the physical learning environment of a lower middle school classroom with a view to maximising student engagement, learning, and inclusion.
5. Highlight for student teachers that they can use Box 9.5 for preliminary sketches.



Assessment

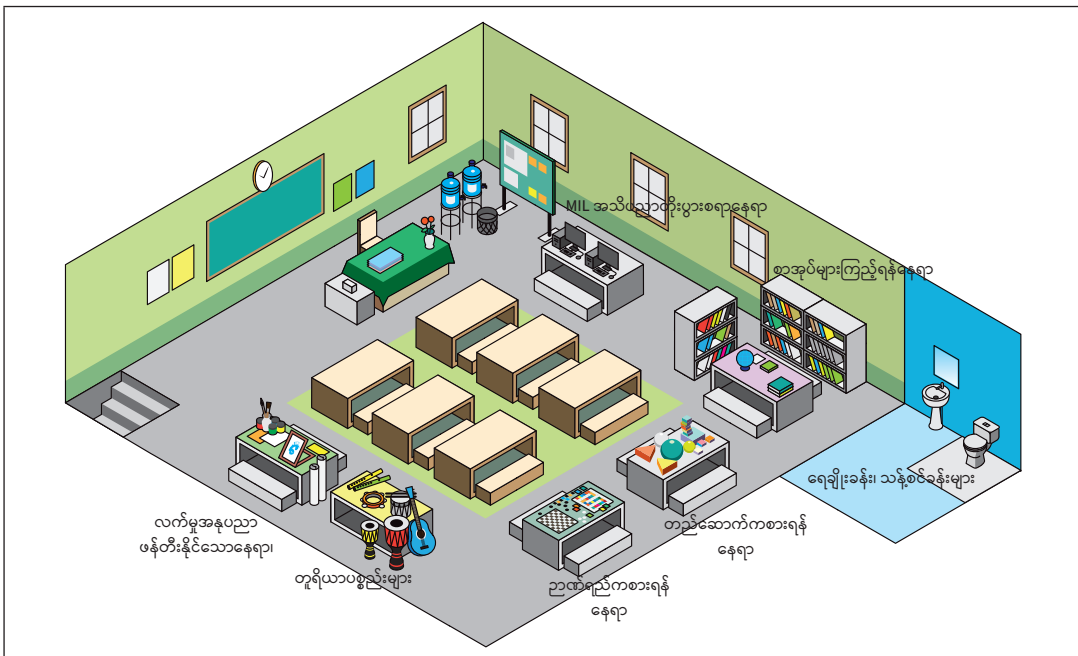
Walk around to each group as student teachers work on their sketches and discuss considerations as a group. Observe student teachers responding to the task and provide support through prompt questions, where necessary.



Possible student teachers' responses

There will be a range of student teacher responses. Box TG 9.2 presents a possible response.

Box TG 9.2. Classroom design sketches – completed



[See Box 9.5 in textbook.]



Check student teachers' understanding

Time	15 minutes
Class organisation	Whole class

Ask half of the groups to display their posters on the walls. Allow the other groups to view and discuss peers' posters. Then, allow the observer groups to display and discuss their posters.

Direct student teachers to review questions.

Ensure that you keep student group posters for reference for:

- Lesson 9.3.1
- Period 2
- Learning activity 2. Class brainstorm: Health and safety checklist.



Expected student teachers' responses for the review questions in TB

Question 1: Why does UNESCO's International Bureau of Education use the terminology 'systems, schools, and classrooms that are becoming inclusive' as opposed to 'inclusive systems, schools, and classrooms'?

Answer: Note that the reference to 'becoming inclusive' points to inclusion as an ongoing process of learning – at no point is a classroom, school, or educational system ever entirely inclusive.

Question 2: What are the dimensions of an educational system that is becoming inclusive? Provide one indicator for each of the dimensions.

Answer: UNESCO's International Bureau of Education identifies characteristics of an educational system that is becoming inclusive. It organises these characteristics according to four dimensions:

- *Concepts, for example: National curriculum and assessment systems are designed to take account of all learners.*
- *Policy, for example: Inclusive education is strongly featured in important national education policy documents.*
- *Practices, for example: Pre-service teachers are prepared for dealing with learner diversity.*
- *Structures and systems, for example: There is high quality support for vulnerable groups of learners.*

Question 3: How does attention to the social and physical learning environment relate to the inclusive education agenda?

Answer: *This sub-unit focused on how the social and physical learning environment can become more inclusive through:*

- *implementation of strategies which foster highly productive and positive teacher–student and student–student relationships; and*
- *careful attention to design considerations – including classroom layout, resources, and materials – to promote student-centred learning for all students.*

9.2. Role of Technology in the Learning

Environment

In this sub-unit, student teachers will explore how technology can be used to support students' inclusion and development of competences related to innovation and citizenship.

9.2.1. Technology - inclusion, innovation, and citizenship

Expected learning outcomes

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

- Reflect on how technologies can support inclusion in Myanmar lower middle school classrooms;
- Reflect on personal use of technologies to support creativity and innovation; and
- Review literature-informed characteristics of global citizenship to scope aligned lower middle school teaching and learning activities and supporting technologies.



Competencies gained

A2.2.2 Evaluate and match available online and offline ICT tools and materials to curriculum content and pedagogical strategies, including online and offline ICTs

A2.2.3 Describe and demonstrate the understanding of basic concepts and principles of media and information literacy



Time: Three periods of 50 minutes



Learning strategies

Learning activity 1. Ideas board: Classroom use of technologies for inclusion

Homework activity. Statement: Classroom use of technology to support inclusion

Learning activity 2. Map: Personal use of technologies for innovation

Learning activity 3. Planning: Classroom use of technologies for global citizenship



Assessment approaches: Questioning, observation, peer and whole-class discussion, peer and self-assessment, reviewing student work



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 9.2.1.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. Basic Education Curriculum documents (Grade 6 and/or Grade 7 across learning areas)

Period 1

Technology – inclusion, innovation, and citizenship

This period is structured as follows:

Introduction/Explicit teaching	15 minutes
Learning activity 1	30 minutes
Check student teachers' understanding	5 minutes
Homework activity	own time

Introduction and explicit teaching

Time	15 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Reflect on how technologies can support inclusion in Myanmar lower middle school classrooms.
2. Ask student teachers to recall what they know about Individualised Education Plans (IEPs). Note that textbook highlights three points:
 - IEPs inform international best practice in supporting students, with additional needs, to access and participate in schooling.
 - An IEP outlines a) learning goals and outcomes, which are specific to the student, and b) provisions to help reduce barriers to their learning, including the resources and equipment needed for the student to function in the school and classroom environments.
 - To develop an IEP, the classroom teacher works with school leaders, other professionals, and the student's parents or carers.
3. Ask student teachers to read textbook section, 'Augmentative and Alternative Communication' and review Table 9.5 with a peer.
4. Select student teachers to briefly outline the forms of AAC. Record on board. Note that textbook highlights three forms of AAC are as follows:
 - **Unaided:** Student communicates through gestures, body language, facial expressions, or sign language;

- **Aided by low technology:** Communication occurs through non-electronic tools (e.g., pictures, photographs, communication boards); and
 - **Aided by high technology:** Communication depends on electronic tools (e.g., speech generating devices and AAC software).
5. Direct student teachers to textbook section, 'Inclusion'.
 6. Highlight for student teachers that there needs to be progress in Myanmar in terms of the inclusive education agenda and technology infrastructure in schools before:
 - All students with disabilities attend schools;
 - IEPs are implemented; and
 - Those students who require high-technology AAC have access to appropriate tools.
 7. Write on the board that according to a 2016 report:
 - 67% of children with disabilities were not in school; and
 - 19% of children without disabilities were not in school.
 8. Highlight that lack of accessible facilities is an identified barrier to students with disabilities accessing education. You may ask student teachers what other barriers exist.



Learning activity 1. Ideas board: Classroom use of technologies for inclusion

Time	30 minutes
Class organisation	Groups of 3 and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on how the use of technologies can support inclusion in lower middle school classrooms.

1. Instruct student teachers to form groups of 3.
2. Direct student teachers to Learning activity 1.
3. Explain that the focus of this period thus far has been on international best practice and that, in this learning activity, student teachers are to discuss with their peers how existing technologies can support inclusive teaching and learning practices within lower middle school classrooms.

4. Encourage student teachers to also make links to the role of technology in supporting the continuation of schooling for Myanmar students during the Covid-19 global pandemic.
5. Ask student teachers to provide responses in Box 9.6.
6. Ask groups to share responses. Generate a class ideas board.
7. Encourage student teachers to record their peers' ideas also in Box 9.6.



Assessment

Walk around to each group as students discuss existing technologies and how they can be used to support inclusion.



Possible student teachers' responses

Student teachers may arrive at the conclusion that educational technologies are used in a limited way in Myanmar schools.

You may draw upon your own understanding of use of educational technologies in Myanmar schools. Also see Annex 8 in this guide, which presents 2021 research findings from the SQASF Baseline Report relating to access and use of technologies in Myanmar schools.

Nonetheless, student teachers within groups and the whole class should work together to document what is currently possible – that is, how best to use existing technologies to support inclusion.



Check student teacher's understanding

Time	5 minutes
Class organisation	Whole class

Direct student teachers to homework activity in their textbook, which is to be undertaken in their own time.

Homework activity. Statement: Classroom use of technology to support inclusion

The purpose of this homework activity is for student teachers to write a statement of 1-2 paragraphs on the current use of technologies to support inclusive education in Myanmar schools.

Instruct student teachers to arrive at a synthesis statement regarding the current use of technologies to support inclusive education in Myanmar schools.

Inform them that, in supporting their statement, they may wish to refer to indicators outlined in Table 9.6 in their textbook (i.e., relevant indicators of the IBE National Review Framework and the SQASF).

Period 2

Technology – inclusion, innovation, and citizenship

This period is structured as follows:

Introduction/Explicit teaching	15 minutes
Learning activity 2	25 minutes
Check student teachers' understanding	10 minutes

Introduction and explicit teaching

Time	15 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Reflect on personal use of technologies to support creativity and innovation.
2. Inform student teachers that, in Year 2 of Educational Studies, they learnt about two digital divides. Ask them what they remember about these divides.
As per textbook

The two digital divides are the:

- Traditional digital divide between:
 - students with access to the internet and devices at school and home; and
 - students without access to the internet and devices at school and home.
- Digital use divide between:
 - students with opportunities to use technology in active and creative ways to support learning; and
 - students who use technology to passively consume content and media.

3. Direct student teachers to textbook section, ‘Technology divides’ and Table 9.7.

4. Highlight for student teachers that the US Department of Education acknowledges that closing the traditional digital divide is essential. However, it states:

This alone will not transform learning. We must also close the digital use divide by ensuring all students understand how to use technology as a tool to engage in *creative, productive, life-long learning* rather than simply consuming passive content.



Learning activity 2. Map: Personal use of technologies for innovation

Time	25 minutes
Class organisation	Groups of 5

Purpose

The purpose of this learning activity is for student teachers to document how they personally use technologies to support their creativity and innovation.

1. Instruct student teachers to form groups of 5.
2. Direct student teachers to Learning activity 2 and Figure 9.6.
3. Highlight to student teachers that ‘Creativity and innovation’ is one of the 5Cs – or 21st century skills – in the Myanmar Basic Education curriculum.
4. Explain to student teachers that:
 - Students who have opportunity to develop creativity and innovation skills over the course of their schooling “develop habits of mind and other characteristics that serve them throughout their lives”.

- The Ontario Ministry of Education outlines the characteristics of innovators, as depicted in Figure 9.7.
5. Instruct student teachers to:
 - discuss these characteristics; and
 - in Box 9.7, document how they personally use technologies to:
 - support their own creativity and innovation; and/or
 - develop specific characteristics in Figure 9.7.You may ask student teachers how they use technologies to *design, collaborate, think creatively...etc.*
 6. Ask student teachers to share their responses with the class.



Assessment

Record student responses on board. Highlight for student teachers that:

In the previous period, they documented how existing technologies can be used in the classroom to support inclusion.

In this period, they documented how they use existing technologies in their personal time to support creativity and innovation.



Possible student teachers' responses

There are no incorrect responses. Attempt to document as many different responses on the board as is possible so student teachers can get a sense of how their peers are using technologies in their own time.



Checking student teacher's understanding

Time	10 minutes
Class organisation	Whole class

Encourage student teachers to take a photograph of the board or record their peers' responses in Box 9.7 (perhaps using a different colour to distinguish between their use and peers' use of technologies).

Period 3

Technology – inclusion, innovation, and citizenship

This period is structured as follows:

Introduction/Explicit teaching	20 minutes
Learning activity 3	25 minutes
Check student teachers' understanding	5 minutes

Introduction and explicit teaching

Time	20 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Review literature-informed characteristics of global citizenship to scope aligned lower middle school teaching and learning activities and supporting technologies.
2. Ask student teachers to reflect on the digital use divide from the previous period – that is, between:
 - students with opportunities to use technology in active and creative ways to support learning; and
 - students who use technology to passively consume content and media.
3. Ask student teachers to discuss with a peer what they believe to be active and creative uses of technology in a classroom.
4. Direct student teachers to textbook section, ‘Active uses of technology and the Digital Literacy Global Framework’
5. Highlight to student teachers that:
 - According to the US Department of Education, active uses of technology include:
 - locating, evaluating, using, and creating information;
 - collaborating with peers and experts, in local and global networks; and
 - engaging in design, coding, immersive simulation, and media production.

- These emphases are also captured in UNESCO’s Digital Literacy Global Framework.
6. Direct student teachers to Table 9.8 and in particular:
 - Competence Area 1 (Information and data literacy);
 - Competence Area 2 (Communication and collaboration); and
 - Competence Area 3 (Digital content creation) respectively.
 7. Allow student teachers time to read through all of the competences.
 8. You may ask student teachers to recall that, in Year 2 of Educational Studies, they explored aspects of:
 - cyber safety (Competence 4.1-4.3)
 - copyright and academic integrity (Competence 3.3)
 - managing a digital identity (Competence 2.6).
 9. Highlight that UNESCO’s Digital Literacy Global Framework (Table 9.8) includes an emphasis on:
 - interacting, sharing, and collaborating through digital technologies, as well as engaging in *citizenship* through digital technologies (Competence Area 2); and
 - protecting the environment (Competence Area 4).



Learning activity 3. Planning: Classroom use of technologies for global citizenship

Time	25 minutes
Class organisation	Groups of 4

Purpose

The purpose of this learning activity is for student teachers to discuss literature-informed characteristics of global citizenship and scope an aligned lower middle school teaching and learning activity and supporting technologies.

1. Instruct student teachers to form groups of 4.
2. Direct student teachers to Learning activity 4.
3. Read together as a class the 8 characteristics of global citizenship as synthesised from the research literature:
 - i. Respect for fellow humans, regardless of race, gender, age, religion, or political views.

- ii. Appreciation for diversity and multiple perspectives.
 - iii. A view that no single society or culture is inherently superior to any other.
 - iv. Cherishing the natural world and respecting the rights of all living things.
 - v. Practising and encouraging sustainable patterns of living, consumption, and production.
 - vi. Striving to resolve conflicts without the use of violence.
 - vii. Be responsible for solving pressing global challenges in whichever way they can.
 - viii. Think globally and act locally in eradicating inequality and injustice in all their forms.
4. Instruct student teachers to:
- discuss the characteristics as a group and consider whether they are characteristics that they possess;
 - select one of the characteristics ;
 - identify links to the Grade 6 or Grade 7 Basic Education Curriculum, if possible;
 - scope a teaching and learning activity that aligns with the selected characteristic; and
 - indicate how technologies may support either the teacher or students in this activity.
5. Ask student teachers to share their responses with the class. Record responses on board.



Assessment

Ask student teachers to note those strategies that they think would be particularly effective in supporting students develop citizenship skills in a lower middle school classroom.



Possible student teachers' responses

There will be a range of responses. An example is provided in Table TG 9.2.

Table TG 9.2. Global citizenship: Learning activity and supporting technologies – completed

<p>Characteristic:</p> <p>Cherishing the natural world and respecting the rights of all living things</p> <p>Links to curriculum:</p> <p>Grade 6 Science</p> <p><i>Living things</i></p> <ul style="list-style-type: none"> • Understand ecosystems as biological communities of interacting organisms and their environments • Explore relationships between plants and animals in different ecosystem types 	
Teaching and learning activity	How can technologies support the learning?
<p>Grade 6 students at a Tanintharyi BEMS are divided into three groups and assigned a local ecosystem type.</p> <p>Groups go to the computer lab and undertake a web-search on their assigned ecosystem:</p> <ul style="list-style-type: none"> • Rainforest • River • Mangrove. <p>In the web-search, student groups:</p> <ul style="list-style-type: none"> • Visit brief instructional videos and websites that the teacher directs them to; and • Undertake a series of activities to build broad understanding of the ecosystem type. <p>Students go on a planned fieldtrip to all three sites. They take:</p> <ul style="list-style-type: none"> • Photographs and sketches in the field to identify biotic and abiotic elements; and • Field notes about the interactions between different elements of their ecosystem type. <p>Upon return to class, student groups select one animal from their ecosystem and explore aspects of its habitat and niche.</p>	<ul style="list-style-type: none"> • Internet • Teacher-recommended videos on YouTube • Teacher-recommended government and NGO websites • Camera on mobile phones • Internet • Online source material

[See Table 9.9 in textbook.]



Checking student teacher's understanding

Time	5 minutes
Class organisation	Whole class

Revisit learning outcomes.

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

- reflect on how technologies can support inclusion in Myanmar lower middle school classrooms;
- reflect on personal use of technologies to support creativity and innovation; and
- review literature-informed characteristics of global citizenship to scope aligned lower middle school teaching and learning activities and supporting technologies.

Direct student teachers to review questions.



Expected student teacher's responses for the review questions in TB

Question 1: What are the forms of Augmentative and Alternative Communication (AAC)?

Answer: Students with significant impairments in speech, language, reading, and writing require AAC. Forms of AAC are as follows:

- *Unaided: Student communicates through gestures, body language, facial expressions, or sign language; and*
- *Aided*
 - *By low technology: Communication occurs through non-electronic tools (e.g., pictures, photographs, communication boards); and*
 - *By high technology: Communication depends on electronic tools (e.g., speech generating devices and AAC software).*

Question 2: To what extent are educational technologies being used to support inclusion in the Myanmar context?

Answer: Currently, educational technologies are used in a limited way in Myanmar schools. Some schools are equipped with media labs and computers and use Bluetooth devices. In terms of supporting teaching and learning, Mobile phones (and websites and Apps, such as Facebook and YouTube) are used largely by teachers for planning.

There needs to be investment in Myanmar in terms of:

- *Technology infrastructure, hardware, and software in schools*
- *Professional development for inclusive education and TPACK*
- *Ongoing technical support.*

Question 3: What are the two digital divides spoken of in the educational literature?

Answer: *The two digital divides are:*

- *Traditional digital divide between:*
 - *students with access to the internet and devices at school and home; and*
 - *students without access to the internet and devices at school and home*
- *Digital use divide between:*
 - *students with opportunities to use technology in active and creative ways to support learning; and*
 - *students who use technology to passively consume content and media.*

Question 4: What are active uses of technology? How do these uses relate to UNESCO's Digital Literacy Global Framework?

Answer: *According to the US Department of Education, active uses of technology include:*

- *locating, evaluating, using, and creating information;*
- *collaborating with peers and experts, in local and global networks; and*
- *engaging in design, coding, immersive simulation, and media production.*

These uses align with Competence Area 1 (Information and data literacy), Area 2 (Communication and collaboration), and Area 3 (Digital content creation) respectively.

9.3. Classroom Management

In this sub-unit, student teachers will consolidate understanding of classroom rules and procedures, generate health and safety considerations for a lower middle school classroom, and consider the use of proactive classroom management techniques in a large lower middle school class.

9.3.1. Managing student behaviour and safety

Expected learning outcomes

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

- Generate appropriate procedures for different areas of lower middle school classroom activity;
- Compile a checklist to ensure a safe lower middle school classroom learning environment;
- Outline elements of an evidence-informed framework of effective and inclusive classroom management; and
- Consider how a teacher in a large lower middle school classroom may use proactive classroom management techniques.



Competencies gained

A2.2.2 Evaluate and match available online and offline ICT tools and materials to curriculum content and pedagogical strategies, including online and offline

B3.1.4 Follow regulations regarding health and safety (administration of medication, CPR and First Aid training, fire and disaster drills, abuse and neglect, communicable disease)

B3.2.1 Create, explain, display and enforce the agreed classroom rules and procedures to ensure student health and safety

B3.2.4 Encourage well-adjusted behaviour of students by collaborative teamwork and independent learning

C3.2.1 Organise the classroom to encourage all students' participation in the lesson content, activities and interactions with the teacher



Time: Three periods of 50 minutes



Learning strategies

Learning activity 1. Jigsaw activity: Generating classroom procedures

Learning activity 2. Class brainstorm: Health and safety checklist

Learning activity 3. Quiz: Classroom rules

Learning activity 4. Scenario: Proactive classroom management techniques



Assessment approaches: Questioning, observation, peer and whole-class discussion, peer and self-assessment, reviewing student work



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 9.3.1.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. Group posters from:

- Lesson 9.1.1

- Period 4
- Learning activity 4. Poster: Design of physical learning environment

Learning activity 3. N/A (other than textbook, note paper, and pen)

Learning activity 4. N/A (other than textbook, note paper, and pen)

Period 1

Managing student behaviour and safety

This period is structured as follows:

Introduction/Explicit teaching	15 minutes
Learning activity 1	30 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	15 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Generate appropriate procedures for different areas of lower middle school classroom activity.
2. Ask student teachers to think about why classroom procedures and routines are important and to write their answer down in their notebooks.
3. Select student teachers to share their responses with the class.
Note as per textbook:
From the very first day of the school year, students must know how they are expected to learn and function in the classroom environment. The teacher needs to establish a set of classroom procedures, which establishes the culture of a classroom.
4. Ask student teachers if they can recall the 3-step process to teaching classroom procedures to students.

- Instruct student teachers to discuss these 3 steps with a peer and see if together they can arrive at a shared understanding/consensus.

Note as per textbook:

The 3-step process for teaching classroom procedures is as follows:

- Step 1. *Explain* classroom procedures clearly
- Step 2. *Rehearse* classroom procedures until they become routines
- Step 3. *Reinforce* a correct procedure and reteach an incorrect one.

- Write the key action words on the board:

- Explain
- Rehearse
- Reinforce/Reteach.

- Highlight for student teachers that, in Year 2 Educational Studies, they learnt that a well-managed classroom has established procedures and routines relating to:

- Administrative duties
- Student movement
- Lesson management
- Teacher–student and student–student interactions
- Housekeeping.

- Direct student teachers to Box 9.8.

- Explain that:

- In this first period, they will consolidate understanding from Year 2 and generate procedures which are appropriate for the lower middle school classroom relating to these five areas.
- In Period 2, the focus is expanded to include a sixth area – health and safety – which also calls for procedures and routines to be established in the lower middle school classroom.



Learning activity 1. Jigsaw activity: Generating classroom procedures

Time	30 minutes
Class organisation	Pairs

Purpose

The purpose of this learning activity is for student teachers to work in an expert group to generate procedures, which are appropriate for the lower middle school classroom, in one area of classroom activity.

1. Instruct student teachers to form groups of 5. Number each group member: 1, 2, 3, 4 and 5.
2. Direct student teachers to Learning activity 1.
3. Inform student teachers that they will be undertaking a jigsaw activity, wherein in their expert groups, they:
 - will be assigned one category of classroom activity:
 - Expert group of 1s: Administrative duties
 - Expert group of 2s: Student movement
 - Expert group of 3s: Lesson management
 - Expert group of 4s: Teacher–student and student–student interactions
 - Expert group of 5s: Housekeeping;
 - review the considerations (which are from Box 9.8 and have been presented in the middle column of Table 9.10);
 - add further considerations related to the category that they been assigned; and
 - respond to these considerations by outlining procedures that would be appropriate for a lower middle school classroom (in the right-hand column of Table 9.10).
4. Ask student teachers to return to their home groups and share the procedures that they have generated with their peers. Students can take notes as the experts are sharing procedures.



Assessment

Walk around to the expert groups and listen to the discussion. Encourage student teachers to draw upon their collective Practicum experiences, where possible, sharing classroom procedures and routines that were effective in practice.



Possible student teachers' responses

Some examples of procedures may be as follows:

Administrative duties: How does the teacher mark the “Ka” daily attendance register?

The teacher may mark the attendance register at a certain time every morning. They may schedule this duty according to their school context. For instance,

at a rural school, they may wait until such time that those students walking long distances to school have typically arrived.

Student movement: When can students leave at the end of the day?

Many teachers require students to be in their seats and quiet before they can leave the class. In other words, the teacher, not the school bell, dismisses class. The classroom may also have to be relatively tidy before students are dismissed.

Teacher–student and student–student interactions: How can students get the teacher’s attention when they require assistance?

Some teachers use hand signals; for instance:

- One hand for “I want to speak”.
- Two hands for “I want to leave my seat”.
- Three fingers for “I need your help.”

Other teachers may use ‘help’ cards.

Lesson management: What do students do if they have finished a learning activity early?

Students may have a range of options once they have completed assigned activities. They may go and quietly select a book of choice from the reading station. They may know to read ahead in their textbooks.

Housekeeping: How does the teacher ensure that the classroom remains tidy?

The teacher may set aside a clean-up once a week. Students may rearrange benches and put chairs under them at end of the school day.



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to:

- review the procedures column in their completed Table 9.10; and
- think about the extent to which it is appropriate for teachers to involve students in arriving at these procedures.

Ask student teachers:

- Why is student participation in establishing classroom procedures important?

Possible response: If students have had involvement in establishing procedures, they are more likely to take responsibility and accountability for their behaviour.

Period 2

Managing student behaviour and safety

This period is structured as follows:

Learning activity 2	35 minutes
Check student teachers' understanding	15 minutes



Learning activity 2. Class brainstorm: Health and safety checklist

Time	35 minutes
Class organisation	Whole class

Purpose

The purpose of this learning activity is for student teachers to develop a health and safety checklist for the lower middle school classroom that you designed in Period 4 of Lesson 9.1.1.

1. Ensure that posters from Lesson 9.1.1, Period 4, Learning activity 4 (Poster – design of physical learning environment) are displayed on classroom walls.
2. Direct student teachers to Learning activity 2 and Figure 9.9.
3. Outline the relevant learning outcome for the learning activity.
By the end of this learning activity, student teachers will be able to:
 - Compile a checklist to ensure a safe lower middle school classroom learning environment.
4. Explain to student teachers that:
 - Procedures relating to health and safety also need to be established in lower middle school classrooms; and
 - The relevant TCSF competency is as follows:
 - B3.2.1 Create, explain, display and enforce the agreed classroom rules and procedures to ensure student health and safety.
5. Read the excerpt from one national education authority on health and safety in the classroom in Box 9.9 together as a class.
6. Discuss potential health and safety issues in a lower middle school classroom environment. Refer to posters depicting physical learning environments for prompts.
7. Generate a health and safety checklist for the lower middle school classroom.



Assessment

Ensure that all students are actively involved in the class discussion. Use prompt questions. Record student teacher responses in checklist generated on board.

Student teachers are required to refer to their posters from Lesson 9.1.1, Period 4, Learning activity 4 (Poster – design of physical learning environment) in order to reflect upon health and safety considerations.



Possible student teachers' responses

There will be many suggestions put forth by student teachers. As facilitator you will be able to filter their responses – that is, those that are appropriate for a lower middle school classroom and the Myanmar context. Possible responses are presented in Figure TG 9.1.



Figure TG 9.1. Classroom safety checklist²² – completed

[See Figure 9.9 in textbook.]

22 Author's own work, using LyKe Checklist template, postermywall, <https://www.postermywall.com/index.php/art/template/4d0b285efd55150303ecbf05f913ba2d/checklist-design-template#.YQZswdZulaF>



Check student teachers' understanding

Time	15 minutes
Class organisation	Whole class

Direct student teachers to textbook section, 'Evidence-informed framework of effective and inclusive classroom management'.

Ask student teachers to reflect on how classroom procedures and routines fit into an evidence-informed framework of effective and inclusive classroom management. Read through the framework, which has five elements, together as a class:

An evidence-based framework of effective and inclusive classroom management sees the teacher:

1. Maximise structure through:
 - a ***physical classroom environment***, which reduces distraction and crowding and is conducive to learning; and
 - establishing ***procedures and routines***.
2. Generate a small number of positively stated class ***rules*** and actively supervise and interact with students;
3. Engage all students in learning by using ***a variety of evidence-informed*** teaching, learning, and assessment approaches, strategies, and techniques;
4. ***Acknowledge appropriate behaviours*** through individual and group encouragement; and
5. Use a continuum of strategies to ***respond to inappropriate behaviours*** from non-intrusive techniques to providing students with clear choices and consequences.

Explain to student teachers that they have focussed on Element #1 of the framework:

- design considerations for the physical learning environment (in Lesson 9.1.1, Period 3)
- establishing procedures and routines related to administrative duties, student movement, lesson management, teacher–student and student–student interactions, housekeeping, and health and safety (in Lesson 9.3.1, Periods 1 and 2).

In the following period, they will focus on Elements #2, 4, and 5 of the framework.

Element #3 of the framework has been the core focus of other Educational Studies units (e.g., Units 2, 3, 8 etc.).

Period 3

Managing student behaviour and safety

This period is structured as follows:

Learning activity 3	15 minutes
Learning activity 4	30 minutes
Check student teachers' understanding	5 minutes



Learning activity 3. Quiz: Classroom rules

Time	15 minutes
Class organisation	Individual and Pairs

Purpose

The purpose of this learning activity is for student teachers to activate prior learning on establishing class rules.

1. Direct student teachers to Learning activity 3.
2. Inform student teachers that, in Year 2 of Educational Studies, they explored the following lines of inquiry regarding classroom rules:
 - Why are school and classroom rules important?
 - How do teachers set rules?
 - What are consequences?
 - Is physical punishment appropriate in a school?
3. Explain that the quiz in Box 9.10 revisits some of these key themes.
4. Instruct student teachers to undertake the quiz.



Facilitator's notes

You may wish to highlight that the quiz questions are a mix of:

- Multiple choice questions (MCQs);
- Short answer questions; and
- True/false questions.



Assessment

Allow student teachers to undertake the quiz individually before sharing their responses with a peer.



Correct student teachers' responses

Correct responses are presented in Box TG 9.3.

Box TG 9.3. Quiz questions on classroom rules

1. Classroom rules are important because they:
 - a) set boundaries for students' behaviour
 - b) serve to create a supportive and safe learning environment
 - c) provide students and parents with a sense of security
 - d) all of the above.

Answer: d.

2. How many rules should be established for a classroom?

Answer: Approximately 5.

3. It is not appropriate to co-establish rules (and consequences) with students. Students simply do not have the knowledge and experience to determine what is appropriate for a classroom. True/False

Answer: False. Teachers are encouraged to establish classroom rules and consequences collaboratively with their students. The Morality and Civics curriculum provides opportunity for active exploration of classroom and school rules.

4. Rules are only effective when:
- they are made explicit to students (e.g., displayed on a wall poster)
 - they are monitored
 - there are consequences for not obeying them
 - all of the above.

Answer: d.

5. Consequences are punishments. True/False

Answer: False. There are both positive and negative consequences.

6. Define positive consequences and negative consequences.

Answer:

- Positive consequences result if a student obeys the rules.
- Negative consequences result if a student breaks the rules.

7. Is physical or verbal punishment an appropriate negative consequence?

Answer: No, never. Children who are physically punished often feel helpless, intimidated, and anxious. Verbal punishments, which involve mocking or embarrassing students, can also affect students psychologically. Teachers need to model *peaceful* and *respectful* responses.

[See Box 9.10 in textbook.]



Learning activity 4. Scenario: Proactive classroom management techniques

Time	30 minutes
Class organisation	Pairs

Purpose

The purpose of this learning activity is for student teachers to write a scenario situated in a large lower middle school classroom that sees the teacher employ as many proactive classroom management techniques as possible.

1. Instruct student teachers to stay in their pairs.
2. Outline the relevant learning outcome for the learning activity.
By the end of this learning activity, student teachers will be able to:
 - Consider how a teacher in a large KG/Lower Primary classroom may use proactive classroom management techniques.
3. Direct student teachers to textbook section, 'Proactive classroom management techniques'.
4. Highlight that, in Year 2 of Educational Studies, student teachers were introduced to 10 proactive classroom management techniques.
5. Remind them that they had opportunity to role play these techniques.
6. Inform student teachers that Tables 9.11-9.13 in their textbook present these techniques clustered according to their broad purpose:
 - Techniques 1-4 allow a teacher to set clear expectations
 - Techniques 5 and 6 allow a teacher to acknowledge appropriate behaviour
 - Techniques 7-10 allow a teacher to respond to inappropriate behaviour.
7. Read this section together as a class. You may select different student teachers to read out different techniques.
8. Instruct student teachers to collaboratively write a scenario, in Box 9.11, which sees the teacher employ as many of these proactive classroom management techniques as possible in a **large** lower middle school classroom.



Assessment

Walk around and listen to peer-to-peer discussion. Provide support, where necessary.



Possible student teachers' responses

There will be a range of scenarios. An example is provided in Box TG 9.4.

Box TG 9.4. Classroom scenario – completed

Students move into class. Most of the students enter quietly, however, two students run in together. The teachers says, “Thanks Zin New and Su Su, we walk into our classroom”. [ESTABLISH EXPECTATIONS]

The teacher instructs students to return to their art collages. She reminds her students that in the previous period they sketched a design on their flip chart paper, and collected all of the natural materials that they are they are going to use to make the collage. [GIVE INSTRUCTIONS]

The teacher waits to see if all students reconvene in their groups. [WAIT AND SCAN]

The teacher informs the students that in this period they will be assemble their collages and glue the materials on to the flip chart paper.

The teacher also instructs the three resources monitors to distribute a glue pot and brush to every group. [GIVE INSTRUCTIONS]

The teacher says to one of the monitors, “Kyaw, I see that you are already on your way to the art supplies cupboard for the glue. Thank you!” [PROMPT WHILE ACKNOWLEDGING]

As the lesson progresses and groups are working on their collages, the teacher walks around to each group. She smiles at one group that is working very effectively together. [ENCOURAGE THROUGH BODY LANGUAGE]

She observes another group who are discussing how to best place materials. The teacher says out loud, “This group is on task. They are working together and discussing where to best place materials”. [ENCOURAGE THROUGH STATEMENTS]

The teacher observes one group that has not yet started. The group members are talking quietly amongst themselves. [CHOOSE NOT TO ATTEND]

Instead, the teacher focuses on a group that are becoming noisy and argumentative. She says to the group manager, as she walks over to group, “Marlar, did your group require some assistance from me?” [REDIRECT TO THE LEARNING]

While the majority of the group members go back to the task, two students continue their disagreement. The teacher speaks directly to them saying, “Myat and Soe, you have a choice to either work with your group to finish the task now within the allocated time OR spend your lunch hours this week working on a new collage together”. It is your choice. [GIVE A CHOICE]

While momentarily the boys work with their group, within five minutes they are arguing again. The teacher says, “Thanks boys. Please stay with me at the end of the period. You can have your lunch within the classroom under my supervision. And then you will start a new collage”. [FOLLOW THROUGH WITH THE CONSEQUENCE]

[See Box 9.11 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Now that student teachers have written their scenarios, ask them to reflect on the difference between:

- a classroom where the teacher is intentionally employing *proactive* classroom management techniques; and
- a classroom where the teacher is simply responding *reactively* to student behaviour.

You may ask questions like:

- Which classroom is likely to be more conducive to learning?
Possible response: The classroom where the teacher is intentionally employing *proactive* classroom management techniques.
- Which classroom do you think students are likely to feel more secure in?
Possible response: The classroom where the teacher is intentionally employing *proactive* classroom management techniques.

- How may a teacher's classroom management approach impact teacher and student wellbeing?

Possible response: If a teacher is responding reactively to student behaviour every day, then this approach is likely to have a negative impact on teacher and student wellbeing.

Direct student teachers to review questions.



Expected student teachers' responses for the review questions in TB

Question 1: Why are classroom procedures and rules important?

Answer: Classroom procedures and rules are important because they serve to create a functioning, supportive, and safe environment. Rules and procedures set boundaries for student's behaviour. Students know how they are expected to learn and function in the classroom environment. Classroom procedures and rules provide security for students and parents.

Question 2: What is the three-step process for teaching classroom procedures?

Answer: : The three-step process for teaching classroom procedures is as follows:

- *Step 1. Explain classroom procedures clearly*
- *Step 2. Rehearse classroom procedures until they become routines*
- *Step 3. Reinforce a correct procedure and reteach an incorrect one.*

Question 3: What are key areas of classroom activity where procedures are needed?

Answer: Key areas of classroom activity where procedures are needed are as follows:

- *Administrative duties*
- *Student movement*

- *Lesson management*
- *Teacher–student and student–student interactions*
- *Housekeeping*
- *Health and safety.*

Question 4: Identify elements of evidenced-informed framework for effective and inclusive classroom management.

Answer: *Elements of evidenced-informed framework for effective and inclusive classroom management sees the teacher:*

- *Maximise structure through a) a physical classroom environment, which reduces distraction and crowding and is conducive to learning, and b) establishing procedures and routines;*
- *Generate a small number of positively stated class rules and actively supervise and interact with students;*
- *Engage all students in learning by using a variety of evidence-informed teaching, learning, and assessment approaches, strategies, and techniques;*
- *Acknowledge appropriate behaviours through individual and group encouragement; and*
- *Use a continuum of strategies to respond to inappropriate behaviours from non-intrusive techniques to providing students with clear choices and consequences.*

Question 5: Compile proactive classroom management techniques in a figure.

Answer:

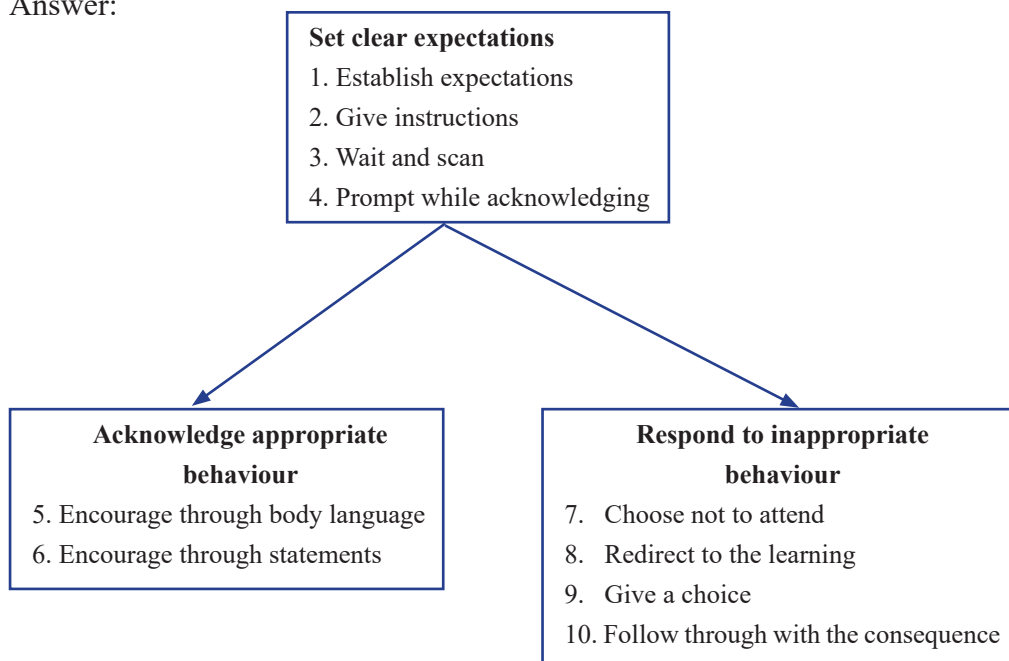


Figure TG 9.2. Proactive classroom management techniques²³

²³ Author's own work, used with permission.

Unit Summary



Key messages

- UNESCO’s International Bureau of Education (IBE) identifies sets of characteristics for *an educational system*, school, and classroom that are ‘*becoming inclusive*’. This reference points to inclusion as an ongoing process of learning – at no point is a classroom, school, or educational system ever entirely inclusive.
- International research has shown that students communicate the effectiveness of teachers, who worked to establish extended family-like relationships with students and their families, in terms of their engagement and learning.
- Design considerations for the physical learning environment include whether it:
 - is conducive to student-centred learning and inquiry, including with areas for collaboration and conversations;
 - makes students’ thinking and learning visible, through display of student work and works-in-progress;
 - has appropriate and adequate teaching and learning materials and resources, which promote literacy and numeracy, reflect students’ diversity, and allow for risk-taking, independence and self-regulation; and
 - allows for connection with the natural environment.
- Students with significant impairments in speech, language, reading, and writing require unaided and aided forms of Augmentative and Alternative Communication (AAC).
- An Individualised Education Plan (IEP) outlines a) learning goals and outcomes, which are specific to the student, and b) provisions to help reduce barriers to their learning, including the resources and equipment needed to function in the school and classroom environment.
- There needs to be progress in Myanmar in terms of the inclusive education agenda and technology infrastructure in schools before all students with disabilities attend schools; IEPs are implemented; and those students who require high-technology AAC have access to the appropriate tools.
- The two digital divides identified in the educational literature are the:

- Traditional digital divide between students with access to the internet and devices at school and home and those without; and
- Digital use divide between students with opportunities to use technology in active and creative ways to support learning and those who use technology to passively consume content and media.
- Active uses of technology include: 1) locating, evaluating, using, and creating information; 2) collaborating with peers and experts, in local and global networks, and 3) engaging in design, coding, immersive simulation, and media production. These uses align with Competence Area 1 (Information and data literacy), Area 2 (Communication and collaboration), and Area 3 (Digital content creation) respectively of UNESCO’s Digital Literacy Global Framework.
- Currently, educational technologies are used in a limited way in Myanmar schools. Some schools are equipped with media labs and computers. However, as the traditional digital divide closes, there will be increasing opportunity to use technologies to support development of students’ skills development in ‘creativity and innovation’ and ‘citizenship and sustainable development.
- Classroom procedures and routines are needed to address administrative duties, student movement, lesson management, teacher–student and student–student interactions, housekeeping, and health and safety.
- Classroom rules set boundaries. Rules can only be effective when they are monitored and there are consequences for not obeying them. Consequences are not punishments. Positive consequences or outcomes result if a student obeys the rules. Negative consequences or outcomes result if a student breaks the rules. Negative consequences should not involve physical or verbal punishment.
- Proactive classroom management techniques can be clustered into three broad purposes: setting clear expectations; acknowledging appropriate behaviour; and responding to inappropriate behaviour.



Unit reflection

Reflect upon the intersections between:

- UNESCO’s Digital Literacy Global Framework (Unit 9, Table 9.8)
- Characteristics of a global citizen (Unit 9, Lesson 9.2.1, Period 3, Learning activity 3)

- Educational for Peace and Sustainable Development competencies (Unit 6, Table 6.6)
- Human rights education competencies (Unit 6, Table 6.9)
- Myanmar’s Basic Education 5Cs (Unit 9, Figure 9.6).



Further reading

9.1. Social and Physical Environment

Ministry of Education. (2018). *Safe and child-friendly school construction guidelines*. Swiss Agency for Development Cooperation, Myanmar Ministry of Education, Myanmar Ministry of Construction. <https://www.humanitarianlibrary.org/resource/safe-and-child-friendly-schools-construction-guidelines>

9.2. Role of Technology in the Learning Environment

American Speech–Language–Hearing Association. (2019). *Augmentative and alternative Communication (AAC)*. <https://www.asha.org/public/speech/disorders/AAC>

Moyle, K. (2010). *Building innovation: Learning with technologies*. Australian Council for Educational Research. <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1009&context=aer>

US Department of Education. (2017). *Reimagining the role of technology in education: 2017 National Technology Plan Update*. <https://tech.ed.gov/files/2017/01/NETP17.pdf>

9.3. Classroom Management

Simonsen, B., Fairbanks, S., Briesch, A., Myers, D., & Sugai, G. (2008). Evidence-based practices in classroom management: Considerations for research to practice. *Education and Treatment of Children*, 31(3), 351–380. <https://www.jstor.org/stable/42899983>

Unit 10

Teacher Professionalism

In this unit, student teachers will have opportunity to reflect on practice through multiple frames of reference: the obligations under the Five Precepts of Education, the indicators of Domain C of the TSCF, and scale items from validated models of organisational citizenship behaviour. They will explore the limitations of the traditional model of teacher professional development. Student teachers will synthesise principles of effective teacher professional development. They will reflect upon the opportunities that they have had for professional development (i.e., non-formal learning) in Year 3 of their studies, as well as their progress towards the learning goals that they framed at the commencement of the module. Finally, student teachers will reflect on progress on their action research project and arrive at key learnings across projects and school contexts to consolidate understanding of the value of teacher action research.

Expected learning outcomes

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

- Reflect on Practicum experiences to provide examples of how they met professional obligations under the Five Precepts of Education;
- Reflect on Practicum experiences to compare and contrast personal and professional ethics;
- Define organisational citizenship behaviour;
- Discuss the benefits of teachers' organisational citizenship behaviour, as identified in the research and from Practicum observations;
- Reflect on OCB on the part of teachers, peers, and themselves in the Practicum placement, with reference to validated OCB models;
- Discuss the limitations of traditional teacher professional development;





- Identify principles and forms of effective teacher professional development;
- Reflect on the Year 3 experience in terms of professional development opportunities and achievement of Educational Studies learning goals; and
- Communicate action research findings and reflections on the process and value of teacher action research.



Competencies gained

C1.1 Demonstrate values and attitudes consistent with Myanmar's tradition of perceiving teachers as role models

C1.3 Demonstrate understanding of the possible effect of local culture and context on student participation in school

C2.1 Demonstrate commitment to serving the school and community as a professional member of the teaching profession

C3.1 Demonstrate a high regard for each student's right to education and treat all students equitably

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

D3.1 Demonstrate understanding of the importance of inquiry and research-based learning to improve teaching practice

10.1. Professional Values and Dispositions

In this sub-unit, student teachers will adopt multiple frameworks to reflect on their Practicum experiences. They will utilise the obligations under the Five Precepts of Education, the indicators of Domain C of the TSCF, and scale items from validated models of organisational citizenship behaviour to reflect upon experiences, practices, and behaviours in the Practicum setting.

10.1.1. Professional ethics

Expected learning outcomes

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

- Reflect on Practicum experiences to provide examples of how they met professional obligations under the Five Precepts of Education; and
- Reflect on Practicum experiences to compare and contrast personal and professional ethics.



Competencies gained

C1.1.1. Comply with professional code of conduct, rules and regulations in line with the five traditional responsibilities of the Myanmar teacher

C1.1.2. Consistently express positive attitudes, values and behaviours, consistent with what is expected of teachers by students, colleagues, parents and communities



Time: Two periods of 50 minutes



Learning strategies

Learning activity 1. Reflection: Five Precepts

Learning activity 2. Reflection: Professional ethics



Assessment approaches: Questioning, observation, peer and whole-class discussion, reviewing student work



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 10.1.1.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. N/A (other than textbook, note paper, and pen)

Period 1

Professional ethics

This period is structured as follows:

Learning activity 1	45 minutes
Check student teachers' understanding	5 minutes



Learning activity 1. Reflection: Five Precepts

Time	45 minutes
Class organisation	Pairs

Purpose

The purpose of this learning activity is for student teachers to reflect on Practicum experiences and identify how they met professional obligations under the Five Precepts of Education.

1. Ask student teachers to form pairs.
2. Outline the relevant learning outcome for the period:
By the end of this period, student teachers will be able to:
 - Reflect on Practicum experiences to provide examples of how they met professional obligations under the Five Precepts of Education.
3. Instruct student teachers to share with their peer what they know about the Five Precepts of Education.
4. Select student teachers to share responses with class. You may write responses on board.



Possible student teachers' responses

The obligations under the Five Precepts serves as a Code of Ethics.

Under the Five Precepts, teachers have obligations to: Learners, parents, the community, higher authorities, and other teachers.

1. Direct student teachers to Learning activity 1 and Figure 10.1.
2. Instruct student teachers to:
 - reflect on the teacher obligations related to each of the Five Precepts of Education, outlined in the middle column of Table 10.1.
 - for each precept, provide an example of how they fulfilled one of the obligations at their school placement.
3. Ask pairs to join with another pair and share their responses.



Assessment

You might walk around to different pairs and discuss their practicum experiences with them.



Possible student teachers' responses

There will be variation in responses. Possible responses are presented in Table TG 10.1.

Table TG 10.1. Five Precepts of Education and associated obligations – completed

Precept	Obligations	Example of fulfilling on obligation
Teacher and learners	In fulfilling the obligations of the first precept, the teacher will: <ul style="list-style-type: none"> deal justly and impartially with students regardless of their physical, mental, emotional, racial, economic, social, or religious characteristics. 	I worked towards establishing a safe and supportive learning environment where every student was treated with respect. In planning lessons with my mentor teacher, we discussed the needs of individual students. I created additional learning resources to scaffold individual students' learning.
Teacher and parents/the home	In fulfilling the obligations of the second precept, the teacher will: <ul style="list-style-type: none"> help to increase the students' confidence in their own home and avoid disparaging remarks which might undermine that confidence. 	In one of the lessons that I facilitated, students were asked to speak about family experiences. I ensured that when every student shared their experiences, the rest of the class listened. I recorded a wide range of students' experiences on the white board. Students had opportunity to reflect on the diversity of the class. The lesson concluded with the statement that diversity is important because we can learn from each other experiences.
Teacher and community	In fulfilling the obligations of the third precept, the teacher will: <ul style="list-style-type: none"> perform the civic duties and participate in community activities. 	During the placement, I attended the School Fun Fair. In the lead up to the Fun Fair, I worked with teachers and parents to plan events. I arrived early on the day to set up activities. The following day, I was part of a working bee that cleaned the school grounds.
Teacher and higher authorities in the profession	In fulfilling the obligations of the fourth precept, the teacher will: <ul style="list-style-type: none"> refrain from discussing confidential and official information with unauthorised persons. 	My mentor shared information and data relating to students with me. I considered that information and data in my planning. However, I have not shared it with anyone.
Teacher and other teachers	In fulfilling the obligations of the fifth precept, the teacher will: <ul style="list-style-type: none"> deal with other members of the profession in the same manner as they themselves wish to be treated. 	I was respectful to my mentor teacher. I happily received their constructive feedback on my lessons. I spent some time with the principal, who spoke to me about the school vision and the community that it serves. On the final day of my placement, I brought foods for teachers' morning break as a sign of my appreciation.

[See Table 10.1 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to arrive at a statement about how the Five Precepts positions teacher obligations.



Possible student teachers' responses

- The Five Precepts positions teachers in relation to their obligations to key stakeholders.

Period 2

Professional ethics

This period is structured as follows:

Learning activity 2	35 minutes
Check student teachers' understanding	15 minutes



Learning activity 2. Reflection: Professional ethics

Time	35 minutes [20 minutes activity; 15 minutes sharing]
Class organisation	Independent and whole class

Purpose

The purpose of this learning activity is for student teachers to reflect on Practicum experiences to compare and contrast professional and personal ethics.

1. Outline the relevant learning outcome for the period:
By the end of this period, student teachers will be able to:
 - Reflect on Practicum experiences to compare and contrast personal and professional ethics.
2. Direct student teachers to Learning activity 2.
3. Highlight for student teachers that:
 - Internationally, each educational system at the national level or state level is likely to have a Code of Ethics or Code of Professional Conduct.

- The Five Precepts of Education serves as a Code of Ethics or a Code of Professional Conduct for Myanmar teachers.
 - In addition to the Five Precepts, Domain C of Myanmar’s TCSF is dedicated to Professional Values and Dispositions.
4. Instruct student teachers to reflect on:
 - one scenario in the Practicum where their personal ethics strongly aligned with a professional obligation under the Five Precepts of Education or a TCSF Indicator for Domain C; and
 - one scenario in the Practicum where their professional ethics were in conflict with a professional obligation under the Five Precepts of Education or a TCSF Indicator for Domain C.
 5. Ask student teachers to outline these scenarios in Box 10.2.
 6. Select student teachers to share their responses with the class.



Assessment

When student teachers are reflecting on how they might approach scenarios in the future, you can open up the discussion to the whole class and ask questions such as:

- “Soe, what course of action would you take?”
- “Yi Yi, do you agree that there is little to be done to resolve this tension?”



Facilitator’s notes

For this activity, you might wish to divide the class in two sections where one section works with the obligations under the Five Precepts of Education and the other section works with the TCSF indicators for Domain C. Alternatively, this could be a pair activity, where one student works with the obligations under the Five Precepts of Education and their peer works with the TCSF Indicators for Domain C. Sharing may be then at the peer-to-peer level.



Possible student teachers’ responses

There will be variation in responses. Possible responses are presented in Box TG 10.1.

Box TG 10.1. Practicum scenarios – completed

Personal ethics aligned with professional obligation/TCSF indicator

Identify the relevant professional obligation/TCSF indicator:

C1.3.1 Show interest in and take time to learn about the students' culture, language and community

Describe the practicum scenario:

I was very interested to learn about Karen culture and language. I attended the early morning language classes that were held in the mother tongue of the community. I also met with some parents that assisted in the classroom teaching traditional crafts and dance to the students.

Analyse why you felt that your personal values/convictions wholly aligned with the professional obligation/TCSF indicator:

My parents are from mixed heritage so I have always had a strong interest in learning about different cultures and languages. I am multi-lingual. I speak the languages of my father and mother as well as Myanmar and English. I am very interested to learn how to best teach a class of students who come from diverse backgrounds.

Personal ethics were in conflict with professional obligation/TCSF indicator

Identify the relevant professional obligation/TCSF indicator:

[Teacher and community] Perform the civic duties and participate in community activities

Describe the practicum scenario and the course of action you took:

I was invited to a number of school and community events. I politely declined to attend those events because I was very busy planning and reflecting on my lessons and action research project.

Analyse why you felt that your personal values/convictions were in tension with the professional obligation/TCSF indicator:

I definitely felt a conflict between my desire to participate in the life of the school and the community and to be a diligent Year 3 student teacher who was well prepared to teach every lesson. In particular, I may have offended some members of school staff in not participating in the School Family Day.

Reflect on how might approach this scenario in the future:

In future, I think that it is better, when on extended placement, that I attend at least one school event and one community event. Perhaps, I can discuss this issue with the principal and my mentor teacher. I can ask for their guidance regarding how I might prioritise the numerous invitations given the need to spend considerable time planning lessons, making resources, and engaging in reflection.

[See Box 10.2 in textbook.]



Check student teachers' understanding

Time	15 minutes
Class organisation	Whole class

Ask student teachers whether the two frameworks (i.e., obligations under the Five Precepts of Education and TCSF Indicator for Domain C) are similar?

Possible responses:

The Five Precepts of Education serves as a Code of Ethics or a Code of Professional Conduct. In addition to the Five Precepts, Domain C of Myanmar's TCSF is dedicated to Professional Values and Dispositions. Both of these frameworks provide a point of reference for reflection on ethical practice. There is much common ground. Notably though, the obligation to stakeholders cut across all TCSF domains, as outlined in Table TG 10.2.

Table TG 10.2. Alignment between Five Precepts of Education and TCSF competency standards

Five Precepts of Education	TCSF competency standards
P1. Teachers and learners	C3. Promote quality and equity in education for all students
P2. Teachers and parents/the home	C1. Service to the profession <i>Also for example:</i> <ul style="list-style-type: none"> • A3. Know how to communicate well with student and their families • B4. Work together with other teachers, parents, and community
P3. Teachers and the community	C2. Service to community leadership
P4. Teachers and higher authorities	C1. Service to the profession Note: Many of the obligations under Precept 4 align with teachers' contractual obligations rather than competency standards
P5. Teachers and other teachers	C1. Service to the profession <i>Also for example:</i> <ul style="list-style-type: none"> • B4. Work together with other teachers, parents, and community • D2. Engage with colleagues in improving teaching practices

Ask student teachers to assess the value of reflecting on practicum experiences through different lenses.

Possible responses:

There is value in having access to multiple lenses; the organisers are different. The Five Precepts of Education organises teacher obligations (and practices) in relation to target stakeholders. The TCSF organises competencies according to: Knowledge and Understanding; Skills and Practices; Values and Disposition; and Growth and Development.

In reality, in any given practice scenario, teachers might be engaging with a range of stakeholders and drawing upon a complex of competencies from across domains.

10.1.2. Organisational citizenship behaviour

Expected learning outcomes

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

- Define organisational citizenship behaviour;
- Discuss the benefits of teachers' organisational citizenship behaviour, as identified in the research and from Practicum observations; and
- Reflect on OCB on the part of teachers, peers, and themselves in the Practicum placement, with reference to validated OCB models.



Competencies gained

C1.3.1 Show interest in and take time to learn about the students' culture, language and community

C2.1.1 Contribute actively to a range of school and community activities

C2.1.2 Demonstrate model behaviour as a teacher serving and working in school and community responsibly and accountably

C3.1.1 Show awareness of the right to education of every child and a commitment to nurturing the potential in each student



Time: Three periods of 50 minutes



Learning strategies

Learning activity 1. Classification: OCB scale items

Learning activity 2. Reflection on colleagues' behaviours: Two factor model

Learning activity 3. Peer interview and role play: Five factor model



Assessment approaches: Questioning and observation, peer and whole-class discussion, peer and self-assessment, reviewing student work



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 10.1.2.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. N/A (other than textbook, note paper, and pen)

Period 1

Organisational citizenship behaviour

This period is structured as follows:

Introduction/Explicit teaching	10 minutes
Learning activity 1	25 minutes
Check student teachers' understanding	15 minutes

Introduction/Explicit teaching

Time	10 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Define organisational citizenship behaviour.
2. Ask student teachers to consider the term organisational citizenship behaviour and discuss with a peer what they think it may mean.

3. Select student teachers to share their responses with the class.
4. Direct student teachers to the textbook section, 'Definition and models of organisational citizenship behaviour'.
5. Ask student teachers to check the definition that they arrived at with their peer with the definition in the textbook:

Organisational citizenship behaviour is shown when an employee goes beyond their official job description and performs acts in the workplace such as voluntarily helping others, taking on additional responsibilities, and promoting initiatives and the organisation.

6. Highlight two validated models of OCB in the literature:

Five factor model:

- *Altruism*: Helping either colleagues or clients
- *Courtesy*: Adopting polite and respectful behaviours that prevent problems for others
- *Conscientiousness*: Accepting and complying with policies and procedures
- *Civic virtue*: Taking on extra responsibilities and being involved in the professional life of an organisation
- *Sportsmanship*: Tolerating inconveniences.

Two factor model:

- Behaviours that are directed towards or benefit individuals in the workplace (e.g., supporting other colleagues); and
- Behaviours that are directed towards or benefit the organisation as a whole (e.g., promoting improvement initiatives).



Learning activity 1. Classification: OCB scale items

Time	25 minutes
Class organisation	Groups of 3

Purpose

The purpose of this learning activity is for student teachers to build understanding of behaviours that articulate with models of OCB from the literature.

1. Ask student teachers to form groups of 3.
2. Direct student teachers to Learning activity 1.
3. Instruct student teachers to:
 - review each of the clusters of scale items in Table 10.2; and
 - identify the OCB dimension (i.e., altruism, courtesy, conscientiousness, civic virtue, and sportsmanship) that each cluster of items is associated with.
4. Highlight to student teachers that an example has been provided for them.
5. Ask groups to share their responses with another group.



Assessment

Allow groups the opportunity to provide rationale for their responses.



Correct student teachers' responses

Correct responses are presented in Table TG 10.3.

Table TG 10.3. OCB behaviours²⁴ – completed

Scale items	Dimension
<ul style="list-style-type: none"> • I attend meetings that are not compulsory but considered important. • I attend functions that are not compulsory but help the organisation's image. • I keep up with changes that are happening in the organisation. • I read and keep up with announcements and memos. 	<p><i>Civic virtue:</i></p> <p>Taking on extra responsibilities and being involved in the professional life of an organisation.</p>
<ul style="list-style-type: none"> • My attendance at work is above the norm. • I do not take extra breaks. • I obey the organisation's rules and regulations even when no one is watching. • I believe in giving an honest day's work for an honest day's pay. 	<p><i>Conscientiousness:</i></p> <p>Accepting and complying with policies and procedures.</p>
<ul style="list-style-type: none"> • I help others who have been absent. • I help others who have heavy workloads. • I help orient people even though it is not required. • I help others who have work related problems. 	<p><i>Altruism:</i></p> <p>Helping either colleagues or clients.</p>
<ul style="list-style-type: none"> • I take steps to try to prevent problems with other workers. • I am mindful of how my behaviour affects other people's jobs. • I try to avoid creating problems for colleagues. • I consider the impact of my actions on colleagues. 	<p><i>Courtesy:</i></p> <p>Adopting polite and respectful behaviours that prevent problems for others.</p>
<ul style="list-style-type: none"> • I do not spend time on trivial matters. • I do not focus on what is wrong at the expense of the positive. • I do not exaggerate the level of challenge of a task. • I do not always find fault with the organisation. 	<p><i>Sportsmanship:</i></p> <p>Tolerating inconveniences and impositions.</p>

[See Table 10.2 in textbook.]

²⁴ Jepsen, D., & Rodwell, J. (2006).



Check student teachers' understanding

Time	15 minutes
Class organisation	Whole class

Ask student teachers to return to Table 10.2 in their textbooks and identify if each of the items involves a behaviour that is directed towards or benefit:

- Individuals in the workplace [I] or
- Organisation as a whole [O].

Possible responses are presented in Table TG 10.4.

Table TG 10.4. OCB behaviours classified as benefiting individuals or the organisation – annotated

Scale items	Dimension
<ul style="list-style-type: none"> • I attend meetings that are not compulsory but considered important. [O] • I attend functions that are not compulsory but help the organisation's image. [O] • I keep up with changes that are happening in the organisation. [O] • I read and keep up with announcements and memos. [O] 	<p><i>Civic virtue:</i></p> <p>Taking on extra responsibilities and being involved in the professional life of an organisation.</p>
<ul style="list-style-type: none"> • My attendance at work is above the norm. [O] • I do not take extra breaks. [O] • I obey the organisation's rules and regulations even when no one is watching. [O] • I believe in giving an honest day's work for an honest day's pay. [O] 	<p><i>Conscientiousness:</i></p> <p>Accepting and complying with policies and procedures.</p>
<ul style="list-style-type: none"> • I help others who have been absent. [I] • I help others who have heavy workloads. [I] • I help orient people even though it is not required. [I] • I help others who have work related problems. [I] 	<p><i>Altruism:</i></p> <p>Helping either colleagues or clients.</p>
<ul style="list-style-type: none"> • I take steps to try to prevent problems with other workers. [I] • I am mindful of how my behaviour affects other people's jobs. [I] • I try to avoid creating problems for colleagues. [I] • I consider the impact of my actions on colleagues. [I] 	<p><i>Courtesy:</i></p> <p>Adopting polite and respectful behaviours that prevent problems for others.</p>
<ul style="list-style-type: none"> • I do not spend time on trivial matters. [O] • I do not focus on what is wrong at the expense of the positive. [O] • I do not exaggerate the level of challenge of a task. [O] • I do not always find fault with the organisation. [O] 	<p><i>Sportsmanship:</i></p> <p>Tolerating inconveniences and impositions.</p>

[See Table 10.2 in textbook.]

Ask student teachers to reflect upon the relationship between the scales of the two models.

Possible response:

It appears that:

- Civic virtue and conscientiousness are related with benefits to the organisation;
- Altruism and courtesy are related with benefits for colleagues; and
- The items for sportsmanship are related with benefits to the organisation, however, sportsmanship can also be shown in relations with colleagues.

Period 2

Organisational citizenship behaviour

This period is structured as follows:

Introduction/Explicit teaching	20 minutes
Learning activity 2	25 minutes
Check student teachers' understanding	5 minutes

Introduction/Explicit teaching

Time	20 minutes
Class organisation	Whole class

1. Outline the relevant learning outcomes for the period.
By the end of this period, student teachers will be able to:
 - Discuss the benefits of teachers' organisational citizenship behaviour, as identified in the research and from Practicum observations; and
 - Reflect on OCB on the part of teachers, peers, and themselves in the Practicum placement, with reference to validated OCB models.
2. Direct student teachers to the textbook section, 'Teachers' OCB.'
3. Read together as a class:
Teachers' OCB comprises a broad range of actions related to:
 - helping students, colleagues, principals, and other stakeholders; and
 - contributing to the school, school cluster, or education department at large (e.g., suggesting changes and improvements and advocating for the school).

Although the role requirements for teachers are often very clearly prescribed, such as following set curricula and timetables, teachers have:

- high levels of professional autonomy, and hence
 - typically many opportunities for OCB.
4. Ask student teachers to discuss with their peer what they understand by professional autonomy. Direct student teachers to the glossary.
 5. Ask student teachers to read the textbook section, 'Findings from the research literature' with their peers.
 6. Instruct student teachers to write brief notes of key findings.
 7. Select student teachers to share responses with class.

You may record on whiteboard:

- Support from teacher colleagues is associated with positive outcomes.
- There are also positive outcomes for teachers, who demonstrate OCB.
- Regular support from school leaders is one way to promote OCB among teachers.
- However, if OCB is no longer discretionary, then there can be negative impacts.



Learning activity 2. Reflection on colleagues' behaviours: Two factor model

Time	25 minutes
Class organisation	Groups of 4

Purpose

The purpose of this learning activity is for student teachers to reflect on the behaviours of the teachers in their Practicum school from the perspective of the two-factor model of OCB.

1. Instruct student teachers to form groups of 4.
2. Direct student teachers to Learning activity 2.
3. Instruct student teachers to:
 - reflect upon examples of teachers' OCB in the Practicum setting; and
 - [In Table 10.3], list behaviours of teachers in the Practicum setting, which they observed, that comprise OCB.
4. Instruct groups to share their responses with another group.



Assessment

Highlight for student teachers that when they are reviewing peers' responses to ensure that the behaviours that they listed are voluntary and go beyond the standard requirements of the role.



Possible student teachers' responses

There will be variation in responses. Possible responses are presented in Table TG 10.5.

Table TG 10.5. Teachers' OCBs in the Practicum setting – completed

Directed towards or benefitted	
Students or colleagues	School
<ul style="list-style-type: none"> • Arriving at work earlier than required to create learning resources to support individual students. • Spending time after school reflecting on lessons and consulting Teacher Guides to plan for differentiated teaching and learning. • Staying back at lunch time to assist students. • Organising parent-teacher sessions outside the regular meeting time to discuss students' progress • Mentoring a beginning teacher. • Observing a colleague and providing constructive feedback for enhancement of practice. 	<ul style="list-style-type: none"> • Volunteering to help parents build a playground on the weekend. • Organising cultural activities with parents and community. • Writing an article for the school newsletter. • Volunteering for the SIP Committee. • Offering to represent the school at cluster meetings.

[See Table 10.3 in textbook.]



Check student teachers' understanding

Time	5 minutes
Class organisation	Whole class

Ask student teachers to reflect upon the behaviours in the list.

Question: How frequently do teachers participate in OCB?

Answer: Most of these behaviours happen daily.

Question: What can be said about their contribution to functioning classrooms and schools?

Answer: While discretionary, these behaviours are crucial for classroom and school functioning.

Period 3

Organisational citizenship behaviour

This period is structured as follows:

Learning activity 3	35 minutes
Check student teachers' understanding	15 minutes



Learning activity 3. Peer interview and role play: Five factor model

Time	35 minutes [15 minutes per interview; 5 minutes to plan role play]
Class organisation	Pairs

Purpose

The purpose of this learning activity is for student teachers to reflect on their own behaviours, and behaviours of their peers in the Practicum placement, from the perspective of the five dimensions of OCB.

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Reflect on OCB on the part of teachers, peers, and themselves in the Practicum placement, with reference to validated OCB models.
2. Direct student teachers to Learning activity 3.
3. Instruct student teachers to:
 - interview their peer to ascertain examples of OCB that they displayed in their Practicum experience; and
 - record their peer's responses in Table 10.4.
4. Highlight that student teachers have 15 minutes to interview their peer, after which their peer will interview them for 15 minutes.
5. Explain that pairs are then to select one example of OCB only (from the two interviews) and plan a short role play.



Assessment

Walk around and observe student teachers' interviews and role plays. Provide support where necessary.



Possible student teachers' responses

There will be variation in responses. Possible responses are presented in Table TG 10.6.

Table TG 10.6. Your peers' OCB in the Practicum setting – completed

Dimension	Example
<p><i>Altruism:</i></p> <p>Can you provide an example where you helped colleagues on your placement?</p>	<p>Yes, beyond the lessons that I was assigned to plan and deliver, I assisted my mentor teacher in preparing resources for their lessons as well. I have a high level of English proficiency so I made visual aids to support students expanding their vocabulary.</p>
<p><i>Courtesy:</i></p> <p>Can you provide an example where you adopted polite and respectful behaviour that prevented problems for others?</p>	<p>Yes, I introduced myself to the principal. I asked to access any school policies and staff codes of conduct so that I would not cause any issues for my mentor teacher. I ensured that I introduced myself to the teachers on staff. I explained who my mentor teacher was and what grade I was assigned to.</p>
<p><i>Conscientiousness:</i></p> <p>Can you provide an example where you complied with policies and procedures?</p>	<p>Yes, the school had a security policy where all visitors to the school had to sign in when entering the school and sign out upon leaving. I ensured that I went to the school administrator's office and signed this visitor log every day.</p>
<p><i>Civic virtue:</i></p> <p>Can you provide an example where you took extra responsibilities in order to be involved in the life of the school?</p>	<p>Yes, I volunteered to assist in planting a school garden. I was responsible for planting tragacanth [medicinal] plant seedlings. I took photographs of all of the volunteers planting the school garden. I created a School Garden Facebook page and uploaded the photographs in order to share the event with the community.</p>
<p><i>Sportsmanship:</i></p> <p>Can you provide an example where your tolerated inconveniences?</p>	<p>Yes, there seemed to be a lot of teacher complaints when there were electricity outages. Also the teachers complained about the state of the schools' buildings and facilities. I ensured that I did not complain about any aspect of the school. I adapted my lessons when there were electricity outages. I also facilitated a science experiment outdoors as there was no functional laboratory.</p>

[See Table 10.4 in textbook.]



Check student teachers' understanding

Time	15 minutes
Class organisation	Groups of 8; whole class

Ask 4 pairs to come together as groups of 8. Afford 10 minutes for sharing of role plays.

In the last 5 minutes, bring the whole class together and ask student teachers to reflect on their perspectives of OCB – that is, how they felt in contributing to the benefit of students or colleagues or the school at large in their Practicum settings.

You might ask questions, such as:

- Was the opportunity to contribute in this way professionally satisfying?
- How were these actions received by students/colleagues?



Expected student teachers' responses for the review questions in TB

Question 1: How do the Five Precepts of Education position teachers?

Answer: The Five Precepts positions teachers in relation to their obligations to their key stakeholders.

Question 2: How do the Five Precepts relate to the TCSF?

Answer: The obligations under the Five Precepts of Education align with competency standards across all four TCSF domains: Knowledge and Understanding; Skills and Practices; Values and Disposition; and Growth and Development.

Question 3: Who or what stands to benefit from teachers' organisational citizenship behaviour?

Answer: *Teachers' OCB comprises a broad range of actions related to:*

- *helping students, colleagues, principals, and other stakeholders; and*
- *contributing to the school, school cluster, or education department at large (e.g., suggesting changes and improvements and advocating for the school).*

Most of these behaviours happen daily and are crucial for classroom and school functioning.

10.2. Professional Growth and Development

In this sub-unit, student teachers will consider principles and forms of effective teacher professional development. They will have opportunity to reflect on their own growth in Year 3 of Educational Studies, in terms of achievement of learning goals. Further, student teachers will reflect on their action research project, undertaken in the Practicum placement. They will synthesise findings across projects and contexts to consolidate understanding of the process and value of teacher action research.

10.2.1. Teacher professional development

Expected learning outcomes

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

- Discuss the limitations of traditional teacher professional development.
- Identify principles and forms of effective teacher professional development; and
- Reflect on the Year 3 experience in terms of professional development opportunities and achievement of Educational Studies learning goals.



Competencies gained

D1.1.3 Regularly reflect on a wide range of actions and experiences to identify areas for own continuous professional development as a teacher

D2.1.1 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



Time: Two periods of 50 minutes



Learning strategies

Learning activity 1. Reading: Principles of effective teacher professional development

Learning activity 2. Reflection: Teacher perspectives and opportunities

Homework activity. Reflection: Achievement of learning goals



Assessment approaches: Questioning, observation, peer and whole-class discussion, peer and self-assessment, reviewing student work



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 10.2.1.



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. N/A (other than textbook, note paper, and pen)

Period 1

Teacher professional development

This period is structured as follows:

Learning activity 1	30 minutes
Check student teachers' understanding	20 minutes



Learning activity 1. Reading: Principles of effective teacher professional development

Time	30 minutes
Class organisation	Groups of 3

Purpose

The purpose of this learning activity is for student teachers to read this lesson's content and distil principles of effective teacher professional development.

1. Outline the relevant learning outcomes for the period:
By the end of this period, student teachers will be able to:
 - Discuss the limitations of traditional teacher professional development; and
 - Identify principles and forms of effective teacher professional development.
2. Ask student teachers to form groups of 3.
3. Direct student teachers to Learning activity 1.
4. Instruct student teachers to read the textbook section, 'Principles and forms of effective teacher professional development'.
5. Inform student teachers that, in Box 10.3, they are required to:
 - distil principles of effective teacher professional development; and
 - list strong forms of teacher professional development.
6. Select student teachers to share responses with class.



Assessment

Record student teachers' responses on whiteboard.



Possible student teachers' responses

There will be variation in responses. Possible responses, adapted from educational literature, are presented in Box TG 10.2.

Box TG 10.2. Principles and forms of effective teacher professional development²⁵

Effective teacher professional development is:

- focused on improving student learning;
- embedded in practice;
- driven by student data and research evidence;
- collaborative in nature;
- fully supported by the operations of the school and educational system; and
- integrated within a culture of shared responsibility for growth.

Strong forms of collaborative teacher professional development include:

- collectively interpreting data and evidence to identify challenges and areas for improvement;
- peer observation and feedback;
- coaching, mentoring and team teaching; and
- joint action research projects.

[See Box 10.3 in textbook.]



Check student teachers' understanding

Time	20 minutes
Class organisation	Whole class

Bring the class together and ask student teachers to draw upon the principles and examples, which they have documented in Box 10.3, to reflect upon the effectiveness of:

- a more traditional form of professional development wherein teachers may attend a one-off course or workshop away from the school; and
- the current Cascade Model of Teacher Professional Development in Myanmar.

²⁵ Victorian Department of Education and Training. (2005).

Possible lines of discussion:

A more traditional form of professional development wherein teachers may attend a one-off course or workshop away from the school

The limitation with one-off courses or workshops is that upon teacher's return to school, they are left to consider how the new practice translates to their specific classroom contexts.²⁶ Implementation of the new practice often proves challenging without access to further guidance and support.

So, while good practice is shared at the professional development session, it may not necessarily be transferred in practice. Further, the traditional model of teacher professional development is hierarchical, which positions the facilitator as the expert. It is a model that may not empower teachers.

The current Cascade Model of Teacher Professional Development in Myanmar

You may wish to share your own experiences of participating in the cascade model.

Advantages: Cascade models of in-service teacher professional development are widely considered to provide upskilling for teachers in a cost-effective manner, especially where:

- the number of teachers who require training are very large; and/or
- funding to provide training is limited.²⁷

Disadvantages: Planners of cascade training need to:

- establish that schools and classrooms to which trainees will be returning are likely to be supportive of their attempts to implement new practices; and
- consider subject-specific and school contexts in which teachers work (including class size, available time and learning materials, prescription regarding assessment practices, etc.).

²⁶ Hargreaves, D. (2012).

²⁷ Wedell, M. (2005).

Otherwise, the new practices (techniques, activities, etc.) may not necessarily be implemented to the extent that was envisaged.

In other words, with these more traditional models of teacher professional development it is essential that teachers are supported as fully as possible in their immediate and wider working environments.

Period 2

Teacher professional development

This period is structured as follows:

Learning activity 2	30 minutes
Check student teachers' understanding	20 minutes
Homework activity	own time



Learning activity 2. Reflection: Teacher perspectives and opportunities

Time	30 minutes
Class organisation	Groups of 4

Purpose

The purpose of this learning activity is for student teachers to reflect on teacher survey and interview data relating to teacher professional development.

1. Instruct student teachers to form groups of 4.
2. Direct student teachers to Learning activity 2.
3. [For Part A], ask student teachers to review the graph in Figure 10.5.
4. Highlight for student teachers that:
 - The graph depicts data generated through the 2013 OECD Teaching and Learning International Survey (TALIS);
 - TALIS asks teachers and school leaders about working conditions and learning environments at their schools;

- The graph shows that teachers who frequently participated in collaborative professional development reported higher levels of job satisfaction; and
 - The job satisfaction scale was derived from teachers' responses to questions related to their 'satisfaction with the current work environment' and 'satisfaction with the profession'.
5. Instruct student teachers to answer the following question:
 - Why do you think opportunities for frequent collaboration is related with higher levels of job satisfaction?
 6. [For Part B], ask student teachers to read the research findings outlined in Box 10.4.
 7. Highlight for student teachers that, in this study, teachers were interviewed regarding their experiences and expectations regarding teacher professional development.
 8. Instruct student teachers to answer the following question:
 - What is the reason for the gap in experience and expectations of teachers regarding professional development?
 9. Select student teachers to share their response with the class.



Assessment

Walk around as groups work through Parts A and B. Ensure all group members are participating in discussion.



Possible student teachers' responses

Question: Why do you think opportunities for frequent collaboration is related with higher levels of job satisfaction?

Possible responses:

Student teachers might draw on understanding of collective efficacy (from Unit 1):

In a school with high levels of collective efficacy, individual teachers do not feel singularly responsible for creating change. Through strong forms of teacher collaboration, teachers may feel that they can collectively make

a difference – that is, that they are change agents. As highlighted in the literature,²⁸ when there are high levels of collectively efficacy at a school:

- There are high expectations for student success;
- There is a shared language that focuses on student *learning*; and
- Teacher and leaders approach their work with persistence and resolve.

Student teachers might draw on understanding of OCB (from Lesson 10.1.2.):

The sense that their work contributes to others’ wellbeing is shown to enhance teacher’s relationships with others, job satisfaction, and positive emotions. Indeed, “a growing body of evidence suggests that prosocial behavior (in various life arenas) promotes positive emotional rewards for the giver.”²⁹

Question: What is the reason for the gap in experience and expectations of teachers regarding professional development?

Possible responses:

Primarily, the teachers expect to:

- engage in the types of learning experiences that they are to facilitate in the classroom – authentic, active, interactive, reflective, and technology-enhanced;
- engage in professional development that is responsive to their practice needs – that is, focussed on the challenges that arose in their daily practice; and
- learn target-setting and implementation, monitoring, and evaluation strategies to achieve those targets.



Check student teachers’ understanding

Time	20 minutes
Class organisation	Whole class

Facilitate discussion through asking student teacher questions such as:

²⁸ Donohoo et al. (2018).

²⁹ Lavy, S. (2019, p. 3.).

Did you observe teachers participating in collaborative professional development in the Practicum setting? If yes:

- What was the focus/purpose of the collaborative professional development?
- Did it involve collaborating with stakeholders beyond the school (e.g., teachers collaborating within their cluster)?

Did you participate in any professional development sessions in the Practicum setting? If yes:

- What was the focus/purpose of the professional development?
- Did it meet your expectations in terms of a high-quality learning experience?

Beyond the Practicum and your formal studies, did you participate in any professional development sessions (i.e., non-formal learning) this year? If yes:

- What was the focus/purpose of the professional development?
- Did it meet your expectations in terms of a high-quality learning experience?

Direct student teachers' attention to homework activity, wherein student teachers will have opportunity to reflect on the progress they have made towards achievement of their learning goals for Educational Studies.

Homework activity. Reflection: Achievement of learning goals

The purpose of this homework activity is for student teachers to reflect on the progress they have made towards achievement of their learning goals for Educational Studies.

Highlight for student teachers that, in Unit 1, they wrote 3–5 learning goals for Educational Studies and actions that they could undertake to support achievement of their goals.

Ask student teachers to:

- consult their Semester 1 textbook;
- translate the goals and actions in Table 10.5; and
- make comments about the extent to which actions have been undertaken and their learning goals have been achieved.

10.2.2. Teacher action research

Expected learning outcome

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

- Communicate action research findings and reflections on the process and value of teacher action research.



Competencies gained

D1.1.1 Use evidence of students learning to reflect on the impact of own teaching practice

D1.1.2 Use information from a variety of sources to improve teaching practice and student learning

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

D3.1.2 Search and analyse online or offline information on current trends and research-based practices in lower secondary education and for specific subjects taught to improve one's own content knowledge and teaching practice



Time: Four periods of 50 minutes



Learning strategies

Learning activity 1. Individual reflection: Progress on action research project

Learning activity 2. Group discussion: Action research experiences

Learning activity 3. Presentation planning: Key learnings and examples from practice

Learning activity 4. Class presentation: Celebration of action research



Assessment approaches: Questioning, observation, peer and whole-class discussion, peer and self-assessment, reviewing student work



Preparation needed

Read the Educational Studies Student Teacher Textbook Lesson 10.2.2.

Set the classroom up as required for a class presentation (Period 4).



Resources needed

Learning activity 1. N/A (other than textbook, note paper, and pen)

Learning activity 2. N/A (other than textbook, note paper, and pen)

Learning activity 3. Flip chart or poster paper and marker pens

Learning activity 4. Flip chart or poster paper and marker pens

Period 1

Teacher action research

This period is structured as follows:

Introduction/Explicit teaching	15 minutes
Learning activity 1	25 minutes
Check student teachers' understanding	10 minutes

Introduction/Explicit teaching

Time	15 minutes
Class organisation	Whole class

1. Outline the relevant learning outcome for the period.
By the end of this period, student teachers will be able to:
 - Communicate action research findings and reflections on the process and value of teacher action research.
2. Inform student teachers that over the next 4 periods they are going to be:
 - reflecting on progress on their action research projects;
 - sharing their experiences with their peers;
 - distilling key learnings across research projects; and
 - presenting insights to the class.
3. Ask student teachers to discuss with their peer what they believe is the value of teacher action research.
4. Direct student teachers to the textbook section, 'Improving and innovating practice'.
5. Discuss with student teachers the steps that they took in the Bloc 9 Practicum to prepare for implementation of an action research project in their placement:
 - Shared examples and observations of action research;
 - Brainstormed ideas for collaborative action research projects;
 - Generated a list of possible action research projects and identified project goals, and the resources and time needed to implement them;
 - Refined the action research projects so that they were able to be implemented in the context of the placement;

- Decided upon and scoped one of the projects through a *What, Why, Where, When, Who, How* question framework;
- Developed a collaborative action research plan;
- Used a simple rubric to review another group's action research plan;
- Explored elements of reporting on action research; and
- Reviewed a simple action research report for its comprehensiveness.



Learning activity 1. Individual reflection: Progress on action research project

Time	25 minutes
Class organisation	Independent

Purpose

The purpose of this learning activity is for student teachers to reflect on the progress of their action research project first independently before sharing their experiences with their peers.

1. Direct student teachers to Learning activity 1.
2. Inform student teachers that in this activity, they will:
 - have opportunity to reflect on the progress of their action research project first independently before sharing their experiences with their peers; and
 - will use a reflective template (i.e., Table 10.6), which aligns with the seven stages of the action research cycle that they explored across Years 1 and 2 of RPES (shown in Figure 10.7 in the textbook and outlined in Annex 9 in the textbook and this guide).
3. Instruct student teacher to respond to the guiding questions in Table 10.6.
4. Encourage them to consult their Practicum journal.



Assessment

Support any student teachers who are having difficulty with this independent task. You might ask additional questions to support student teachers' self-assessment of their progress on the projects.



Possible student teachers' responses

There will be variation in responses.



Check student teachers' understanding

Time	10 minutes
Class organisation	Whole class

Ask student teachers to consult the TCSF to see if there are explicit references to teacher action research. Ask them to identify relevant indicators.

Possible responses:

- D1.1.1 Use evidence of students learning to reflect on the impact of own teaching practice
- D1.1.2 Use information from a variety of sources to improve teaching practice and student learning
- 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
- D3.1.2 Search and analyse online or offline information on current trends and research-based practices in lower secondary education and for specific subjects taught to improve one's own content knowledge and teaching practice

Student teachers might identify a number of other relevant indicators.

Period 2

Teacher action research

This period is structured as follows:

Learning activity 2	45 minutes
Check student teachers' understanding	5 minutes



Learning activity 2. Group discussion: Action research experiences

Time	45 minutes
Class organisation	Groups Note: It is best not to have more than 8 groups. In Period 4, each group will be given 5 minutes to present. You will also provide a brief plenary (10 minutes).

Purpose

The purpose of this learning activity is for student teachers to convene in their groups from Practicum, if possible, or with peers to discuss their action research experiences and findings.

1. Instruct student teachers to:
 - convene in their collaborative action research groups from Practicum, if possible, and if not, then,
 - form a group with other peers.
2. Direct student teachers to Learning activity 2.
3. Instruct student teachers to:
 - discuss their responses in Table 10.6 with their peers; and
 - take note of anything that strikes them as important when listening to their peers.



Assessment

Ensure that each group member has opportunity to report on their responses to the guiding questions related to each of the action research stages.



Possible student teachers' responses

There will be variation in student teachers' action research experiences and group discussions.



Check student teachers' understanding

Time	5 minutes
Class organisation	Groups

Ask student teachers, in their groups, to reflect on the notes that they have taken.

Inform them that in the following period, they will be distilling key learnings across the action research projects in their group.

Period 3

Teacher action research

This period is structured as follows:

Learning activity 3	45 minutes
Check student teachers' understanding	5 minutes



Learning activity 3. Presentation planning: Key learnings and examples from practice

Time	45 minutes
Class organisation	Groups Note: Same groups as previous period. Max: 8 groups.

Purpose

The purpose of this learning activity is for student teachers to reconvene in their group and synthesise key learnings from across action research projects.

1. Instruct student teacher to reconvene in their groups.
2. Direct student teachers to Learning activity 3.
3. Instruct student teachers to plan for a 5-minute presentation to the class where they report on key learnings across the action research projects, undertaken by the group's members.
4. Inform student teachers that they are required to distil three key learnings from across projects and, where appropriate, provide examples from specific projects and school contexts.
5. Explain that their key learnings may relate to different action research reporting elements (outlined in Box 10.5); for example:
 - how the particular research problem or question that they planned for in Bloc 9 of the Practicum translated to their particular school context, and any refinements that they needed to make;
 - how they most effectively collected feedback from students; and
 - how they made sense of data collected from multiple sources.
6. Ask student teachers to outline their key learnings and examples on flip chart or poster paper.



Assessment

Ensure that each group member is actively involved in discussion and synthesis of ideas.



Possible student teachers' responses

There will be variation in student teachers' key learning and examples.



Check student teachers' understanding

Time	5 minutes
Class organisation	Groups

Ask student teachers, in their groups, to reflect on their presentation charts/posters to assess whether they have prioritised learnings of importance.

Inform them that, in the following period, they will be presenting to the class.

Period 4

Teacher action research

This period is structured as follows:

Learning activity 4	40 minutes
Check student teachers' understanding	10 minutes



Learning activity 4. Class presentation: Celebration of action research

Time	40 minutes
Class organisation	Groups Note: Same groups as previous period. Max: 8 groups.

Purpose

The purpose of this learning activity is for student groups to present to the whole class key findings across action research projects.

1. Set the classroom up as required for the presentation.
2. Direct student teachers to Learning activity 4.
3. Remind groups that they only have 5 minutes each for the presentation. Allocate a time keeper, who is able to set their stopwatch on their mobile phone and indicate to groups when they have reached the 4:30 minutes mark.
4. Instruct student teachers to listen closely to all presentations and take notes in Box 10.6.



Assessment

Ensure that all student teachers are actively listening and taking notes during the group presentations.



Facilitator's notes

You may devise a rubric to assess the group presentation.

A sample rubric has been provided for you in Annex 10 in this guide.

Adapt this rubric according to the criteria that you deem important and your learning context.



Possible student teachers' responses

There will be variation in student teachers' key learning and examples.



Check student teachers' understanding

Time	10 minutes
Class organisation	Whole class plenary

As the teacher educator, conduct a plenary session wherein you share your key observations from across the group presentations.

You may wish to identify key themes. Encourage student teachers to take notes in Box 10.6.



Expected student teachers' responses for the review questions in TB

Question 1: What are the limitations of a traditional model of teacher professional development?

Answer: *In a traditional model of professional development, teachers typically attend a course or workshop, away from the school.*

Upon their return to school, teachers are left to consider how the new practice translates in their specific classroom contexts. Implementation of the new practice often proves challenging without access to further guidance and support.

So, while good practice is shared at the professional development session, it is not effectively transferred in practice. The traditional model of teacher professional development is hierarchical, which positions the facilitator as the expert. It is a model that does not empower teachers.

Question 2: List principles of effective teacher professional development.

Answer: *Effective teacher professional development is:*

- *focused on improving student learning;*
- *embedded in practice;*
- *driven by student data and research evidence;*
- *collaborative in nature;*
- *fully supported by the operations of the school and educational system;*
and
- *integrated within a culture of shared responsibility for growth.*

Question 3: What is the value of teacher action research? Is teacher action research considered a strong form of teacher collaboration?

Answer: International comparative studies have shown that teacher action research promotes improvement and innovation in practice. Action research is an empowering strategy for teachers. They come to see themselves as researchers and leaders who contribute to improving the effectiveness of the entire system.

Yes, teacher action research is viewed as a strong form of teacher collaboration – that is, it is high-yielding strategy.

Unit Summary



Key messages

- Points of reference for reflection on teacher ethical practice include:
 - obligations under the Five Precepts of Education; and
 - indicators relating to Domain C of the Myanmar TCSF (Professional Values and Dispositions).
- Teachers' OCB comprises a broad range of actions related to helping students, colleagues, principals, and other stakeholders, and contributing to the school, school cluster, or education department at large.
- The research literature reveals important findings regarding teachers' OCB:
 - Support from teacher colleagues is associated with positive outcomes;
 - There are also positive outcomes for teachers, who demonstrate OCB;
 - Regular support from school leaders is one way to promote OCB among teachers; and
 - However, if OCB is no longer discretionary, then there can be negative impacts.
- The traditional model of teacher professional development is ineffective because implementation of the new practice often proves challenging when teachers return to their own school context and classroom, without access to further guidance and support.
- A more effective model of teacher professional development sees teachers leading and learning from each other within their own practice/school contexts.
- To be most effective, teacher collaboration should be driven by analysis of student data and focused upon the development of teachers' practice.
- The literature proposes a continuum ranging from "weak forms" (e.g., sharing stories) to "strong forms" (e.g., evidence-informed inquiry into practice) of teacher collaboration.
- Strong forms of teacher collaboration include peer observation and feedback; coaching, mentoring and team teaching; and joint action research projects.
- Sufficient support for teachers to participate in collaborative professional development is needed so that it becomes a central part of both school and system improvement processes.

- The literature shows that teachers who frequently participate in collaborative professional development report higher levels of job satisfaction.
- The literature shows that teacher action research is an important part of professional growth and innovation. Through action research, teachers come to see themselves as researchers and leaders, who contribute to improving the effectiveness of the entire system.



Unit reflection

1. How does teachers' OCB align with:
 - The Five Precepts of Education, and
 - The notion of teachers as leaders?
2. How can you deepen the investigation of your practice in a subsequent action research cycle? To answer this question, reflect upon your responses in Table 10.6. Identify what may be the next steps if you had opportunity to continue to investigate your practice in a classroom setting.



Further reading

10.1. Professional Values and Dispositions

Lavy, S. (2019). Daily dynamics of teachers' organizational citizenship behavior: Social and emotional antecedents and outcomes. *Frontiers in Psychology, 10*, 2863. <https://doi.org/10.3389/fpsyg.2019.02863>

10.2. Professional Growth and Development

Australian Institute for Teaching and School Leadership. (n.d.). *The essential guide to professional learning: Collaboration*. <https://www.aitsl.edu.au/tools-resources/resource/the-essential-guide-to-professional-learning-collaboration>

Victorian Department of Education and Training. (2005). *Professional learning in effective schools: The seven principles of highly effective professional learning*. <https://www.education.vic.gov.au/Documents/school/teachers/profdev/proflearningeffectivesch.pdf>

Victorian Department of Education and Training. (2018). *Peer observation, feedback and reflection: A guide for principals and school leaders*. https://www.education.vic.gov.au/Documents/school/teachers/teachingresources/practice/Peer_observation_feedback_and_reflection_guide_for_principals_school.pdf

Glossary

Terms	Elaborations
Analytic rubrics	Rubrics that separates, and articulates, the important skills and knowledge that will be assessed.
Augmentative and Alternative Communication (AAC)	Forms of communication (i.e., both unaided and/or aided) that are required by students with significant impairments in speech, language, reading, and writing. In unaided forms of AAC, students communicate through gestures, body language, facial expressions, and/or sign language. In aided forms, tools are used – from pen and paper to more complex technology-enabled devices.
Axiology	The branch of philosophy that focuses on values and goodness.
Bell curve	See normal distribution.
Box-and-whisker plots (boxplots)	A graph that represents the distribution of a set of data based on the range and quartiles.
Coding	The process or activity of writing computer programmes (e.g., to program websites, apps etc.).
Construct	Mental structures (or big ideas) that we build to make sense of the world.
Criteria	Properties or characteristics by which to judge quality.
Critical theory	An educational theory which advocates for teachers to help students think critically and challenge societal structures
Culturally responsive (pedagogy)	An approach that recognises the strengths of ethnically diverse students – including their cultural frames of reference, intellectual capabilities, and personal interests and achievements – to make learning relevant and effective for them.
Descriptors	Qualities required to demonstrate achievement for levels of performance for each criterion.
Distribution	See variability.
Dunning-Kruger Effect	The phenomenon where people who have little knowledge within an area of learning (i.e., novices) overestimate their ability.
Eclecticism	An approach to philosophy that combines ideas from different philosophical perspectives.
Elaborated feedback	Feedback that provides information to help a student to improve in specific aspects of their learning, such as an explanation of a correct response, how to work out a solution, explanation of a procedure, etc.
Epistemology	The branch of philosophy that focuses on knowledge of knowing.
Error	Values that deviate from the expected pattern (statistical error).
Essentialism	An educational theory that advocates teaching students essential skills and knowledge to successfully function in society.
Evidence	Facts and information that demonstrates the truth or validity of an idea.
Existentialism	A philosophy that rejects the idea of universal truths and advocates individual choice and creation of values.
Five Precepts of Education	Serve as a Code of Ethics or a Code of Professional Conduct for Myanmar teachers. The Five Precepts outline teachers' obligations in terms of: i) learners; ii) parents/the home; iii) the community; iv) higher authorities in the profession; and v) other teachers.

Terms	Elaborations
Global citizenship	A 21 st century approach to living in which principles of global responsibility and accountability are applied to everyday local actions, and complex global problems are addressed on an individual basis.
Guttman's Coefficient of Reproducibility	Measures the extent to which a pattern of responses aligns with a perfect scale (e.g., the degree of perfection of a scale).
Habits of mind	Pattern of intellectual behaviours that leads to productive actions.
Histogram	A graph, consisting of bars that define intervals (bins) in the data. Histograms should be used for continuous data.
Holistic rubrics	Rubrics that provide an overall summary of different levels of quality for the whole piece of work.
Horizontal dimension (of learning)	The breadth of knowledge and skill within an area of learning.
Idealism	A philosophy that sees truth and values as universal and absolute. This knowledge can be discovered through processes of self-examination, discovery and rationalising.
Immersive simulation	Uses technology to implement learning methods that immerse the learner into a given context. For example, immersive virtual environments are used for adult learning in complex situations, where technical systems are difficult to understand, and human factors are critical.
Individualised Education Plans (IEP)	Inform international best practice in supporting students, with additional needs, to access and participate in schooling. An IEP outlines a) learning goals and outcomes, which are specific to the student, and b) provisions to help reduce barriers to their learning, including the resources and equipment needed for the student to function in the school and classroom environments.
Integration	Happens when students with additional needs attend a regular classroom. This approach was introduced because of the belief that students with disabilities should have access to the same resources and opportunities as other students. Schools with a focus on integration may provide special programmes or classes for students with additional needs. The curriculum may be altered to suit students' abilities or needs, and they may be given additional learning support within the class. Often the expectation is that students with additional needs will learn to 'fit in'.
Interquartile range	The middle 50% of data values, which sit between the first and third quartiles.
Interrater reliability	A way of measuring the extent to which a group of markers (or raters, or judges) agree. The level of consistency between their judgements.
Learning taxonomies	Describe the levels of development in different types of learning (such as higher order thinking, complexity of understanding, attitude development, etc.).
Mean	A statistical measure that is the calculation of the average value of a dataset. The mean is calculated as the sum of all the numbers in the data set, divided by the number of items in the dataset.
Measures of central tendency	Statistical measures that use a single value to that reflects the average value for a variable (e.g., mean, median and mode).
Measures of variability	Statistical measures that use a single value to reflect the way in which data is distributed across a dataset.
Median	The middle value of the dataset when all values are ordered from low to high.
Metaphysics	The branch of philosophy that focuses on rationalising the nature of reality
Method of assessment	The way by which a concept, skill or content is assessed.
Mode	The most frequently appearing value(s) within the dataset.
Normal curve	A bell-shaped curve that that represents a normal distribution.
Normal distribution	A probability distribution that is symmetrical based on the mean.

Terms	Elaborations
Organisational citizenship behaviour	Organisational citizenship behaviour is shown when an employee goes beyond their official job description and performs acts in the workplace such as voluntarily helping others, taking on additional responsibilities, and promoting initiatives and the organisation.
Pearson's r	A statistical measure that represents how well data fits to a linear model.
Peer-assessment	When students evaluate each other's work.
Percentile	A measure that indicates the percentage of a group that is below a particular score.
Percentile rank	A measure that compares the achievement of individual students against the rest a group.
Perennialism	An educational theory that advocates that teachers should teach knowledge that is universal and fixed, which is relevant to all people throughout time.
Personal ethics	Comprises an individual's moral system or beliefs about what is right and what is wrong, which guide their decision-making and behaviour.
Postmodernism	A philosophical perspective which rejects the idea of a universal truth and focuses on challenging existing societal structures.
Potential development	The level of skill or learning that is just above the zone of actual development. These are skills that have not yet been learnt, but the student is ready to learn.
Pragmatism	A philosophy that rejects ideas of a universal and fixed truth, and rather views reality as constructed by individuals in interaction with their environment
Professional autonomy	[In term of teacher autonomy] The professional independence of teachers in schools, especially the degree to which they can make autonomous decisions about classroom practice.
Professional ethics	[In the context of education] Encompass the standards of behaviour expected in the profession. Educational systems at the national level are likely to have a Code of Ethics or Code of Professional Conduct. The Five Precepts of Education serves as a Code of Ethics for Myanmar teachers. In addition to the Five Precepts, Domain C of Myanmar's TCSF is dedicated to Professional Values and Dispositions.
Progressivism	An educational theory that advocates for education to be relevant to ever-changing contexts, tailored to students' interest.
Q-correlation	An estimated measure of the linearity of relationship between two variables.
Quartile	A quarter of a group of data or values that have been divided evenly into four groups. A quartile can also refer to the numerical break point between each of the four quarters.
Range	The spread of data between the minimum and maximum value. It is found by subtracting the minimum value from the maximum value.
Realism	A philosophy that views reality as objective and fixed, and values are universal and do not change over time.
Reconstructionism	An educational theory that advocates for schools to focus on matters of global concern, democracy and social change.
Rubrics	A tool that is used to evaluate judgement-based assessment. They contain criteria, standards and descriptors.
Schools of thought	Another name for the major philosophies; Idealism, Realism, Pragmatism, and Existentialism. These philosophies have certain big ideas in common, which is why they have been grouped together
Segregation	Happens when students are educated in settings that are different to that of the majority of their peers. Segregation may take the form of special schools that cater to the specific needs of different groups of students. Language schools, schools for gifted students, schools that cater for students with autism, and schools for children with profound learning disabilities or physical disabilities are all examples of segregation.

Terms	Elaborations
Self-assessment	When a person evaluates their own performance.
Social moderation	Where a group of assessors come together to draw qualitative conclusions about student achievement. The aim is to establish consistency and reliability of judgement across raters (or assessors).
Spread	See variability.
Spurious	When something, such as results or a conclusion, is false because it is not what it appears to be.
Standard deviation	A statistical measure that shows how much the individual values in a data set deviate from the mean.
Standards	Levels of achievement or performance.
Teaching philosophy	A teacher's beliefs, values, ideas and goals about teaching and learning which underpin their professional practice.
Variability	The way that data is distributed across the range of values in a data set.
Variables	Units or elements that contains a range of values that can be analysed, such as height, weight, school attendance or science test scores.
Vertical dimensions (of learning)	The levels of difficulty that are covered within an area of learning.
Zone of actual development	The level of skill or knowledge that a student has already mastered.
Zone of proximal development	The space between what a learner can do without assistance (zone of actual development), and their potential development (the next level of difficulty in learning).

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Annexes

Annex 1. Questionnaire: What is your educational philosophy?

This questionnaire was developed to help you identify your educational philosophy. For each question, circle the answer that best reflects your personal view. For some questions, you may want to select more than one answer.

Table Annex 1. Educational Philosophy questionnaire³⁰

Question	Response
1. What is the essence of education?	<p>A. The essence of education is <i>reason</i> and <i>intuition</i>.</p> <p>B. The essence of education is <i>growth</i>.</p> <p>C. The essence of education is <i>knowledge</i> and <i>skills</i>.</p> <p>A. The essence of education is <i>choice</i>.</p>
2. What is the nature of the learner?	<p>A. The learner is an experiencing organism.</p> <p>B. The learner is a unique, free choosing, and responsible creature made up of intellect and emotion.</p> <p>C. The learner is a rational and intuitive being.</p> <p>D. The learner is a storehouse for knowledge and skills, which, once acquired, can later be applied and used.</p>
3. How should education provide for the needs of man?	<p>A. The students need a passionate encounter with the perennial problems of life; the agony and joy of love, reality of choice, anguish of freedom consequences of actions and the inevitability of death.</p> <p>B. Education allows for the needs of man when it inculcates the child with certain essential skills and knowledge, which all men should possess.</p> <p>C. The one distinguishing characteristic of man is intelligence. Education should concentrate on developing the intellectual needs of students.</p> <p>D. Since the needs of man are variable, education should concentrate on developing the individual differences in students.</p>

³⁰ Jersin, P. D. (1972), pp. 274-267).

Question	Response
4. What should be the environment of education?	<p>A. Education should possess an environment where the student adjusts to the material and social world, as it really exists.</p> <p>B. The environment of education should be life itself, where students can experience living—not prepare for it.</p> <p>C. The environment of education should be one that encourages the growth of free, creative individuality, not adjustment to group thinking nor the public norms.</p> <p>D. Education is not a true replica of life, rather, it is an artificial environment where the child should be developing his intellectual potentialities and preparing for the future.</p>
5. What should be the goal of education?	<p>A. Growth, through the reconstruction of experience, is the nature, and should be the open-ended goal, of education.</p> <p>B. The only type of goal to which education should lead is to the goal of truth, which is absolute, universal, and unchanging.</p> <p>C. The primary concern of education should be with the development of the uniqueness of individual students.</p> <p>D. The goal of education should be to provide a framework of knowledge for the student against which new truths can be gathered and assimilated.</p>
6. What should be the concern of the school?	<p>A. The school should concern itself with man’s distinguishing characteristic his mind, and concentrate on developing rationality.</p> <p>B. The school should provide an education for the ‘whole child,” centering its attention on all the needs and interests of the child.</p> <p>C. The school should educate the child to attain the basic knowledge necessary to understand the real world outside.</p> <p>D. The school should provide each student with assistance in his journey toward self-realisation.</p>
7. What should be the atmosphere of the school?	<p>A. The school should provide for group thinking in a democratic atmosphere that fosters cooperation rather than competition.</p> <p>B. The atmosphere of the school should be one of authentic freedom where a student is allowed to find his own truth and ultimate fulfillment through non-conforming choice making.</p> <p>C. The school should surround its students with “Great Books” and foster individuality in an atmosphere of intellectualism and creative thinking.</p> <p>D. The school should retain an atmosphere of mental discipline; yet incorporate innovative techniques, which would introduce the student to a perceptual examination of the realities about him.</p>

Question	Response
8. How should appropriate learning occur?	<p>A. Appropriate learning occurs as the student freely engages in choosing among alternatives while weighing personal responsibilities and the possible consequences of his actions,</p> <p>B. Appropriate learning takes place through the experience of problem-solving projects by which the child is led front practical issues to theoretical principles (concrete-to-abstract).</p> <p>C. Appropriate learning takes place as certain basic readings acquaint students with the world's permanencies, inculcating them in theoretical principles that they will later apply in life (abstract-to-concrete).</p> <p>D. Appropriate learning occurs when hard effort has been extended to absorb and master the prescribed subject matter.</p>
9. What should be the role of the teacher?	<p>A. The teacher should discipline pupils intellectually through a study of the great works in literature where the universal concerns of man have best been expressed.</p> <p>B. The teacher should present principles and values and the reasons for them, encouraging students to examine them in order to choose for themselves whether or not to accept them.</p> <p>C. The teacher should guide and advise students, since the children's own interests should determine what they learn, not authority nor the subject matter of the textbooks.</p> <p>D. The teacher, the responsible authority, should mediate between the adult world and the world of the child since immature students cannot comprehend the nature and demands of adulthood by themselves.</p>
10. What should the curriculum include?	<p>A. The curriculum should include only that which has survived the test of time and combines the symbols and ideas of literature, history, and mathematics with the sciences of the physical world.</p> <p>B. The curriculum should concentrate on teaching students how to manage change through problem solving activities in the social studies, empirical sciences and vocational technology.</p> <p>C. The curriculum should concentrate on intellectual subject matter and include English, languages, history, mathematics, natural sciences, the fine arts, and also philosophy.</p> <p>D. The curriculum should concentrate on the humanities; history, literature, philosophy, and art—where greater depth into the nature of man and his conflict with the world are revealed.</p>
11. What should be the preferred teaching method?	<p>A. <i>Projects</i> should be the preferred method whereby the students can be guided through problem-solving experiences.</p> <p>B. <i>Lectures, readings, and discussions</i> should be the preferred methods for training the intellect.</p> <p>C. <i>Demonstrations</i> should be the preferred method for teaching knowledge and skills.</p> <p>D. <i>Socratic dialogue</i> (drawing responses from a questioning conversation) should be the preferred method for finding the self.</p>

Annex 2. Description of educational systems

The following excerpts provide a description of two educational systems: Singapore (Box Annex 2A) and Finland (Box Annex 2B).

Box Annex 2A. Description of the education system in Singapore³¹

Students in Singapore need to complete Primary school (6 years), Secondary school (4 years) and Post-secondary school (1 to 3 years). Prior to starting Primary schools, students may complete Pre-school or Kindergarten, but this is not compulsory.

The government has tight control over the curriculum and how it is implemented. The curriculum, developed by the Ministry of Education, specifies “Desired Outcomes of Education.” These desired outcomes are:

1. Excellence in Life skills;
2. Knowledge skills; and
3. Subject discipline knowledge, which is made up of eight core skills and values: “character development, self-management skills, social and cooperative skills, literacy and numeracy, communication skills, information skills, thinking skills and creativity, and knowledge application skills”.

Each subject has its own syllabus and end-of-course exam. When students have completed four years of primary school, they complete a selection test. The results of this test will determine the level at which students will study basic subjects in the final two years of Primary school. At the end of Primary school, students once again sit a selection test. The results of this test will determine student’s pathways in Secondary school.

The Ministry of Education has historically prescribed the desired pedagogical practices for implementing the curriculum. Traditionally, there has been a strong focus on teacher-centred approaches such as lectures. In recent years, it has placed more emphasis on pedagogies that strengthen student engagement and creativity. In recent years, the Ministry has encouraged schools to choose their own pedagogical strategies within the curriculum framework.

³¹ National Center on Education and the Economy. (n.d.).

Box Annex 2B. Description of the education system in Finland

Finland has a comprehensive education system, ranging from early childhood education and care all the way through to adult education. Pre-primary school, Primary school (basic education) and Secondary school is compulsory for students aged 6 to 18 years old. In Upper secondary school, students can choose between general or vocational education. At the end of Secondary school, students can take a school-leaving exam. Depending on their test score, students can apply for further studies at institutes for vocational education, universities of applied sciences, or universities.³²

The Finnish Ministry of Education and Culture describes education as “one of the corner-stones of the Finnish welfare society”.³³ A unique feature of Finnish education is that education is free of charge. Another feature that makes the Finnish system unique is the extremely high quality of teachers and popularity of the teaching profession. Finnish teachers are highly educated and are trusted to be expert professionals, meaning that they have much freedom to choose instructional methods.³⁴

Finland has recently gone through a major curriculum reform; the new curriculum has been implemented since 2016. The main focus of the curriculum reform was on creating optimal conditions for students to learn in an ever-changing world. To best meet student needs, many students were consulted in the reform process. It was envisioned that the new curriculum should:

enhance students’ motivation for deep learning and to achieve good grades as well as to learn to live a sustainable life. It was necessary to rethink practically everything in education in order to enhance students’ holistic development and to provide better circumstances for them to learn to live in this complex and fast-changing world and to meet the challenges of the future.³⁵

32 Ministry of Education and Culture Finland. (n.d.).

33 Ministry of Education and Culture Finland. (n.d.).

34 Halinen, I. (2018).

35 Halinen, I. (2018, p. 80).

The result is a curriculum that places students at the heart of all education efforts. The curriculum emphasises the need to value the unique nature of each individual student and promote their individual growth and wellbeing as an educated person and active citizen. The curriculum promotes student agency in learning, by offering goal-oriented, meaningful and collaborative learning experiences. Rather than a traditional organisation by subject content, the curriculum is founded upon competencies. Basic subject matter knowledge is still taught, but in a multidisciplinary manner. The curriculum is a broad framework, which sets out the broad framing within which municipalities and schools are to decide on the best methods for delivering the curriculum.³⁶

36 Halinen, I. (2018).

Annex 3. Four Pillars of Assessment

Sample responses for Lesson 8.1.1, Learning activity 2 are as follows:

Group 1: Classroom assessment

1. Definition: Read the definition of your pillar. Discuss what this means to you and your group. As a group, how would you define this pillar?
Classroom level assessment is used to monitor and record learning of individual students and groups of students. The assessment tools should be age appropriate.
2. Read the Purpose and Guiding Principles:
 - Explain the purposes of your group's pillar.
The purpose of this pillar is to inform teaching and learning at the classroom level.
 - Why is this important?
This is important to ensure that individual students are progressing in their learning. It is also important for teachers to monitor the level of impact their teaching is having on learning.
3. Read the Scope of your pillar:
 - What types of assessment are used?
Formative assessments, mostly qualitative in nature. Assessment should be student-centred.
 - What is assessment expected to achieve or promote at this level?
Active learning and engagement; develop skills in working with other people; critical and creative thinking; develop peer and self-assessment skills; provide information about where all students are ready to learn, including remediation and extension.
4. Read the Operational Considerations:
 - Who are the stakeholders who have an interest in education at this level? What is their interest in education?
Students (to develop the skills to become informed, active members of society), teachers (ensuring that the students they teach grow to be productive citizens that contribute positively to society)
 - Is there anything for which this level of assessment should NOT be used?
It should not be used to make personal, subjective judgements about students and their families; it should not promote a fixed mindset; it should not be used to assess things that have not been taught in the classroom

(unless it is for diagnostic purposes).

- How should assessment be implemented at this level?

Assessment should be qualitative and fine-grained so teachers can monitor student learning carefully and respond to student needs quickly. Assessment should be varied and enable students to engage in learning and to demonstrate what they know and can do.

5. As a teacher, what is your interest in this level of assessment? How will it impact on your role in education?

- *This level of assessment will inform me about what my students can do and what they cannot do yet. This will enable me to plan appropriately for learning and teaching. It will help me to evaluate how well I am communicating ideas and supporting students in their learning.*

Group 2: School-based assessment

1. Definition: Read the definition of your pillar. Discuss what this means to you and your group. As a group, how would you define this pillar?

This will provide more formative and summative information about what my students know and can do. It will tell me how students are progressing in relation to the curriculum.

2. Read the Purpose and Guiding Principles.

- Explain the purposes of your group's pillar

The purpose of this pillar is to help me gauge how my students are progressing in relation to the prescribed curriculum, and in higher levels of schooling, to determine whether they are ready to progress to the next year level. It will help me to know what individual students and the class as a whole are good at and where they need more focused effort in relation to learning.

These assessments are used to report learning progress.

- Why is this important?

This is important to communicate how students are progressing in their learning to important stakeholders, such as parents and the school. It also provides important information about how students are progressing in relation to the prescribed curriculum and for highlighting areas of learning that need further focus.

3. Read the Scope of your pillar.

- What types of assessment are used?

Formative and summative assessments are used and the methods of assessment must be fit-for-purpose and age-appropriate. This includes tests and other forms of assessment of performance and skill building.

- What is assessment expected to achieve or promote at this level?
It is expected to provide clear information about how students are progressing in relation to the formal curriculum, and it is also important for students to be able to show what they know and can do.
4. Read the Operational Considerations:
- Who are the stakeholders who have an interest in education at this level?
What is their interest in education?
School principals and teachers – measures how students are learning in a consistent, systematic and reliable way. It gives information about how learning and teaching are progressing.
Parents – Provides information to parents about how their children are achieving in school
 - Is there anything for which this level of assessment should NOT be used?
This assessment should not be used to label students according to their perceived ability or for streaming students
 - How should assessment be implemented at this level?
5. As a teacher, what is your interest in this level of assessment? How will it impact on your role in education?
As a teacher, this level of assessment helps me to know how my students are achieving in relation to the formal curriculum. It helps me to evaluate how well I am teaching and to change my approach if needed. It helps me to report to parents and school leaders, so it needs to be accurate and fair.

Group 3: Primary, Middle and High School Completion Assessment

1. Definition: Read the definition of your pillar. Discuss what this means to you and your group. As a group, how would you define this pillar?
These assessments occur at specific stages of schooling – Grade 5, 9 and 12. This assessment is designed to gauge how students are achieving in comparison with their peers across the District, State, or Region. High School Completion is used to determine which students should progress to TVET or higher education.
2. Read the Purpose and Guiding Principles.
 - Explain the purposes of your group's pillar
To assess individual student learning at key stages in their schooling.
To assess student learning against formal curriculum outcomes
Official certification of achievement
Accountability for schools in relation to the quality of teaching and learning

Provide information to policy makers so they can analyse and report on achievement and create and implement strategies for improvement in education for Districts, States and Regions.

- Why is this important?

This is important to gauge how students are learning in each region of Myanmar and to know when initiatives and strategies are needed to improve learning and teaching in different areas. It is important for students in relation to marking milestones in their learning. It is also important for schools to know how they are performing in relation to other schools.

3. Read the Scope of your pillar:

- What types of assessment are used?

Summative assessments – tests, projects and presentations.

- What is assessment expected to achieve or promote at this level?

Monitoring student learning at the whole school, District, State and Region levels to see which areas require more funding or strategies for improvement

Individual student certification of progress.

4. Read the Operational Considerations:

- Who are the stakeholders who have an interest in education at this level? What is their interest in education?

Policy makers – monitoring learning across regions; school principals and teachers - monitoring how learning in their school is progressing in relation to other schools and districts; individual students who are being assessed – students have proof of achievement at particular milestones and opens the doors for the next steps in their education.

- Is there anything for which this level of assessment should NOT be used? *This type of testing should not be used for day-to-day planning for teaching and learning at the classroom level, although it may inform teachers about areas of strength or weakness in their classes. It should not be used for streaming or labelling students.*

- How should assessment be implemented at this level?

Teachers need to make sure that they have taught all relevant information and skills. They also need to be aware of how the tests will be marked. They will need to provide mock exams and assessments to prepare the students.

5. As a teacher, what is your interest in this level of assessment? How will it impact on your role in education?

These assessments will impact on the futures of my students, so it is important that I teach the students the skills and knowledge that will give them the best chance to do well. I can also use the results to see how my students are achieving against a much larger group of their peers, and to use the information to adjust my approach to teaching accordingly.

Group 4: Sample-based Learning Assessment

1. Definition: Read the definition of your pillar. Discuss what this means to you and your group. As a group, how would you define this pillar?
Instead of testing all students, these assessments select a representative sample of students. This may mean that my students are not part of this sample. These assessments measure the status of education systems within from national, regional and international perspectives.
2. Read the Purpose and Guiding Principles.
 - Explain the purposes of your group's pillar
This Pillar focuses on systems, not individual schools or districts. The purpose for this is to look at education as a whole and to see where the strengths of our systems lie and the weaknesses.
 - Why is this important?
This allows us to gauge the health of our education systems from a broad perspective. This provides information about aspects of education that need changing or modifying. It also provides information about where Governments and policy makers can focus support.
3. Read the Scope of your pillar:
 - What types of assessment are used?
These standardised tests need to be carefully designed to maximise reliability and validity for large populations. The items in these tests are customised for Myanmar and they are culturally and contextually relevant.
 - What is assessment expected to achieve or promote at this level?
Because this is a sample-based test, it is designed to test the health of education systems.
4. Read the Operational Considerations:
 - Who are the stakeholders who have an interest in education at this level?
What is their interest in education?
Stakeholders include Governments in regions in Myanmar and the Myanmar Government as a whole.
 - Is there anything for which this level of assessment should NOT be used?

These tests cannot be used to identify strengths and weaknesses in individual students or teachers or schools. Its focus is on systems.

- How should assessment be implemented at this level?

Assessment is sample based, so not all students will be tested. Also not all ages will be tested. These tests are only administered once every 3 to 5 years.

5. As a teacher, what is your interest in this level of assessment? How will it impact on your role in education?

As a teacher, the results from these tests might impact on the support the school or region receives to implement changes in education. As a teacher, I might also read about strategies that work well in our region and in other regions. I would need to think critically about the results and understand that the results cannot be used as a marker of my own teaching or the performance of my school.

Annex 4. Grade 7 assessment task

Task description:

Kyaw wants to build a raised garden bed, 1 metre high, to plant some vegetables for his grandparents. The garden bed needs to be high because his grandparents have painful knees and backs.

He will need to:

- remove a large boulder;
- pull out very large weeds;
- cut down a tall tree that is too close to the area;
- rake leaves away from the area;
- prune the branches from another nearby tree;
- build a garden bed using wood;
- move dirt to the new garden bed; and
- fetch water from a well.

Work in groups of three. Each person will choose two tasks to focus on.

You will need to:

Draw an illustration for each task:

- draw and label the simple machine(s) that Kyaw will use;
- explain how the simple machine will be used; and
- explain how the simple machine makes the task easier.

These are the simple machines that Kyaw can use:

- Wedge
- Lever (1st class, 2nd class, 3rd class)
- Screw
- Pulley
- Tilted plane

- Wheel and axle.

Learning objective: To understand the uses of simple machines and apply that understanding in daily life.

Learning outcome: To understand simple machines used at home and explain the advantages of machines in daily life.

Achievement indicator: To know the uses of different forms of simple machines and apply that understanding in daily life.

Annex 5. Pearson's r calculations

Table Annex 8C.1. Table of calculations for Lesson 8.3.4, Learning activity 2 – completed

Student ID	Diagnostic task score/ 45	Mean distance Variable 1	Standardised mean distance Variable 1	Summative task score/ 45	Mean distance Variable 2	Standardised mean distance Variable 2	Product of standardised mean distances (PSMD)
Student 1	28	-1.767	-0.250	27	-4.9	-0.612	0.153
Student 2	17	-12.767	-1.806	21	-10.9	-1.362	2.459
Student 3	32	2.233	0.316	40	8.1	1.012	0.320
Student 4	25	-4.767	-0.674	27	-4.9	-0.612	0.413
Student 5	29	-0.767	-0.108	36	4.1	0.512	-0.056
Student 6	34	4.233	0.599	39	7.1	0.887	0.531
Student 7	36	6.233	0.882	36	4.1	0.512	0.452
Student 8	41	11.233	1.589	45	13.1	1.636	2.600
Student 9	33	3.233	0.457	36	4.1	0.512	0.234
Student 10	17	-12.767	-1.806	15	-16.9	-2.111	3.812
Student 11	28	-1.767	-0.250	31	-0.9	-0.112	0.028
Student 12	40	10.233	1.448	37	5.1	0.637	0.922
Student 13	25	-4.767	-0.674	34	2.1	0.262	-0.177
Student 14	37	7.233	1.023	38	6.1	0.762	0.780
Student 15	32	2.233	0.316	29	-2.9	-0.362	-0.114
Student 16	26	-3.767	-0.533	30	-1.9	-0.237	0.126
Student 17	29	-0.767	-0.108	27	-4.9	-0.612	0.066
Student 18	25	-4.767	-0.674	23	-8.9	-1.112	0.750
Student 19	43	13.233	1.872	38	6.1	0.762	1.426
Student 20	26	-3.767	-0.533	33	1.1	0.137	-0.073
Student 21	11	-18.767	-2.655	9	-22.9	-2.860	7.593

Student ID	Diagnostic task score/ 45	Mean distance Variable 1	Standardised mean distance Variable 1	Summative task score/ 45	Mean distance Variable 2	Standardised mean distance Variable 2	Product of standardised mean distances (PSMD)
Student 22	34	4.233	0.599	28	-3.9	-0.487	-0.292
Student 23	33	3.233	0.457	41	9.1	1.137	0.520
Student 24	30	0.233	0.033	32	0.1	0.012	0.000
Student 25	26	-3.767	-0.533	23	-8.9	-1.112	0.592
Student 26	27	-2.767	-0.391	31	-0.9	-0.112	0.044
Student 27	28	-1.767	-0.250	39	7.1	0.887	-0.222
Student 28	29	-0.767	-0.108	37	5.1	0.637	-0.069
Student 29	36	6.233	0.882	36	4.1	0.512	0.452
Student 30	36	6.233	0.882	39	7.1	0.887	0.782
Mean	29.767		Mean	31.9		Sum of PSMD	24.052
Standard deviation	7.070		Standard deviation	8.006		Pearson's r	0.829

Annex 6. SQASF baseline findings on inclusion³⁷

Findings from analysis of Department of Basic Education (DBE) system level data and a case study of 12 schools across Myanmar revealed the following findings:

- Nothing can be said about student learning outcomes from the system-level data sources in terms of equity characteristics such as poverty, disability, or ethnicity. Further, no system-level information was available regarding the proportion of schools that had implemented support programmes for students with learning difficulties.
- Principals and Township Education Officers (TEOs) in the case study schools reported limited direction or support from the DBE regarding inclusion of students with disabilities and vulnerable students.
- The majority of TEOs (10 out of 12) said that they were unaware of any schools in their township that had made adjustment to their classroom teaching and learning to include students with disabilities. One TEO reported that there were no seriously disabled children in the township’s schools.
- The MoE³⁸ states that, “one of the possible reasons behind the disparity in children with disabilities attending school, when compared to children without disabilities, is that accessible facilities are still lacking at the majority of schools”.
- The majority of principals (9 out of 10; 2 missing) reported that the school did not cooperate with other organisations to support out-of-school children and their parents.
- Principals provided limited information concerning a school-wide approach to inclusion. Some principals referred to making no accommodations for student with disabilities and vulnerable students. In terms of school-wide learning and/or language support programmes, four principals spoke about the hiring of ethnic language teachers, use of students’ home language in the classroom, and working with parents to support students’ learning.
- Teachers of the case study (n=42) reported using a range of strategies to promote a supportive and safe classroom environment, including providing encouragement and targeted support, teaching inclusive values, reducing language barriers, promoting group work, and working with different stakeholders to address student wellbeing and absenteeism.

³⁷ Myanmar Education Quality Improvement Program. (2021, p. 158).

³⁸ Ministry of Education, (2019, p. 25).

Annex 7. Draft DERPT recommendations on inclusion

Myanmar's Department of Education Research, Planning and Training³⁹ has outlined the following draft recommendations in terms of the Ministry of Education's engagement with the social inclusion and inclusive education agendas:

1. *Define the meaning of social inclusion and inclusive education*
 - Develop a common definition of social inclusion and inclusive education in the MoE.
2. *Enhance the inclusion capacity of staff*
 - Raise staff awareness of the meaning of social inclusion and inclusive education.
 - Include social inclusion awareness raising in new curriculum training, and in administration and management training, and in areas of work within departments.
 - Encourage attitudes of greater acceptance of social inclusion.
 - Increase management understanding of social inclusion and inclusive education.
 - Increase staff understanding of how national laws and policies, related to inclusive education, apply to their areas of work in the MoE.
 - Identify activities, implemented by individual departments, which are linked to social inclusion and inclusive education. [Integrating inclusion into every activity is considered a better approach than delivering inclusion separately].
 - Include social inclusion as an agenda item at DBE forum and encourage item to be discussed at quarterly meetings.
3. *Integrate social inclusion into programme design, planning, budgeting, monitoring, evaluation, research and information systems*
Indicators, data collection, and information systems
 - Develop indicators to measure inclusion based on MoE's definition of social inclusion.
 - Increase awareness of how to use social inclusion indicators in the MoE.
 - Strengthen collection and analysis of data related to social inclusion and inclusive education.
 - Transform social inclusion data into information products.

39 Department of Education Research, Planning and Training. (2019).

- Collaborate on social inclusion data collection with other related ministries.
- Ensure staff have received training to enable social inclusion data collection.
- Include social inclusion data in the Education Management Information System (EMIS) and Myanmar Sustainable Development Plan (MSDP) data gathering systems.

Programme design, planning, budgeting, monitoring and evaluation, and research

- Develop targets for social inclusion activities in departmental plans, and measure social inclusion in monitoring and evaluation.
 - Ensure research related to social inclusion includes quantitative and qualitative research.
 - Enhance knowledge and technical skills of staff members so they can include social inclusion in data analysis, monitoring and evaluation, and conducting research.
 - Increase budget planning and the share of budget allocated for social inclusion and inclusive education, and track expenditures.
4. *Design and develop guidelines, toolkits and checklists for social inclusion and inclusive education*
- Develop guidelines for social inclusion and inclusive education in every ministry department.
 - Include guidance on collaboration with related ministries and other organisations to implement social inclusion and inclusive education.
 - Develop toolkits and checklists related to social inclusion and inclusive education to guide staff members in their work.
5. *Strengthen leadership and coordination on social inclusion and inclusive*
- Further explore the opportunity to strengthen cooperation and coordination for social inclusion and inclusive education between departments in the Ministry, other related ministries, and external organisations.
 - Continue the progress being made to increase the number of women in management positions.
 - Develop a strategy to integrate gender equality, disability and social inclusion into education systems.
6. *Better deliver Education for All*
- Increase the budget planning for disadvantaged children especially those with disabilities and those from ethnic minorities, rural and underdeveloped areas, conflict affected areas, and poor and migrant backgrounds.

- Increase the number of teachers for disadvantaged children.
- Increase pre-service and in-service teacher training for the education of children with special education needs.
- Create happy, child friendly, and inclusive learning environments where every child can access and participate in education.
- Reflect Myanmar's diverse populations and promote gender equality in educational resources including curricula and textbooks.
- Develop specific social inclusion indicators that will make implementation of education for all more specific and effective.
- Strengthen the existing practice of teachers adapting the language they use in the classroom to make the connection between Burmese and ethnic languages more accessible to students.

Annex 8. SQASF baseline findings on technology in Myanmar schools⁴⁰

Findings from analysis of Department of Basic Education system level data and a case study of 12 schools across Myanmar revealed the following findings:

- Analysis of system-level data shows an average of only 9% of schools at the Union level reported having at least one computer.
- There were recognised or emergent school-wide approaches to the use of educational technologies at six of the 12 case study schools.
- At four of these six schools, teachers had received professional development in educational technologies through formal training and/or informal sharing of expertise between colleagues.
- The use of computers was contained to four of these six school, while mobile phones were used by teachers more broadly to plan lessons and support learning in the classroom (i.e., at 10 of the 12 schools).
- While the most innovative practice could be said to be collaborative, technology-enabled, project-based learning at a Yangon Private High school (S1), it is also encouraging that:
 - all four teachers who were interviewed at a Yangon Public High school (S2) were using technologies to plan lessons and promote student engagement and learning; and
 - KG students were already being exposed to technology through song in a Kayin Public Primary school (S10).
- Township Education Officer (TEO) responses suggest that enablers of technology – at least in Yangon, Magwe, Kayin, and Tanintharyi – were:
 - teachers with formal qualifications (i.e., Post Graduate Diploma in Multimedia Arts [Education]);
 - young principals who were familiar with technologies;
 - availability of mobile phones, internet, Apps and Bluetooth devices; and
 - student engagement through ICT competitions.
- Principal and TEO data indicate that the use of educational technologies was constrained by poor internet connection, sporadic electricity supply, lack of teacher expertise, and lack of computer maintenance.

40 Myanmar Education Quality Improvement Program. (2021, p. 158).

Annex 9. Action research cycle

1. Identify a research question. What do you want to learn more about? What questions do you have about teaching? Research questions should be open-ended questions, for example: How do different teaching approaches in the classroom impact on students' learning?
2. Research your question. Find out as much background information on your topic or question that you can. You can do this by searching the internet, reading books and articles, or talking to other educators, students, parents, etc.
3. Plan your research. Think about how you will gather and record the data you need to answer your question. For example, you could use student work, student feedback, mentor teacher feedback, peer evaluation, and/or self-reflections to answer your question.
4. Conduct your research. Carry out the research using the method(s) you chose in step 3.
5. Analyse your data. Once you have collected information or data, you need to make sense of what it means. Ask yourself: What did I find out about my question? What insights have I gained? What does this research show me? It may help to collaborate with another teacher to analyse your data, to get a broader perspective.
6. Act on your insights. Decide on actions to be taken, based on your analysis of your data, and implement those changes to your teaching practice.
7. Review and make changes. After you have implemented your changes, review the impact the changes you have made to your teaching. Think about whether the changes were successful, and whether other changes or follow-up is needed.

Annex 10. Action research presentation rubric

Table Annex 10B.1. Presentation rubric

Criteria	Advanced	Satisfactory	Emerging
Knowledge and understanding	<ul style="list-style-type: none"> • Synthesised important learnings across action research projects that directly related to research elements. • Referred to a range of examples from different learning contexts. 	<ul style="list-style-type: none"> • Synthesised important learnings across action research projects. • Referred to some examples of practice. 	<ul style="list-style-type: none"> • Synthesised some learnings • Further attention needed to be given to identifying: <ul style="list-style-type: none"> - important findings that related to research elements; and - examples from different contexts.
Communication skills	<ul style="list-style-type: none"> • Explained learnings clearly. • Used visually stimulating and accessible visual aids. 	<ul style="list-style-type: none"> • Explained learnings clearly. • Used accessible visual aids. 	<ul style="list-style-type: none"> • Explanations and/or visual aids needs further investment to support audience understanding.
Team work skills	<ul style="list-style-type: none"> • Group members worked effectively and inclusively to review and present their action research experiences. 	<ul style="list-style-type: none"> • Group members worked with some level of effort and cooperation to review and present their action research experiences. 	<ul style="list-style-type: none"> • It was evident that some team members were allowed to be dominant or responsible for doing the majority of the work.

Notes

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