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Ministry of Education



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**Curriculum and Pedagogy Studies:
Information and Communication
Technology**

Teacher Educator Guide

PREFACE

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

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

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

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

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

1. Learn (plan what and how to teach);

2. Apply (practise teaching and learning behaviours); and
3. Reflect (evaluate teaching practice).

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

The Myanmar Education College Curriculum was developed by a Curriculum Core Team (CCT), which is a Ministry of Education-appointed team of Myanmar Education College teacher educators supported by the Ministry of Education, resource persons from the Universities of Education, and a team of national and international experts. Overall guidance of the work was provided by the Department of Higher Education, Ministry of Education.

The curriculum development was also supported by the Strengthening Pre-Service Teacher Education in Myanmar project, with technical assistance from the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and financial contributions from Australia, Finland, and UK Governments. Substantial input to the drafting process was also provided by Japan International Cooperation Agency and the primary education curriculum development team through the Project for Curriculum Reform at Primary Level of Basic Education (CREATE) team.

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HOW TO USE THIS GUIDE

Who will use this ICT Teacher Educator Guide?

This teacher educator guide has been designed to help you facilitate student teachers' learning of Year 1 ICT. It is addressed to you, as the teacher educator, and should be used in tandem with the Student Teacher Textbook as you teach ICT. 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 lesson and unit in the Student Teacher Textbook.

When and where does ICT take place?

The ICT subject has been allotted twenty-four periods of teaching for each year of the four-year Education College Programme. Classes will be held on the Education College campus.

What is included in the Year 1 ICT teacher educator guide?

The organisation and content of both the Student Teacher Textbook and this Teacher educator guide align with the syllabus of the four-year Education College Curriculum on ICT.

The Student Teacher Textbook, and accompanying Teacher Educator Guide, for this programme contains the following topics for Year 1 ICT:

- Introduction
- Basic ICT Concepts
- Computer Application
- Media and Information Literacy and Digital Citizenship
- Internet and Communication
- Media and Information Literacy and Digital Citizenship (Part II)
- Computer Application
- ICT in Education

The Teacher Educator Guide follows the same structure as the Student Teacher Textbook. For each unit and lesson, there are expected learning outcomes 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 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.



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, reference to expected answers.



Resources needed: This can include: printed media, flipchart paper, coloured paper, marker pens, URLs, video clips, low/no cost resources, 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 student teacher prior knowledge or fostering interest in the subject. Learning activities are varied and in line with competency-based approaches to teaching and learning.



Stop and think: This 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, 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 teacher responses: The responses that you may get from the student teachers for each learning activity’s assessment are recorded here.



Check student teachers’ understanding: This is the lesson plenary. At the end of the lesson, revisit the learning objectives and TCSF competencies, summarise the learning outcomes 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.



Extension and differentiation activities: Each lesson in this guide includes ideas on ways to adapt the learning activities to either provide additional stimulus for stronger student teachers (extension), or extra support for student teachers who are struggling or who have different learning needs (differentiation).

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



Review questions: Possible student teacher responses: A box at the end of each 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.

For each unit, the Teacher Educator Guide includes:



Unit Summary: 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 them up in the library, on the internet, or in your Education College's online learning portal.

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 College Programmes follow a competency-based approach. This is outlined in the Education 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 Education College 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.¹

The following elements are integrated throughout this Teacher Educator Guide, in line with a competency-based approach to Education College Curriculum:

- **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, as 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, prioritizing and selecting alternatives for a solution; and implementing a solution. The learning content and activities included in this teacher educator guide provide opportunities for student teachers to apply their problem-solving skills, as appropriate.

¹ Adapted from the Glossary of Curriculum Terminology (2013), International Bureau of Education (IBE), UNESCO

² Lejenue's Collaborative Learning for Educational Achievement (1999)

Course rationale and description

This course prepares student teachers in Education Colleges to learn ICT under the learning area Curriculum and Pedagogical Studies, Module 2.1. Teaching the Basic Education Curriculum and Course 2.2. Mastering teaching as described in the Education College Curriculum Framework.

While there is an ICT subject in middle schools, there is no single ICT subject in the primary schools. Primary schools in different regions and states in Myanmar may have adopted a local curriculum which may include some elements of ICT, depending on the context in the relevant regions and states.

The purpose of this module is to provide student teachers with basic knowledge of ICT-related concepts and use of ICT for teaching, learning and professional development and to prepare them to teach ICT in middle schools and in primary schools (the latter applies if ICT is included in the Local Curriculum). Student teachers will learn about the objectives of teaching ICT, the ICT curriculum in basic education and Education College and other strands including basic ICT concepts, media and information literacy and digital citizenship, computer applications, internet and communication, and ICT in education. The course contains learning activities that will help student teachers to remember and gain a deeper understanding of the content and apply ICT tools in their teaching and learning context.

Basic Education Curriculum objectives

The aims of the Basic Education Curriculum are as follows:

After the completion of basic education, students will be able to:

1. Attend the school until the completion of basic education.
2. Develop 'union spirit' and appreciate, maintain, and disseminate languages and literatures, cultures, arts and traditional customs of all national groups.
3. Become good citizens with well-developed five strengths including critical thinking skills, communication skills and social skills.
4. Apply their civic and democratic in daily lives, and become good citizens who abide by laws.

5. Be competent in Myanmar language which is the official language of the Republic of the Union of Myanmar and develop their skills in respective ethnic language and English.
6. Develop foundational knowledge and skills for higher learning and technical and vocational education.
7. Develop sound body and sportsmanship through participation in Physical Education activities and school health activities, and apply health knowledge in daily lives.
8. Appreciate and maintain natural environment and materialise its sustainability.
9. Become global citizens with awareness and appreciation of human diversity and abilities to practice basic knowledge of peace in their daily lives.
10. Take pride in being a citizen of the Union of Myanmar.

Note: According to the Basic Education Law, the aims of basic education will be mentioned.

In order to realise the above-mentioned aims, thirteen guiding principles as mentioned in the following need to be employed in the design and development of Basic Education Curriculum in Myanmar.

Table A. TCSF for ICT

Competency standard	Minimum requirement	Indicator(s)
A2 Know appropriate use of educational technologies	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 resources 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 ICTs A2.2.3 Describe and demonstrate the understanding of basic concepts and principles of media and information literacy
A5 Know the subject content	A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the 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.
B1 Teach curriculum content using various teaching strategies	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

Competency standard	Minimum requirement	Indicator(s)
B2 Assess, monitor, and report on students' learning	B2.1 Demonstrate capacity to monitor and assess student learning	B2.1.2 Use assessment information to plan lessons
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	B4.1.1 Speak positively to others about school culture and the primary curriculum to promote understanding among parents B4.1.2 Describe strategies to promote parents' involvement in their child's learning at school, at home and in the community
C1 Service to Profession	C1.4 Demonstrate responsibility and accountability for the use of education resources	C1.4.1 Use school supplies and resources appropriately
D2 Engage with colleagues in improving teaching practice	D2.1 Improve own teaching practice through learning from other teachers and professional development opportunities	D2.1.3 Establish goals for own professional development as a teacher
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	D3.1.2 Search and analyse online or offline information on current trends and research-based practices in primary education and for specific subjects taught to improve one's own content knowledge and teaching practice

Source: Myanmar Teacher Competency Standards Framework (TCSF), Beginning Teachers, Draft Version 3.2. (May 2019) (pp 30 – 36)

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 module 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 deeply and meaningfully connect 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.

Gender equality and inclusivity in the classroom

Actively promoting 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.

As a teacher educator, 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 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 gender, either implicitly or explicitly, can have a long-lasting impact on the future behaviour of your student teachers.

Be aware of your own gender biases. Reflect on your actions and the teaching strategies you use. Consider these ways in which you can ensure gender inclusivity in your classroom:

- Ensure that there is equal frequency in the representation of male and female names and characters. When identifying characters whose gender is unknown, use alternating pronouns (he, she).
- When using quotes ensure that both female and male voices are heard.
- Ensure that females and males are represented equally in illustrations and that any existing gender stereotypes are not reinforced.
- Use equitable and gender-inclusive language in the classroom and ensure that your student teachers do likewise.
- Help and encourage your student teachers to be gender-aware, highlight any perceived gender-biased attitudes and encourage your student teachers to reflect on their own actions.
- Ensure that you interact equally with male and female student teachers, addressing and engaging them both to the same degree in your teaching, across different subjects, for example, when asking questions, asking for volunteers, selecting activity leaders, giving complements, giving eye contacts, or even remembering the names of student teachers.
- Encourage and support the participation of quieter student teachers, regardless of gender.
- Use teaching and learning strategies and assessment approaches that support equal participation from both genders, for example, group work, role plays and group discussions. Manage the activities in a flexible manner addressing different needs and learning styles of all student teachers, to ensure that both female and male student teachers have the opportunity to participate actively and that individuals do not dominate activities.
- Ensure to set an equal expectation for both female and male student teachers on their performance across different subjects.
- Arrange the classroom setting in a gender-sensitive and equal manner, in terms of classroom decorations, seating arrangement, or group formation/division.

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.

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.

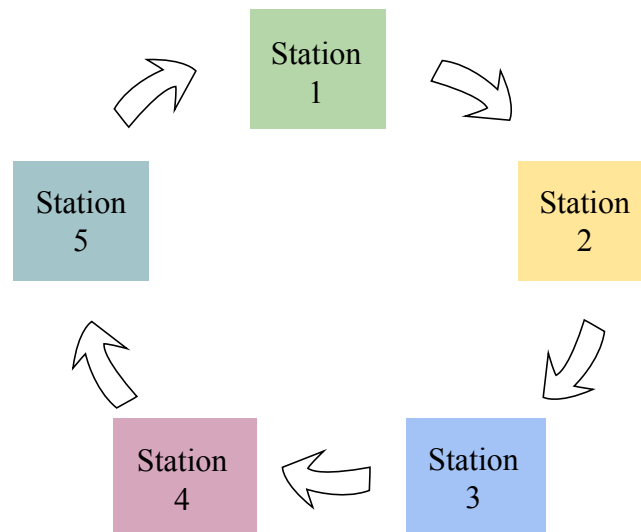
Assignments: The assignments that you give to student teachers might include formal written essays, portfolios, and reflection journals. They also might be smaller, developmental tasks – for example, a short homework assignment answering questions about a reading. Assignments can help student teachers 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 strategy. 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.

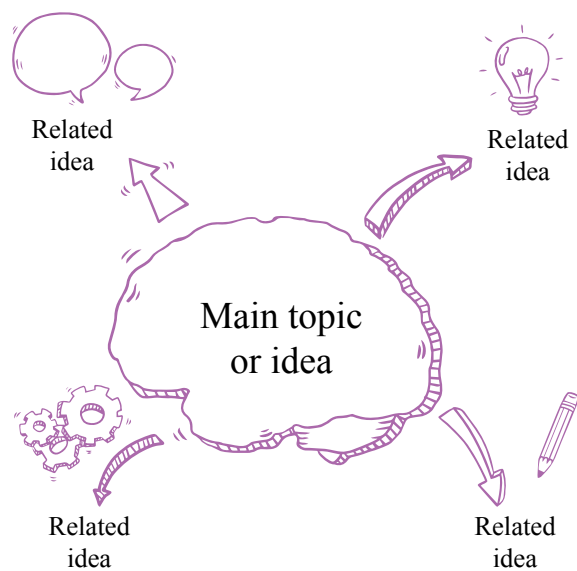
You can also use a version of the gallery walk to display student teachers' work. In this type of gallery walk, posters created during individual or group work are displayed around the room. Student teachers then circulate at their own pace to either simply view the posters, or to add their questions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



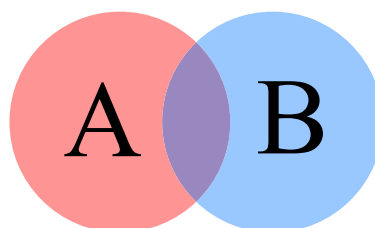
Graphic organisers: Graphic organisers are a simple and effective tool to help student teachers brainstorm and organise their thoughts and ideas in a way that makes it easier for them to understand. Graphic organisers can be used in any lesson for brainstorming, planning, problem-solving, or decision-making.

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 learned.

K What I <u>K</u> now	W What I <u>W</u> ant to know	L What I <u>L</u> earned

- 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 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.³ 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.

³ Eggen and Kauchak, *Strategies and Models for Teachers: Teaching Content and Thinking Skills*, (2001)

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 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 can also encourage student teachers to connect theory to their developing practice as teachers.

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 supported 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 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 debated and analysed. Student teachers usually complete preparatory work or reading before the seminar. While you would lead the seminar as 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 links to websites are shared with student teachers and different tools are used to explore understanding, such as wikis, forums, and blogs. An online learning portal 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 teachers’ 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 are understanding 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 and open-ended questions is a good way to monitor if student teachers are understanding 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 module.

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 practice 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 practice 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 practice 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 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 for the tasks you will ask them to do. Make good use of the online learning portal 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 **Stop and think** 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 (TCFS);
- 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 learned from the activity; and
- 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.

Content map

Table B. Year 1, Semester 2, ICT Content map

Units	Sub-units	Lessons	Learning Outcomes	TCSF	Periods
4. Media and Information Literacy and Digital Citizenship	4.1. Media and Information Literacy (MIL)	4.1.3. The roles and functions of news media	<ul style="list-style-type: none"> Understand how information is transformed and processed into news. Understand what information is expected and should be demanded from news media. Understand the role of news media in a democratic society. 	A 2.2 A 5.2 B 1.2	1
5. Internet and Communication	5.1. Introduction to Internet	5.1.1. Understanding network, internet and data transmission	<ul style="list-style-type: none"> Understand how data is transmitted over the Internet and understand the relevant concepts (such as TCP/IP, URL, DNS and HTTP). Explain the functions of the hardware required for a network. Describe the common services available in a networked environment (such as internal messaging, resource sharing, and conferencing). Compare common methods for Internet access in terms of speed, cost, security and availability. 	A 2.2 A 5.2 B 1.2	1
	5.2. Asynchronous Conferencing	5.2.1. Understanding network, internet and data transmission	<ul style="list-style-type: none"> Understand the pros and cons of asynchronous conferencing. Open an email account. 	A 2.2 A 5.2 B 1.2	1
		5.2.2. Use an email platform	<ul style="list-style-type: none"> Use an email platform (such as composing, sending, replying, forwarding, attaching a file, tagging, and filtering). 	A 2.2 A 5.2 B 1.2 B 4.1	1
6. Media and Information Literacy and Digital Citizenship (Part II)	6.1. Introduction to Digital Citizenship	6.1.1. Risks and threats in the internet and online world	<ul style="list-style-type: none"> Understand the threats and risks on using and engaging with the internet. Identify possible threats and risks when engaging with the internet and take preventive measures. 	A 2.2 A 5.2 B 1.2 C 1.4	1

Units	Sub-units	Lessons	Learning Outcomes	TCSF	Periods
		6.1.2. Protecting yourself online	<ul style="list-style-type: none"> Identify potential threats and risks on using and engaging with the internet. Take preventive measures and steps to protect oneself and keep one's information safe in the internet. 	A 2.2 A 5.2 B 1.2 C 1.4	1
		6.1.3. Privacy in the online world	<ul style="list-style-type: none"> Realise the loss of privacy that might occur when engaging with the internet. Demonstrate the use of main privacy management functions to manage personal information and protect users, especially minors. 	A 2.2 A 5.2 B 1.2 C 1.4	1
7. Computer Application	7.1. Presentation	7.1.1. Basic functions of presentation 1	<ul style="list-style-type: none"> Describe the basic features of a presentation application. Manage layout, design and formatting of presentation slides. Do font, paragraph and text formatting. 	A 2.2	1
		7.1.2. Basic functions of presentation 2	<ul style="list-style-type: none"> Insert and modify table, images and illustrations. Insert links, media files and manage them. 	A 2.2	1
		7.1.3. Basic functions of presentation 3	<ul style="list-style-type: none"> Describe and perform the basic functions of Microsoft PowerPoint to create a presentation file. Print a presentation file. 	A 2.2	1
8. ICT in Education	8.1. ICT in Education	8.1.1. ICT in teaching preparation and collaboration, active teaching and learning, and assessments	<ul style="list-style-type: none"> Understand the importance of collaboration among teachers using ICT. Understand the importance of active teaching and learning facilitated by ICT. Understand the importance of different types of assessments facilitated by ICT. 	A 2.2 B 2.1 B 4.1	1
		8.1.2. ICT in professional development and school management	<ul style="list-style-type: none"> Understand the importance of professional development facilitated by ICT. Understand the usage of e-portfolio. Understand how ICT can facilitate school management. 	A 2.2 D 2.1 D 3.1	1
Total Number of Periods					12

Unit 4

Media and Information Literacy and Digital Citizenship⁴

In this unit, you will introduce student teachers to the principles and basic concepts of Media and Information Literacy. Student teachers will learn the competencies that a media and information literate person should have and why it is important that teachers and students are media and information literate. The unit will guide student teachers through the different media and information providers and the functions and roles that they play in a democratic society.

Expected learning outcomes

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

- Explain what Media and Information Literacy is and why it is important for a teacher (including but not limited to teaching) in primary school;
- Understand the difference between types of information providers and types of media;
- Understand the functions of the different media and information providers and the role they play in a democracy;
- Understand how information is transformed and processed into news;
- Understand what information is expected and should be demanded from news media; and
- Understand the role of news media in a democratic society.

⁴ This is the continuous lesson under Unit 4. Media and Information Literacy and Digital Citizenship. During Semester 1, 4.1.1. Understanding the principles of Media and Information Literacy and 4.1.2. The roles and functions of Media and Information providers have been covered.

4.1. Media and Information Literacy (MIL)

This sub unit is divided into three different lessons. Lesson 4.1.1. provides a general overview of what Media and Information Literacy is, and its importance when teaching and learning about ICTs and through ICTs. Lesson 4.1.2. aims at explaining the different roles that the media and the information providers play in our society. Lesson 4.1.3. is devoted to one specific type of media, news media, and its importance in democratic societies.

4.1.3. The roles and functions of news media

Expected learning outcomes

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

- Understand how information is transformed and processed into news;
- Understand what information is expected and should be demanded from news media; and
- Understand the role of news media in a democratic society.





Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the learning context.

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



Time: 1 period of 50 minutes



Learning strategies: Group work and Teacher-led discussion to complete activity 1 and 2.

Individual work and Teacher-led discussion to complete activity 3.

Individual work to complete activity 4.



Preparation needed: This lesson builds on the previous lesson on the roles and functions of media and information providers in the processes of MIL and the context in which news media operate.

Teacher educators may refer to the following reference to prepare for this lesson.

Title	Link	QR Code	Source
MIL Curriculum For Teachers (English)	http://unesdoc.unesco.org/images/0019/001929/192971e.pdf		UNESCO
MIL Curriculum For Teachers (Myanmar Language)	http://unesdoc.unesco.org/images/0019/001929/192971MYA.pdf		UNESCO



Resources needed:

- Whiteboard
- Front cover of 3 to 4 different newspapers from the same day.
- Three articles from three different newspapers that cover the same news story. The headlines of the articles need to be removed before sharing it with the students.



Learning activity 1: Discuss in groups and reflect (15 minutes)

- Ask student teachers to read the parable ‘The elephant and the six blind Brahman’ and to discuss in groups guided by the questions provided in the textbook;
- Ask representatives from two or three groups to present briefly to the class what has been discussed in their groups;
- Ask students if they see any similarities between what happens in the parable and the media and the news; and
- Ask a number of students to tell the class what conclusions they reached in their group discussions.



Possible student teachers’ responses

All the blind men are telling truth when they describe what they think an elephant is, but at the same time, all of them fail to describe what the whole elephant is, as they only have access to a limited amount of information through their direct experience (in this case, touching different parts of the animal).

This shows that the reality and the truth have multiple dimensions; there are several truths. The parable shows us that in order to have a whole picture of what the truth is, there is a need to go beyond direct experience and get information from different sources.

Imagine that a journalist that does not know how an elephant looks like and interviews only one of the blind men. If they publish a news piece about the elephant based only on what one of the blind Brahmins told them, the information provided would not be sufficient for the reader to understand the form and shape of the elephant. The journalist, should consult diverse sources, in this case, the other 5 Brahmins, and with that information, his news will provide a more accurate narrative of the reality.

The same logic applies to the citizens when they consume news media and information. In order to capture the truth in the most accurate way, it is not enough to rely on one source of information or media channel. It is important to consult as many sources as possible, so that we can have the most accurate and truthful picture of an event, topic or issue.

Some news might capture only one part of the event or the happening, but that does not mean that it is not true. That is why is so important for citizens to be media and information literate. They have to understand that consulting one source of information or one media might not be enough to make an informed decision or to build an opinion. It is important to consult different media and sources of information, analyse that information critically and based on that create one's opinion and act accordingly.

This also highlights how important it is to have a media landscape that is diverse and plural, where different points of view can be presented and consulted. It is important to note, that in countries where most of the media is owned by the few, it will be less likely to have different opinions and points of view presented in the TV, newspapers and radio. This has an impact on the amount and quality of information that the public can access.



Assessment

- Verbal feedback can be provided during or in response to the conclusions and presentation of each group based on the explanation/interpretation of the parable provided above.



Learning activity 2: Discuss in groups (20 minutes)

Through this activity, students should realise that news media can present the same news story in different ways, and provide different information on the same issue. Students should also realise that the information they can access and consume will be different depending on the source of information and the news media outlet they consult. The activity highlights the importance of checking different news media in order to have a more accurate and truthful understanding of a given issue. This exercise explores, as well, the diversity of media, and how the interests behind the ownership of media outlets can condition the information that is provided and presented in the form of news.

Show student teachers three to four front cover-pages of different newspapers from the same day. The covers can be projected on the screen, or be provided to the student teachers in photocopies. Divide student teachers into groups and ask them to compare the cover-pages and discuss among them.

While student teachers compare and discuss the cover-pages, one student will be responsible to take notes during the discussions.

After discussing in groups, ask each group to share their answers with the class and provide direct feedback on their answers. You can ask other students to provide comments on the conclusions presented by each group.



Possible student teachers' responses

Questions	Possible answers
Do all newspapers feature the same news stories in their cover?	- Although there might be some news that are covered in all the newspapers, the angle of the story might be different. Each newspaper might highlight different information from the same story. Some days, there might not be any big story, and therefore the cover pages might feature very different news.
If yes: Is the information presented in the same way, or do they highlight different information? If so, why do you think these newspapers have highlighted different information? If not, why do you think these newspapers have highlighted the same information in the same way?	- Different newspapers might highlight different information of the same story in the cover, or even in the headline. - These decisions are made by the editor of the paper. Some newspapers are more independent than others, who might have more clear political inclinations (for example, the Government newspapers will always highlight the position of the Government). - Other papers might be more interested in covering social issues rather than political issues, and they will design their cover-pages accordingly. - The formatting used to present the news stories in the cover pages is also full of meaning: is it a big headline with a picture? Is it just a small news in the bottom corner of the newspaper? Is the big news of the day completely ignored in the cover-page? etc. All these format related decisions reflect the importance that a newspaper gives to a certain news story.
If not: why do you think they do not feature the same news in their cover page?	
What conclusions do you draw from this?	- The criteria of different news media houses may differ from each other, and therefore, they might present the same news story in different ways. This decision should be taken keeping in mind public interest and the people's right to know. But we need to be aware that sometimes there might be political and economic interests behind editorial decisions. - It is important to consult different sources of information and news media, compare different points of view on the same issue. Only that way citizens can make informed decisions, have the information needed to participate in public affairs and debates, build their own opinion on a given topic or issue.

*Although we are using newspapers and their cover-pages for this exercise, the same analysis could be done with the news reports in TV and radio news programmes.



Assessment

- Provide brief verbal feedback to the groups and provide further explanation when necessary, based on the table above.



Learning activity 3: Assignment (15 minutes)

This activity will show students how the exact same information can be presented in many different ways. Some students will highlight certain information and overlook other information on the event/happening/issue. Students will learn that depending on how information is presented by journalists and the media, can affect how that information is consumed and understood by the public.

Share with student teachers three articles (from three different newspapers about the same event/happening) that you have previously prepared. Remember to remove the headlines from the articles before sharing them with the students.

Ask them to work individually and come up with a headline that summarises the most important information of the event/happening/issue. Remember that the headline must answer (as much as possible) to the 5 Ws and H.

After student teachers have written their headlines, ask some of them to write their headlines on the whiteboard. Once all the selected students have written the headlines, read them out loud and compare them.



Possible student teachers' responses

The headlines should be no longer than 25 words (in Myanmar language).

The headline should capture the most important elements of the information provided, based on the criteria of: Location, impact and importance, timeliness and unusual/human interest.



Assessment

Provide direct verbal feedback to students following the criteria below:

- Do the headlines summarise or capture the most important information from the news article? To know what information is the most important one in the news article, we need to keep in mind the elements that make information newsworthy:

- Location;
 - Impact and importance;
 - Timeliness; and
 - Unusual/human interest.
- Choose two or three headlines that are very different from each other and ask the students that have written them to explain the following.
 - ‘Why have they highlighted that specific information from the article?’
 - ‘Why do they think that information is the most important one?’
 - Have all students answered in the headlines, the 5 Ws and H? Please, note that sometimes the ‘How’ is not included in the headlines. Headlines should be short, and by including the ‘How’, they can become too long.
 - The fact that the headlines are very different from each other, does not mean that they are wrong, as long as they answer the 5 Ws and H. But it shows that the same information can be presented in different ways, and that has an impact on how the reader understands the information.



Learning activity 4: Assessment (Students are expected to complete this activity after class and submit the output to the teacher educator)

This activity will allow teacher educators to assess the level of understanding of students on the process of processing information into news, and the criteria that news reporting should follow. The criteria refers to the different factors that journalists have to follow when producing the news (see reading text), and how they answer the 5 Ws and H.



Assessment

- Provide written feedback to teacher students based on the rubric below.

EVALUATION CRITERIA	EXCELLENT	VERY GOOD	GOOD	NEEDS IMPROVEMENT
Understanding of the process of processing information into news	The student is capable of identifying and explaining more than three differences and/or similarities between the two articles regarding: <u>1: the factors that determine what information become news</u> (location, impact and importance, timeliness, unusual/human interest) <u>2: journalistic values</u> (organisation of the information, truthfulness, public interest, independence, etc.)	The student can identify and explain at least two differences or similarities between the two articles regarding: <u>1: the factors that determine what information become news</u> (location, impact and importance, timeliness, unusual/human interest) <u>2: journalistic values</u> (organisation of the information, truthfulness, public interest, independence, etc.)	The student can identify at least two differences or similarities between the two articles, but is not able to explain or justify those differences. The differences or similarities identified should be around: <u>1: the factors that determine what information become news</u> <u>2: journalistic values</u>	The student can identify and explain at least two differences or similarities between the two articles regarding: <u>1: the factors that determine what information become news</u> (location, impact and importance, timeliness, unusual/human interest) <u>2: journalistic values</u> (organisation of the information, truthfulness, public interest, independence, etc.)
Completeness	The assignment was submitted within the deadline and satisfies the requirements	The assignment was submitted within the deadline and satisfies the requirements	The assignment submitted by the student partially satisfies the requirements	The assignment is not submitted on time or/ and does not satisfy the requirements



Check student teacher’s understanding

Through this lesson, student teachers are encouraged to think about the importance of consulting different sources of information before using that information, to present it to others, to take decisions or to build an opinion on a given issue.

Student teachers should understand the process by which information, data, events, etc. become news, and the important role that journalists and professional media play in this. It should also be highlighted how important it is for journalists to consult different sources of information and different voices, before writing/editing the story that will be published or broadcasted.

Remind students the importance of having a diverse range of news media houses that can

provide different angles and views on a given topic or issue (media diversity and media pluralism), that are independent and can report freely. Only if a country has a free and diverse media, can the news media fulfill its roles and functions in a democratic society.



Review questions: Possible student teachers’ responses

1. Reflect on what you have learnt in the lessons under this unit, and assess your understanding of the subject.

	Yes	No	Not sure
Lesson 4.1.1.			
I can explain what Media and Information Literacy is and why it is important for a teacher (including but not limited to teaching) in primary school.			
Lesson 4.1.2. and 4.1.3.			
I understand the difference between types of information providers and types of media.			
I understand the functions of the different media and information providers and the role they play in a democracy.			

2. What are the three processes of Media and Information Literacy?
 - Access, evaluate/assess, and produce/create/share information and media content.
3. What are the roles and functions of news media in a democratic society?
 - Act as channels of information and knowledge through which citizens communicate with each other and make informed decisions;
 - Facilitate informed debate between diverse social actors;
 - Provide us with much of what we learn about the world beyond our immediate experience;
 - Are means by which a society learns about itself and builds a sense of community;
 - Function as a watchdog of the government in all its forms, promoting transparency and public scrutiny of those with power through exposing corruption, maladministration and corporate wrong-doing;

- Are essential facilitators of democratic processes and one of the guarantors of free and fair elections;
 - Are a vehicle for cultural expression and cultural cohesion within and between nations; and
 - Function as an advocate and social actor in its own right while respecting pluralistic values.
4. Based on what criteria do events or stories become news?
- Location; impact and importance; timeliness; unusual/human interest.

Unit Summary



Key message

- We constantly interact with and use media and information providers in our daily life, and the way we consume and use media content and information has an impact on the decisions we make, what we learn about the world and how we participate in society.
- Media and Information Literacy (MIL) empowers citizens with a set of skills, attitudes and knowledge to critically access, evaluate, produce and share information and media content.
- MIL enables teachers to use information and media content in the classroom in a responsible and ethical way, and facilitates the transfer of MIL skills and knowledge to the students; preparing them to perform their role in knowledge and information societies.
- Information can be sourced from a wide array of media content and other information providers that are not necessarily media.
- To be able to access and use the information and media content that is needed for a specific task or purpose, it is important to understand the different roles of media and information providers.
- The quality of the information that is available in the media and information providers can vary greatly in accuracy, reliability and value.
- News are important because it enables us to know what is happening in our communities and in the world beyond our direct experience. News provide information that is new, important to the public and also interesting.
- Journalists and news media are essential in a democracy, as they act as watchdogs of the powerful by keeping them accountable to the public, enable transparency, provide people with information that will enable them to make informed decisions

and facilitate public debate.



Unit reflection





1. How do you think Media and Information Literacy will help you as a teacher?
 - When preparing learning materials for my classes, it can help me to find the most appropriate information and multimedia content from trusted sources.
 - It can help me identify which are the best and most appropriate sources of information to learn further about a certain topic or subject.
 - It can help me in my professional development as I will be able to find the information that I need to continue learning and improving my skills and knowledge.
 - I can transfer my Media and Information Literacy skills and knowledge to my future students through the use that I do of media content and information in the classroom.

2. Now that you are a more media and information literate person, how differently will you engage with the media in your personal and professional life?
 - I will compare the news from different sources and media outlets in order to have different points of view and angles of the same story, so that I can build my own opinion around a given subject.
 - I will be more cautious when accessing information and evaluate first if that information or news is accurate, based on facts and trustworthy.
 - I will not share information, videos or news in my social media, if I am not sure that the information or media content is true.



Further reading

(Including names of printed materials and links to online materials)

Title	Link	QR Code	Source
MIL Curriculum For Teachers (English)	http://unesdoc.unesco.org/images/0019/001929/192971e.pdf		UNESCO
MIL Curriculum For Teachers (Myanmar Language)	http://unesdoc.unesco.org/images/0019/001929/192971MYA.pdf		UNESCO
Media and Information Literacy: Policy and Strategy Guidelines (English)	http://unesdoc.unesco.org/images/0022/002256/225606e.pdf		UNESCO
Internet Bawdar	https://www.internetbawdar.com/		Phandeeyar

Unit 5

Internet and Communication

In this unit, you will be learning how data is transmitted over the Internet, services available in a networked environment. And also, about the asynchronous conferencing such as email.

Expected learning outcomes



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

- Understand how data is transmitted over the Internet and understand the relevant concepts (such as IP, URL, DNS and HTTP);
- Explain the functions of the hardware required for a network;
- Describe the common services available in a networked environment (such as internal messaging, resource sharing, and conferencing);
- Compare common methods for Internet access in terms of speed, cost, security and availability;
- Understand the pros and cons of asynchronous conferencing;
- Open an email account; and
- Use an email platform (such as composing, sending, replying, forwarding, attaching a file, tagging, and filtering).

5.1. Introduction to Internet

The internet is the most well-known and the largest network, linking hundreds of thousands of individual smaller networks all over the world. The internet has a range of capabilities that organisations are using to exchange information internally or to communicate externally with other organisations. The internet began as a U.S. Department of Defense network to link scientists and university professors around the world.

An Internet Service Provider (ISP) is a commercial organisation with a permanent connection to the Internet that sells temporary connections to subscribers. To join the internet, an existing network only needs to pay a small registration fee and agree to certain standards based on the Transmission Control Protocol/Internet Protocol (TCP/IP), which will be explained below.

5.1.1. Understanding network, internet and data transmission

Expected learning outcomes

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

- Understand how data is transmitted over the internet and understand the relevant concepts (such as TCP/IP, URL, DNS and HTTP);
- Explain the functions of the hardware required for a network;
- Describe the common services available in a network environment (such as internal messaging, resource sharing, and conferencing); and
- Compare common methods for Internet access in terms of speed, cost, security and availability.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students’ learning needs and the learning context.

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



Time: 1 period of 50 minutes




Learning strategies: Flipped classroom to complete the reading text, Teacher-led discussions and group work to complete Learning activity 2, Individual exercise to complete Learning activity 2

Individual assessment work after class to complete learning activity 3



Preparation needed: Guidance on what the teacher educator needs to know about the topic and references to resources for reading to strengthen subject proficiency

Teacher educators may refer to the following reference to prepare for this lesson. Student teachers are instructed to read the reading text on the Student Teacher Textbook prior to the lesson. Ask them to write down at least one question about the topic so that this question can be discussed in the lesson.

Title	Link	QR Code	Source
E-learning Series on ICT in Education	http://archive1.unescobkk.org/fileadmin/user_upload/ict/Teacher_Training_Workshops/UNESCObkkE-LearningSeriseOnICTInEducation.zip		UNESCO
Concept of Network	https://ccm.net/contents/261-the-concept-of-networks		CCM



Resources needed: Computers, smartphones and Internet.

Teaching and Learning Process

- **Ways to determine student teachers' prior knowledge**

At the beginning of the lesson, ask student teachers if they have any questions which need to be clarified based on the reading text. Remind student teachers to get familiar with the practice that every time when they read the text, mark at least one question so that this can be further discussed in the lesson. Ask the student teachers to complete Learning activity 1 in class by reading the text and discuss with a classmate about the given questions.

- **Problems of any sort to anticipate in advance (cognitive, management) (informal checklist of student signs)**

Teacher educators ask student teachers to take note if there is any difficulty found during the self-study prior to the lesson. Student teachers need to be able to use internet out of school hours to complete the activities.



Learning activity 1: Pair-work with others (25 minutes)

Teacher educator guides the student teachers to complete the activity as follows:

1. Ask the student teachers to read the given text and take notes of the questions for any difficulties found. (5 minutes)
2. Discuss in group for the given questions. (10 minutes)
3. Ask some groups to share their experience/knowledge and discussion within the group. (10 minutes)



Assessment

- Brief verbal feedback during or in response to individual practice; and
- A quick individual quiz.



Possible student teachers' responses

1.	MPT, Telenor, Ooredoo, Mytel
2.	Internet Service Provider, and Telenor, MyanmarNet, 5BB, MPT, Ooredoo, Mytel
3.	Any of the above 4 or None.
4.	Any.
5.	Yes, Facebook Messenger can be used to make a conference call.
6.	Yes, a printer can be shared within a network of computers.



Learning activity 2: Post-reading exercise (25 minutes)

Teacher educators should guide the student teachers to complete the activity as follows:

1. Brainstorm individually and discuss with nearby classmate to get answers. (5 minutes)
2. Divide student teachers into groups and ask them to discuss their answers. It is ideal if each group is of the size of 3-5 student teachers. (5 minutes)
3. Instruct each group to assign one student teacher as a note-taker. Take turns within each group to share the answers with the group members. (5 minutes)
4. Call for some student teachers to present their group outputs to the whole class. (5 minutes)
5. Explain the features of each question and explain why. (5 minutes)



Assessment

- Brief verbal feedback during or in response to group work; and
- A quick team quiz.



Possible student teachers' responses

1. Router	Speed is not limited to 100 Mbps. It is not an optical device. It is a networking device. Performs traffic direction function in the internet. Forwards data packets between computer networks.
2. LAN	It is a network of computers within limited area (Local Area). Two or more computers connect using wired and wireless technology in LAN. Network between two cities is called MAN. Using telecommunications network, it is call WAN.
3. WAN	It is connected to a large numbers of LANs. It can be considered as Internet. It can connect by using any networking technology. The speed is not limited to 1Gbps.
4. TCP/IP	It is the standard protocol for the Internet. TCP ensures high reliability. IP ensures high speed data transmission. IP address is necessary for a computer to connect to the network. The number in the IP address must be between 0 to 255.



Learning activity 3: Test your understanding

Ask student teachers to complete this activity after class. At the next beginning of next lesson, you can ask some student teachers to share their answers. This reflection activity allows student teachers to check if they catch the key messages from the lesson.



Assessment

- Observe how student teachers work in groups and present their discussion output;
- Provide brief verbal feedback during or in response to group work; and
- Assess output created by student teachers that can be used for summative assessment of the lesson.



Possible student teachers' responses

1. False. If the Wi-Fi network is not connected to the Internet, you cannot browse Google or any service available on the internet.
2. False. HTTPS is the secure version of HTTP, which use the encryption method for communication between a computer browser and web server.

3. True. A computer needs NIC installed to be able to connect to a network.
4. False. Dial-up is the slowest internet connection among other connection methods .
5. True. A network switch uses the method called Packet Switching to transmit the data over the computer network.

5.2. Asynchronous Conferencing

In the previous lesson, you have learnt what conferencing is. When two or more people have simultaneous conversation using Internet in real-time, it is called synchronous conferencing. Asynchronous conferencing is used in contrast to synchronous conferencing, when describing technologies where there is a delay in interaction between participants. When you are using internet messaging application, if the person you are sending the messages is not online yet, but you can still send the messages. This is called asynchronous conferencing.

5.2.1. Understanding network, internet and data transmission

Expected learning outcomes

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

- Understand the pros and cons of asynchronous conferencing; and
- Open an email account.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the learning context.

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



Time: 1 period of 5 minutes



Learning strategies: Flipped classroom to complete the reading text Group discussion exercise to complete Learning activity 1 Individual exercise to complete Learning activity 2.



Preparation needed: Guidance on what the teacher educator needs to know about the topic and references to resources for reading to strengthen subject proficiency

Teacher educators may refer to the following reference to prepare for this lesson.

Student teachers are instructed to read the reading text on the Student Teacher Textbook prior to the lesson. Ask them to write down at least one question about the topic so that this question can be discussed in the lesson.

Title	Link	QR Code	Source
UNESCO ICT Competency Framework for Teachers	http://unesdoc.unesco.org/images/0021/002134/213475e.pdf		UNESCO



Resources needed: Computers, Internet

Ways to determine student teachers' prior knowledge

At the beginning of the lesson, ask student teachers if they have any questions which need to be clarified based on the reading text. Remind student teachers to get familiar with the practice that every time when they read the text, mark at least one question so that this can be further discussed in the lesson.

Problems of any sort to anticipate in advance (cognitive, management) (informal checklist of student signs)

Teacher educators ask student teachers to take note if there is any difficulty found during the self-study prior to the lesson. Student teachers need to be able to use internet out of school hours to complete the activities.



Learning activity 1: Group work (20 minutes)

Teacher educator guides the student teachers to complete the activity as follows:

1. Explain the details of the asynchronous conferencing. (7 minutes)
2. Divide student teachers into groups and ask them to discuss in the group if there is any question. It is ideal if each group is of the size of 3-5 student teachers. (3 minutes)
3. Call for some student teachers to present their group outputs to the whole class. (5 minutes)
4. Discuss the answers of each question and explain why.



Assessment

- A quick team quiz; and
- Brief verbal feedback during or in response to group work.



Possible student teachers' responses

1.	Chatting is synchronous conferencing. Because it is real-time online conversation.
2.	No right or wrong answers. Suggested answer: Pro: allows the participants to have more time to think and reply for the outcome of the discussion. Cons: due to the delay, the discussion topic is deleted or the participants might get confused.
3.	Offline messages can be considered as Asynchronous Conferencing. Because, it allows the participants to have conversation in different times.



Learning activity 2: Self-practice and individual work in class (30 minutes)

Teacher educator guides the student teachers to complete the activity as follows:

1. Explain the text and ask the student teachers if they have any questions. (8 minutes)
2. Student teachers should do the step by step exercise in order to know how to create a Gmail account. Ask the student teachers to share their problems if they have and possible solutions/suggestions. Provide necessary support and clarifications. (18 minutes)
3. Student teachers try to log in to Gmail using the given steps. (4 minutes)



Assessment

- Brief verbal feedback during or in response to individual work; and
- Output created by student teachers can be used for summative assessment of the lesson.

5.2.2. Use an email platform

Expected learning outcome



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

- Use an email platform (such as composing, sending, replying, forwarding, attaching a file, tagging, and filtering).



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the learning context.

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

B4.1 Demonstrate strategies for working together with other teachers, parents, and the local community to improve the learning environment for students



Time: 1 period of 50 minutes



Learning strategies: Flipped classroom to complete the reading text
Individual work to complete Learning activity 1.



Preparation needed: Guidance on what the teacher educator needs to know about the topic and references to resources for reading to strengthen subject proficiency.

Teacher educators may refer to the following reference to prepare for this lesson.

Student teachers are instructed to complete Learning activity 1 in the Student Teacher Textbook prior to the lesson. Ask them to write down at least one question about the topic so that this question can be discussed in the lesson.

Title	Link	QR Code	Source
UNESCO ICT Competency Framework for Teachers	http://unesdoc.unesco.org/images/0021/002134/213475e.pdf		UNESCO



Resources needed: Computer, Internet

Teaching and Learning Process

- **Ways to determine student teachers' prior knowledge**

At the beginning of the lesson, ask student teachers if they have any questions which need to be clarified based on the reading text. Remind student teachers to get familiar with the practice that every time when they read the text, mark at least one question so that this can be further discussed in the lesson. Ask the student teachers to complete Learning activity 1 in class by using Internet, discuss with a classmate and answer for the given questions

- **Problems of any sort to anticipate in advance (cognitive, management) (informal checklist of student signs)**

Teacher educators ask student teachers if they have used their Gmail in the past week. They are reminded to take note if there is any difficulty found during the self-study prior to the lesson. Student teachers need to be able to use internet out of school hours to complete the activities.



Learning activity 1: Individual work (50 minutes)

Teacher educator guides the student teachers to complete the activity as following steps:

1. Explain the details of the components of an email account. (7 minutes)

2. Divide student teachers into groups and ask them to discuss in the group if there is any question. It is ideal if each group is of the size of 3-5 student teachers. (3 minutes)
3. Student teachers should do the step-by-step exercise in order to know how to create a Gmail account. Ask the student teachers to share their problems if they have and possible solutions/suggestions. (35 minutes)
4. Provide necessary support and clarifications. (5 minutes)



Assessment

- A quick individual quiz; and
- Brief verbal feedback during or in response to individual work.



Review questions: Possible student teachers' responses

The responses can vary.

	Yes	No	Not sure
Lesson 5.1.1.			
I understand how data is transmitted over the internet and understand the relevant concepts (such as IP, URL, DNS and HTTP).			
I can explain the functions of the hardware required for a network.			
I can describe the common services available in a networked environment (such as internal messaging, resource sharing, and conferencing).			
I can compare common methods for internet access in terms of speed, cost, security and availability.			
Lesson 5.2.1.			
I understand the pros and cons of asynchronous conferencing.			
Lesson 5.2.2.			
I can open an email account and use an email platform (such as composing, sending, replying, forwarding, attaching a file, tagging, and filtering).			

Unit Summary



Key messages

- A computer network is composed of multiple computers connected together using a telecommunication system for the purpose of sharing data, resources and communication.
- The internet is the most well-known and the largest network linking hundreds of thousands of individual smaller networks all over the world.
- When two or more peoples have simultaneous conversation using internet, it is called conferencing.
- Asynchronous conferencing is used in contrast to synchronous conferencing, when describing technologies where there is a delay in interaction between participants.
- Email is one of the communication methods over the Internet or other networks (personal computer communications, LAN, etc.).



Unit reflection

Possible student teachers' responses

1. What is the common software application to view the websites when you are using Internet?

Web browser such as Internet Explorer, Google Chrome and Mozilla Firefox.

2. What are the pros of the asynchronous conferencing?

Pros:

- Allows the participants to have flexibility and control over the time they spend on the topic;
- Allows the participants to communicate simultaneously on different topics; and
- Allows the participants to share high quality video and audio files with limited bandwidth.

3. What are the features of email?



The features of email are as follows:

- It allows all sorts of data to be sent in large amounts and at high speed;
- Due to improvements in compression technologies and bandwidth expansion, large amounts of data can be transmitted at high speed. In addition to text (characters), video and audio can also be transmitted;
- Regardless of whether or not the recipient is at home, the mail arrives in the mailbox inside the mail server; and
- Running costs are low regardless of the location where you send the emails to.



Further reading

(Including names of printed materials and links to online materials)

Title	Link	QR Code	Source
Get started with Gmail	https://gsuite.google.com/learning-center/products/gmail/get-started/#/		Google
Basic ICT Literacy Training Manual	https://edc.moe.edu.mm/en/resource/unesco-basic-ict-literacy-training-manual-myanmar		UNESCO

Unit 6

Media and Information Literacy and Digital Citizenship (Part II)

As learnt in Unit 4, nowadays we access and share huge amounts of information and media content through social media and other online platforms. Therefore, it is important that citizens are not only media and information literate, but that they also have a good understanding of the opportunities and risks of the online world. Noting this, in unit 6, student teachers will be able to learn how to prepare their future students to stay safe when they go online, to navigate the internet smartly, and most of all, to become digital citizens.

Expected learning outcomes

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

- Understand the threats and risks on using and engaging with the internet;
- Identify possible threats and risks when engaging with the internet and take preventive measures;
- Identify potential threats and risks on using and engaging with the internet;
- Take preventive measures and steps to protect oneself and keep one's information safe in the internet;
- Realise the loss of privacy that might occur when engaging with the internet; and
- Demonstrate the use of main privacy management functions to manage personal information and protect users, especially minors.

6.1. Introduction to Digital Citizenship

In this unit, in Lesson 6.1.1., student teachers will first learn about the potential risks that they might encounter when engaging with online media and the internet. Lesson 6.1.2. provides a closer look into the safety issues that digital citizens need to consider and be aware of, in order to protect themselves from the threats and risks of the internet. Lesson 6.1.3. puts the focus on the loss of privacy that might occur when social media and internet users do not take the necessary preventive measures.

6.1.1. Risks and threats in the internet and online world

Expected learning outcomes

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

- Understand the threats and risks on using and engaging with the internet; and
- Identify possible threats and risks when engaging with the internet and take preventive measures.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the learning context.

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

C1.4 Demonstrate responsibility and accountability for the use of education resources



Time: 1 period of 50 minutes



Learning strategies: Flipped classroom to complete activities 1 and 2,
Group work and Teacher-led discussion to complete activity 3,
Individual work and teacher-led discussion to complete activity 4.



Preparation needed: Teacher educators may refer to the following reference to prepare for this lesson.

Title	Link	QR Code	Source
MIL Curriculum For Teachers (English)	http://unesdoc.unesco.org/images/0019/001929/192971e.pdf		UNESCO
MIL Curriculum For Teachers (Myanmar Language)	http://unesdoc.unesco.org/images/0019/001929/192971MYA.pdf		UNESCO
Digital Citizenship Videos	https://www.commonsense.org/education/video/digital-citizenship		Common Sense Education
The State of the World's Children 2017: Children in a Digital World	https://www.unicef.org/publications/index_101992.html		UNICEF
Media Smarts	https://mediasmarts.ca/digital-media-literacy		Canada's Centre for Media and Digital Literacy
Internet Bawdar	https://www.internetbawdar.com/		Phandeeyar



Learning activity 1: Engagement and interaction with the internet **(5 minutes)**

Through this activity, student teachers will realise how often they engage with the internet in their daily life. They will also realise that unintentionally they might be putting themselves at risk when interacting with the internet. They will also realise that they might be harming others or violating the privacy of others through their engagement with the internet.

Student teachers should have completed this activity before the class. They should be ready with their answers written down in their textbooks.

Ask a number of student teachers to read out loud their answers. Depending on the time available, you might want to ask them to read only the top three answers, the three activities where they spent most time engaging with the internet.

Write down the answers on the whiteboard.



Assessment

- Ask student teachers the following questions and discuss the answers with the whole class:
 - ‘Do you think your behaviour in the online world, or the way you interact with the internet poses a risk for your personal well-being, safety or privacy?’
 - ‘Do you think your behaviour in the online world, or the way you interact with the internet poses a risk to other people’s well-being, safety or privacy?’
- Additional questions that might help student teachers come up with the answers and trigger discussion:
 - ‘Have you ever shared information on the internet/social media that could not have been true?’
 - ‘Have you ever made fun of someone or insult someone because of the way they look, their ethnicity, their religion, their body (because they are short, fat, slim, or not very good looking, etc.).’
 - ‘Have you ever shared too much information exposing your privacy or the privacy of other people? Like providing your email address, your telephone

number, your home address when subscribing or logging in a social media profile. Providing information or posting online information about someone else's whereabouts, home address, telephone number, etc.'

- 'Have you ever shared online a photo or video of a person you do not know without asking their permission? Or even the photo/video of a friend or relative, without asking their permission?'
- 'How do you remember your passwords? Do you tell your password to a friend or to a relative? Do you write them in a paper that you keep close to your laptop or smartphone?'
- 'Have you ever searched for advice on a specific topic (like health related issues) on the internet?'



Learning activity 2: Test your knowledge (5 minutes)

This activity will provide students with basic information about the different types of threats and risks that users might experience or be exposed to when interacting with the internet. This list of threats and risks includes the most common ones and the threats to which young people are most vulnerable, but as the internet and ICTs continue to grow, evolve and become more accessible, new threats and risks may arise. It is important for teachers to keep learning be up to date on the latest threats and risks on the internet.

Students need to complete the activity before class.

Read out the answers to the student teachers.

Ask student teachers if they had any difficulties in doing the activity, and answer an question or requests for clarification that they might have.



Assessment

- The answers to the activity are provided below:

Definition	Threat
a. Some websites, blogs or messages on social media incite users to harm themselves, and might even provide instructions on how to do it.	Incitement to harm
b. Content that is classified as illegal by Myanmar laws. Content related to child pornography or child abuse, etc. This content is illegal in most countries around the world.	Illegal content
c. The internet provides great amount of information, but some of that information might not be verified by independent sources, or be based on actual evidence. It can be user-generated content or also be presented in the form of news or reports. Users need to stay vigilant and consume content and information accessed in the internet with a critical mind.	Misinformation
d. There are people that make use of other individual's electronic identity (i.e. email user and password, social media profile, etc.) with the intention of harming that person's reputation or committing commercial fraud (such as buying products online with other person's bank account details).	Identity theft
e. It refers to content and information that can be found online, which should not be accessible to young people and children. This content is not necessarily illegal but can be harmful for young people and children. This includes pornography, audiovisuals that depict violence, alcoholic drinks or tobacco advertisements, online betting or lotteries, text or audiovisual pieces with defamatory content, etc.	Age-inappropriate content
f. After sharing personal information or content (such as photos, videos, telephone numbers, information about our home address, work, family, etc.) on the internet, users have very little control over it. The information and content that has been shared can spread rapidly across websites and social media around the world. If the user tries to delete the content uploaded to the internet, it might not be able to delete all traces of it, and it will remain on the internet indefinitely. That personal and private information can be accessed by anyone from everywhere through their smartphones or computers.	Disclosing private information
g. This refers to the process of getting someone's bank account details (receiving the pin number or passwords used by banks for online transactions or shopping) in order to steal money from their bank accounts. This might be done with fake email messages that pretend to come from the user's bank or sophisticated websites that in appearance look safe for online commercial transactions or present the same features as the ones of a legitimate bank.	Phishing
h. Messages or content spread through the internet (social media, news, blogs, etc.) to incite hatred against a specific group of people because of their collective characteristics, such as their ethnicity, sexual orientation, gender, religion, etc.	Hate speech
i. When free-downloading a movie or music for our personal consumption, or when making a video with photos to be shared online, users might be violating the intellectual property, or the authorial rights of that content (the singer, the movie director, etc.). That puts the user that has downloaded, used and shared that content at risk of being penalised by the existing laws.	Copyright infringement

Definition	Threat
j. With more and more online services, and communication channels available, users can open several profiles in different platforms. The personal data provided for the creation of a profile in one platform, can be matched with the information provided in another platform. The information can be gathered by third parties (companies, scammers, etc.) and used to send the person unwanted content. Some companies also sell and buy the data of users for commercial or marketing purposes.	Profiling
k. This is taking someone else's ideas (for example: text, music, etc.) and reproduce them as one's own, without making any reference to the original author.	Plagiarism
l. This refers to pedophiles that use fake profiles in social media, instant messaging apps, or other contact websites in order to contact children and young people. Once the pedophiles have gained trust of the victim, they might request them to share photos or videos with sexual content or try to meet with them in person.	Grooming
m. This happens when sellers sell a product or a service online, that after receiving the payment, it is not delivered to the buyer. It might also happen, that although the product or service is delivered, it does not have the characteristics of what was expected or promised.	Commercial fraud
n. Messages or content against one individual, aiming at incite hatred against that person or damage his/her reputation.	Defamation
o. Some websites, blogs and forums serve as platforms to share information and advice between users. For example, some online forums provide answers or advice to users that have questions related to their health, or that are looking for a diagnosis on certain symptoms they are experiencing. The advice and information provided in these type of platforms does not necessarily come from experts or professionals, are not necessarily based on research and evidence, and it therefore can be more harmful than useful.	Harmful advice
p. Systematic attacks and defamatory behaviour against one individual through social media or other online platform. Although this can also happen in real life, the internet gives anonymity to the perpetrator (by using fake social media profiles, for example), making these attacks easier on the internet.	Cyberbullying



Learning activity 3: Assignment (30 minutes)

This activity allows students to have a better understanding of some of the risks and threats presented in activity 2. The activity can focus on the threats and risks that students might have more difficulties understanding or relating to their own interaction with the internet.

Divide students into 5 groups, and ask each group to choose one of the risks of the internet from the previous exercise. It is preferable that they chose one of the risks that they find more difficult to understand, or is not clear to them.

Ask each group to prepare a presentation of that threat or risk to be presented to the rest of the class. They can use the internet to source further information or examples online.

There are plenty of news articles about specific cases around the world. They might have experienced themselves one of those threats, or they might know of someone that has experienced it. They can also use those past experiences and examples to explain and present the risk to the class.

Each group will have 4 minutes to present to the class the risk or threat that they selected.



Assessment

- Direct verbal feedback to each group; and
- Concept-checking or comprehension questions directed at individual students or small groups.



Learning activity 4: Assessment (10 minutes)

This activity will allow teacher educators to test student teachers' understanding of the potential risks and threats of the internet.

Ask student teachers to complete the activity and then ask students to read out their answers.



Assessment

- Direct verbal feedback to the class. In case students are confused or do not see the threat clearly in each scenario, provide further explanation with the help of the table below.

Scenario	Potential Risk
<p>I just received a new friend request in my social media account. I do not exactly remember if I know this person, but I accept her request anyway. She is a beautiful girl of around my age. I check in her profile to find out more information about her, but she only has a few photos that seem to be taken on the same day. There are no other photos with her friends or family, and it shows that her profile was created only four months ago. Two days after I accept her friend request, the girl starts chatting with me. She seems very nice, very friendly and also funny.</p>	<p>Grooming <i>Explanation: Many predators use fake profiles to interact with young boys and girls, making them think that they are of the same age. In this scenario, there is a risk that a predator is using a fake profile to become friends with the victim. Later, he might start contacting the victim and might request photos or videos with sexual content or even request to meet outside.</i></p>
<p>I receive a Viber message from my school friend telling me that a migrant person from another State has bitten one of our neighbours and injured him badly. He also sends me a photo of the victim covered in blood, there is so much blood that I cannot recognise if that is my neighbour. My friend did not take the photo, his aunty sent it to him. He is telling me that migrants from that State that have come to my town, cannot find jobs, and they are now, stealing money from people. They do not care if they have to beat them up in order to get what they want. I need to share this information with my friends, so that they also know about it and will be able to take necessary action.</p>	<p>Hate speech/misinformation <i>Explanation: The message sent through Viber might be just a rumor, fabricated news by groups or individuals that do not like migrants from that State. There is no evidence in the Viber message or the video that the event has really happened, when it happened or where it happened. It might also be just one isolated incident, which does not mean that all members of that group (migrants from another state) are bad people or are beating up neighbors to steal from them.</i></p>
<p>I am getting so fat, the clothes I bought last month do not fit me anymore. I think I will try diet to lose a few pounds. Let's check what I can find in the internet.Oh! This diet looks very effective, there is a comment from a girl who lost 20 pounds in one month. There is also a comment from a doctor that says that is the best way to lose weight and start a healthier lifestyle. It also looks very easy, I just need to eat one portion of rice a day at lunch time. Only rice, no meat, fish or vegetables. It sounds a bit challenging, because I cannot eat anything else during the day. For breakfast and dinner I would only be allowed to drink tea. But I really want to lose weight, so I will do it! I know I can do it!</p>	<p>Harmful advice/misinformation <i>Explanation: Information sourced from the internet must be analysed carefully. Nowadays anyone can write whatever in websites or forums. The information about the diet might not be backed up by any scientific research. The comments from people that might have allegedly lose weight with the diet might be fake. The comment from an alleged doctor might also be made up. The diet might be even harmful for the health.</i></p>
<p>Two weeks ago I received a Viber message from my mom, who lives in our village very far from where I am. She needs some money to make a renovation in our family home, so I asked her to give me her bank account information so that I can send her the money as she requested. Today, she called me again to ask me how is school. She is so ungrateful, she did not mention the money I gave her or even thank me. I am sure she spent the money to buy some fancy clothes instead of renovating the house.</p>	<p>Identity theft/ phishing <i>Explanation: Someone might have used the profile or account of the mother to scam this person. Phishing does not always happen through email, people can also be tricked to provide banking information or request a transfer of money by stealing someone's identity and requesting that information or money to family members or friend.</i></p>
<p>My brother is very active on social media. Whenever he goes out with his friends, he writes posts like: 'I'm having dinner at Super Burger, they have the best burgers in town'. Since he moved out from our family home to live by himself, he keeps bragging about how great it was to live alone in social media with messages like: 'So peaceful and quiet in my own apartment. I feel so free living by myself!'. When he is travelling he also brags about it: 'Going to Vietnam for the New Year! See you Yangon next Monday!'. The last time he came back from his vacation, someone had broken into his apartment and stole his computer and some money.</p>	<p>Disclosing private information <i>Explanation: The protagonist of this story shares too much private information online. The information might have been used by criminals to identify the address of the victim. Since the victim also published in his social media that he was away on holidays, the criminals knew that they could break in the house and rob it without any problem.</i></p>



Check student teachers' understanding

Encourage student teachers to think about their behaviour in the online world, and the risks and the threats that they might have been exposed to when engaging with the internet. Remind them that they need to know and understand the different risks and threats, and that they need to stay vigilant when using and engaging with online media, especially social media, instant communication apps and email.



Extension and differentiation activities

Teacher educators might want to ask student teachers the following question and have some discussions:

- 'Who do you think would be most vulnerable to these types of threats and risks?'
- 'Have you ever faced any of this risks and threats? Would you like to share your experience with the class?'

6.1.2. Protecting yourself online

Expected learning outcomes



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

- Identify potential threats and risks on using and engaging with the internet; and
- Take preventive measures and steps to protect yourself and keep your information safe in the internet.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the learning context.

B 1.2 Demonstrate capacity to apply educational technologies and different strategies for teaching and learning

C1.4 Demonstrate responsibility and accountability for the use of education resources



Time: 1 period of 50 minutes



Learning strategies: Flipped classroom to complete Learning activity 1







Group work and Teacher-led discussion to complete Learning activity 2

Individual work to complete Learning activity 4 after class



Preparation needed: This lesson is directly linked to the previous lesson, deepening the concepts presented in Lesson 6.1.1. and discussing preventive measures to mitigate and avoid the potential risks and threats of the online world. Learning activity 4 from the previous lesson will be discussed at the beginning of this lesson.

Teacher educators may refer to the following reference to prepare for this lesson.

Title	Link	QR Code	Source
MIL Curriculum For Teachers (English)	http://unesdoc.unesco.org/images/0019/001929/192971e.pdf		UNESCO
MIL Curriculum For Teachers (Myanmar Language)	http://unesdoc.unesco.org/images/0019/001929/192971MYA.pdf		UNESCO
Digital Citizenship Videos	https://www.common sense.org/education/video/digital-citizenship		Common Sense Education
The State of the World's Children 2017: Children in a Digital World	https://www.unicef.org/publications/index_101992.html		UNICEF
Media Smarts	https://mediasmarts.ca/digital-media-literacy		Canada's Centre for Media and Digital Literacy
Internet Bawdar	https://www.internetbawdar.com/		Phandeyyar



Resources needed: Whiteboard, flipcharts, marker pens, internet connection, laptop or handset (smart phone or tablet).



Learning activity 1: Assessing your own safety online (5 minutes)

With this activity, student teachers will realise how their daily interactions and use of the internet might be putting them in a vulnerable position with regards to the threats and risks of the internet.

The activity will help teacher educators to better understand the student teachers' use of the internet and their habits online.

Students have to complete this activity individually before the class. The time dedicated for this activity in the class will be only for discussion.

Ask a number of students to say out loud the results of their assessment and ask them:

- 'Are you surprised by the results?'
- 'Were you aware that you were not taking the necessary safety measures when going online?'



Possible student teachers' responses

Question	Yes
Do you use the same password for different online accounts and profiles?	12 students
Do your passwords include numbers, capital and lower case letters and symbols?	2 students
Do you accept friend requests from people you have not met in person or that you do not know?	26 students
Do you download music, movies and series from the internet?	4 students
Do you chat in Viber, WhatsApp, Messenger or other messaging apps with people you have not met in person?	10 students
Do you sometimes open emails from senders that you do not know?	2 students



Assessment

- **6 Yes responses** = Your online safety and privacy is at high risk.
- **3 to 5 Yes responses** = You take some preventing measures, but you are still highly exposed to the potential risks of the online world.
- **1 or 2 Yes responses** = You are aware of the importance of keeping yourself safe in the online world, but you need to improve your defenses.
- **0 Yes responses** = You are well aware of the online threats and risks, and you take the necessary steps and preventive measures to protect yourself when you go online.

The teacher educator can write the 6 questions from the short quiz on the whiteboard and note the number of student teachers that marked yes for each question. That will help the teacher educator to better understand the behavior of student teachers in the online world, their prior knowledge and possible steps and preventive measures they are already taking to protect themselves online.



Learning activity 2: Case scenario analysis (25 minutes)

Student teachers have already learnt the potential risks and threats of the internet, and some measures they can take to keep themselves safe when interacting with the internet. Through this activity, they will learn how they can use and apply that knowledge to keep themselves safe in real-case scenarios.

Divide student teachers into groups, and assign one scenario to each group. Explain the tasks to be completed and request that each group nominate one rapporteur, who will take notes during the discussion and later present the conclusions to the whole class.

After completing the task, ask each group to share their answers with the class and provide direct feedback on their answers. You can ask other student teachers to provide comments on the conclusions presented by each group.



Possible student teachers' responses

These answers are just indicative. Student teachers might come up with different answers and ideas.

<p>Scenario 1. Grooming I just received a new friend request in my social media account. I do not exactly remember if I know this person, but I accept her request anyway. She is a beautiful girl of around my age. I check in her profile to find out more information about her, but she only has a few photos that seem to be taken on the same day. There are no other photos with her friends or family, and it shows that her profile was created only four months ago. Two days after I accept her friend request, the girl starts chatting with me. She seems very nice, very friendly and also funny.....</p>	<p>a) What signals make you think or realise that this situation might put your safety and privacy at risk?</p> <ul style="list-style-type: none"> - You do not know the person in the real life. - Check if you have friends in common with the person. If you do not have friends in common, it might be a sign that it is a fake profile. - Check when was the account created. If it was recently created, and if it does not provide much personal information, it might be a fake account. - Check the timeline of the profile. Do the posts and status update show a pattern in the behavior of the person? Any signs that it might be a fake account? Like random posts? - Google the name of the person to find out if she has other social media accounts or whether there is more information available about her online. <p>b) What actions/steps would you take to make sure that there is no risk or that the threat is mitigated?</p> <ul style="list-style-type: none"> - If you are not sure that you know the person, do not accept the friend request. - Report the profile. Most social media allow users to report not only content, but also fake profiles or users. - If someone that you do not know starts flirting with you online, do not accept meeting the person in real life unless you can make sure it is safe to do so. - If a minor encounters a similar situation, he or she should report to the tutors/parents/teachers.
<p>Scenario 2. Hate Speech / Misinformation I receive a Viber message from my school friend telling me that a migrant person from another State has bitten one of our neighbours and injured him badly. He also sends me a photo of the victim covered in blood, there is so much blood that I cannot recognise if that is my neighbour. My friend did not take the photo, his aunty sent it to him. He is telling me that migrants from that State that have come to my town, cannot find jobs, and they are, now, stealing money from people. They do not care if they have to beat them up in order to get what they want. I need to share this information with my friends, so that they also know about it and will be able to take necessary action.</p>	<p>a) What signals make you think or realise that this situation might put your safety and privacy at risk?</p> <ul style="list-style-type: none"> - In this case, the risk is that the information might be false, so it can put at risk the safety of others, like migrant groups, or certain ethnic groups. - My friend does not know where the information is coming from. Does it come from a newspaper or a trusted news media outlet? Or was it just shared by someone that then shared it with someone else, until it got to my friend? - It is not possible to identify the place where the video was filmed, neither the people involved. It could be anywhere else in the country or the world. - It is not possible to know when was the video filmed. It could have been filmed months or even weeks ago. - I have not read or listened to any news about this incident in the newspapers or TV. - I cannot find more information about this incident in other news media or information sources, like internet. <p>b) What actions/steps would you take to make sure that there is no risk or that the threat is mitigated?</p> <ul style="list-style-type: none"> - Do not share the content if you cannot make sure that it is truthful information. - If you think the content might harm a certain group of people, spread the voice among your friends and family members that such a hate speech content or untruthful news is being spread through social media, and they should not believe it and not share it further. - Report the content (some social media like Facebook or Instagram give the possibility to report content that constitutes hate speech or misinformation).

<p>Scenario 3. Harmful Advice / Misinformation I am getting so fat, the clothes I bought last month do not fit me anymore. I think I will try diet to lose a few pounds. Let's check what I can find in the internet.....Oh! This diet looks very effective, there is a comment from a girl who lost 20 pounds in one month. There is also a comment from a doctor that says that is the best way to lose weight and start a healthier lifestyle. It also looks very easy, I just need to eat one portion of rice a day at lunch time. Only rice, no meat, fish or vegetables. It sounds a bit challenging, because I cannot eat anything else during the day. For breakfast and dinner I would only be allowed to drink tea. But I really want to lose weight, so I will do it! I know I can do it!</p>	<p>a) What signals make you think or realise that this situation might put your safety and privacy at risk?</p> <ul style="list-style-type: none"> - What kind of website is it? Is it trustworthy? Is it a web from a nutritionist or about nutrition? Is it an article from a lifestyle magazine? - Is the diet backed up by scientific research? Do other websites, magazines, medical or nutritional studies back up the findings of the diet or propose the diet as a healthy way of losing weight? - Are the reviews provided by users who have tried the diet reliable, or could they have been made up? - Is it an advertisement disguised as an nutrition article and they are trying to sell nutrition products? - The diet looks miraculous. It is not likely that any healthy diet will deliver such results in such a short period of time. <p>b) What actions/steps would you take to make sure that there is no risk or that the threat is mitigated?</p> <ul style="list-style-type: none"> - Browse on the internet if there are other websites that talk about the diet. - Check if there are scientific studies or reviews by nutritionists that review the diet. - Consult with a doctor or nutritionist if the diet is reliable and safe or whether it can be dangerous for your health.
<p>Two weeks ago I received a Viber message from my mom, who lives in our village very far from where I am. She needs some money to make a renovation in our family home, so I asked her to give me her bank account information so that I can send her the money as she requested. Today, she called me again to ask me how is school. She is so ungrateful, she did not mention the money I gave her or even thank me. I am sure she spent the money to buy some fancy clothes instead of the renovating the house.</p>	<p>c) What signals make you think or realise that this situation might put your safety and privacy at risk?</p> <ul style="list-style-type: none"> - My mom did not mention the money transfer the last time she called me, so something must be wrong. - My mom never asked me before to transfer her money through a Viber message, she always calls me. - It is strange and not very usual that someone asks for money through a mobile messaging app. I cannot really know if the person behind that profile is actually who I think he or she is. <p>d) What actions/steps would you take to make sure that there is no risk or that the threat is mitigated?</p> <ul style="list-style-type: none"> - Anytime someone, a company or an organisation requests a transference of money, I should question its veracity, especially if the request is been done through an instant messaging app like Viber, instead of proper communication channels like email or post mail. - As soon as my mom asked me to transfer the money, I should call her to make sure the request is legitimate. - As soon as I find out someone is using my mom's profile, or the identity of someone I know, I should inform that person, so that they can change their safety settings and reset their passwords. Their accounts might have been hacked.

<p>Scenario 5. Privacy</p> <p>My brother is very active on social media. Whenever he goes out with his friends, he writes posts like: ‘I’m having dinner at Super Burger, they have the best burgers in town’. Since he moved out from our family home to live by himself, he keeps bragging about how great it was to live alone in social media with messages like: ‘So peaceful and quite in my own apartment. I feel so free living by myself!’ When he is travelling he also brags about it: ‘Going to Vietnam for the New Year! See you Yangon next Monday!’</p> <p>The last time he came back from his vacation, someone had broken into his apartment and stole his computer and some money.</p>	<p>a) What signals make you think or realise that this situation might put your safety and privacy at risk?</p> <ul style="list-style-type: none"> - If I share too much private information on the internet, like my home address, my phone number, my whereabouts, etc. I am exposing myself too much and providing information that can be valuable for criminals. <p>b) What actions/steps would you take to make sure that there is no risk or that the threat is mitigated?</p> <ul style="list-style-type: none"> - Do not share private information that might expose yourself too much.
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Assessment

- Brief verbal feedback during presentations; and
- Peer assessment: other groups comment on the findings presented by each group.



Learning activity 3: Online safety rules for students (20 minutes)

This activity will allow student teachers to think not only of their own safety when they engage with the internet, but also how to protect their future students when they use the internet. They will be able to apply the knowledge and skills learnt in Lesson 6.1.1. and Lesson 6.1.2.

Divide student teachers into groups, and explain the tasks to be completed. Provide a flipchart and marker pens to each group to create their posters.

Ask each group to present their posters and ask them why they think those rules are the most important ones for internet safety.



Possible student teachers' responses

Student teachers might come up with different rules and messages in their posters. There is no right or wrong answer in this activity. What is relevant is the justification and rationale that each group provides for the selection of the top three rules included in their posters. They should keep in mind of the situations into which students might be more vulnerable when using the internet.



Assessment

- Concept-checking or comprehension questions directed to each group. Questions might include:
 - ‘Why did you choose those three rules? Why do you think those rules are the most important ones to keep students safe online?’
 - ‘Do you think the students will understand the rules?’
 - ‘Do the posters include an explanation on why those rules need to be followed to stay safe online? In other words, with the help of this poster, do you think students will understand that there are a series of threats on the internet that they need to keep themselves safe from?’



Learning activity 4: Assessment (to be completed after class)

This learning activity will assess the knowledge acquired by the students on some of the basic safety measures that internet users might take to protect themselves.

Ask student teachers to complete this activity at home and dedicate 5 minutes at the beginning of the next lesson to provide the answers and clarify any questions that student teachers might have.

Alternatively, student teachers can submit the output in written form to teacher educators responses and clarify any possible questions they might have.



Assessment

- Direct verbal or written feedback to student teachers, based on the correct responses for each question. Responses are provided below:

1. From these passwords, which one is the most secure one?

- a) ~~Dy_834mS@~~
- b) Password123456
- c) P@sword
- d) Yangon00\$

2. If you receive an email from someone that you do not know. What should you do?

- a) Open the email and read it. If it contains attachments, I should open them to understand better what the sender is trying to tell me. They might contain very important information.
- b) ~~Never open the email and delete it right away~~

c) Even if I do not know the sender, it might be important. If after opening the email and reading it, I get the sense that it might be a scam, I should not open the attachments and delete the email.

3. If I get a friend request in my social media account from a person that I do not know, I should:

- a) Accept the friend request. If he or she found me online, it means that the person genuinely wants to be my friend. Or probably he or she is a friend of someone that I know, so is always good to connect with new people.

b) Do not accept the friend request.

c) Check if the requester has common friends with me. If he or she has common friends, then it is safe to accept the request.

d) Check the profile of the requester. If he or she has recently taken photos, the timeline shows regular activity online, or if he or she is from my same town, then it is safe to accept the request.

4. You have joined a new social media network. You have been using it for more than three months, but you are not getting many followers and friend requests. The social media suggests you to include some more information in the profile, and add new photos, so that your friends can find your profile and follow you.

What will you do?

- a) Add as much information as I can until my profile is complete at 100%.
- b) Send friends requests and follow requests to all the profiles that the social media suggests me. After I follow or friend them, they will follow and friend me back.
- c) Provide some additional fake information in the profile. Just enough information to get additional followers and friend requests.

d) Ignore the suggestion of the social media, and continue operating with the basic information I provided when I signed in.

5. A friend of mine just shared in his Facebook the post of a girl from our town who claims that the owner of one restaurant served her dog meat instead of beef. She provides the name of the shop and is asking for a boycott.

- a) The owner of that restaurant is playing with people's health. I will also share the post of the girl so that everyone knows what happened and they do not go to that restaurant anymore.

b) I will check first who this girl is, maybe she does not get along with the owner of the restaurant, or they had some personal issue and now she is mad at him and wants to defame him.

- c) The owner of the restaurant is playing with people's health. I will share the information using instant messaging apps like Viber or Whatsapp. That is the safest way to share this kind of sensitive information, as it is more private.
- d) I will not share the information, as I am not sure if it is true or false, but I will write a comment supporting the boycott. That is the right thing to do as a responsible citizen.



Check student teachers' understanding

Guide student teachers in learning to identify the signs that might anticipate a potential risk or threat when engaging with the internet (including social media, instant messaging apps, etc.). Emphasise that despite the risks and dangers of the online world, there are some preventive measures that can be adopted. That requires continuous learning, as the internet and social media is constantly evolving and new threats might emerge in the future.

6.1.3. Privacy in the online world

Expected learning outcomes



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

- Realise the loss of privacy that might occur when engaging with the internet; and
- Demonstrate the use of main privacy management functions to manage personal information and protect users, especially minors.



Competenices gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the learning context.

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

C1.4 Demonstrate responsibility and accountability for the use of education resources



Time: 1 period of 50 minutes



Learning strategies: Group work and teacher-led discussion to complete Learning activities 1, 2 and 3



Preparation needed: This lesson dives further in the concept of privacy online that was presented and discussed in Lesson 6.1.1. and Lesson 6.1.2. Activity 4 from the previous lesson will be discussed at the beginning of this lesson.

Teacher educators may refer to the following reference to prepare for this lesson.

Title	Link	QR Code	Source
MIL Curriculum For Teachers (English)	http://unesdoc.unesco.org/images/0019/001929/192971e.pdf		UNESCO
MIL Curriculum For Teachers (Myanmar Language)	http://unesdoc.unesco.org/images/0019/001929/192971MYA.pdf		UNESCO
Digital Citizenship Videos	https://www.commonsense.org/education/video/digital-citizenship		Common Sense Education
The State of the World's Children 2017: Children in a Digital World	https://www.unicef.org/publications/index_101992.html		UNICEF
Media Smarts	https://mediasmarts.ca/digital-media-literacy		Canada's Centre for Media and Digital Literacy
Internet Bawdar	https://www.internetbawdar.com/		Phandeeyar



Resources needed: One laptop, tablet or smartphone per student, internet connection, flipcharts, marker pens.



Learning activity 1: Explore (10 minutes)

Through this activity, student teachers will realise how much information about themselves is public on the internet and can be accessed by anyone.

Ask students to pair up with a classmate and explain the tasks to be completed for this activity.

After student teachers have completed the tasks, ask a few of them to tell the whole class the results of their search.



Possible student teachers' responses

During the activity, student teachers might have found out the following:

- Their Facebook profile is 'public' and therefore, all their posts, including photos and status updates are visible to everyone;
- Their Facebook profile might not be entirely 'public', but photos or videos uploaded by friends in which they are tagged in, might be 'public' and accessible to everyone;
- Personal and private data such as: their home address, the school where they studied, information about their family members or partner, etc. might be accessible to everyone online; and
- Photos and information that they did not know was public, can be easily accessible by anyone googling their names.



Assessment

- Brief verbal feedback in response to the findings of the online search carried out by student teachers. Teacher educators can ask the following questions to the whole class to reflect on the results of the search done online:
 - 'How much information have you found about your classmate? What kind of information is that?'

- ‘Were you aware that all that information about you was public in the internet and that anyone has access to it?’
- ‘How do you feel about that information being public online?’



Learning activity 2: Explore and analyse (15 minutes)

Through this activity, student teachers will learn about the privacy management options that are available in the different social media networks and analyse the options that are provided to the users and their accessibility.

1. Divide students in different groups and assign them one social media network or online platform such as: Facebook, Instagram, Twitter, Viber, WhatsApp, Gmail, WeChat, Line, etc.
2. Explain the tasks that need to be completed following the instructions and guiding questions in the textbook.
3. If student teachers have difficulties in understanding what privacy settings and what terms and conditions are, the teacher educator might want to make a demonstration to the whole class to explain the tasks that need to be completed for the activity. For that purpose, the Teacher Educator might select one social media and present to the class where the privacy settings and the terms and conditions are located.
4. Each group should nominate a rapporteur who will compile the answers and be responsible for reading them out to the class.
5. Ask the rapporteur of each group to present the findings of their analysis of the privacy settings and terms and conditions of the social media network assigned to them.



Possible student teachers' responses

After analysing the privacy management tools and terms and conditions in the different social media networks, students might come up with conclusions along the following lines:

- Many social media only provide privacy settings and terms and conditions in English or other languages, but not in Myanmar. This means that a large percentage of the population in Myanmar cannot understand the terms and conditions that they are signing up for when joining the social media, and they cannot manage effectively the privacy settings effectively;

- Some social media networks do not explain clearly, which are the default privacy settings they provide at the time of signing up. The explanations provided might not be clear enough for the average user, who might not be necessarily ICT literate. This impacts the user's ability to manage effectively the private information that is shared online; and
- In some cases, the reporting 'buttons' or 'mechanisms' might not be clearly displayed in the interface. Explanations or information related to the possibility of reporting content might be difficult to locate or access.

Important note for the teacher educators: Social media networks change their privacy settings very often for different reasons. Their location and the functions they provide might vary overtime. It is important for students to understand this, and that it is recommended to check regularly the privacy setting of the social media networks that they are using.



Assessment

- Brief verbal feedback on the tasks to be completed.



Learning activity 3: Assessment: Protecting the privacy of children and young boys and girls (25 minutes)

The objective of this activity is to assess student teachers' overall understanding of the concepts learnt throughout the unit and its application in their day-to-day life and in the classroom.

- Divide student teachers into different groups. Explain the tasks that need to be completed.
- After student teachers complete the tasks, they will make a presentation to the whole classroom. They can nominate one to three students to make the presentation.

As this is the last activity of the unit, and it aims at assessing the students understanding of the basic concepts related to online safety and privacy, the activity can be done as an individual or group assignment to be completed after class. Instead of doing a presentation, teacher educators can ask student teachers to produce a document targeting parents explaining the risks and threats that their kids are exposed to when they use internet and orienting them on how can they protect better their kids and their privacy in the online world.



Possible student teachers' responses

Student teachers might choose different ways and formats to present their work to the class:

- They might want to perform a role-play, where some student teachers play the role of parents and other member of the group plays the role of the teacher.
- They might want to write the main points in a flipchart and present it to the class.
- They can prepare a power point presentation.
- They might want to design a poster with key messages.



Assessment

- Brief verbal feedback by both teacher educator and classmates. Presentations could be assessed based on the following criteria:
 - Understanding of the concepts around protection and privacy in the online world covered in Lessons 6.1.1., 6.1.2. and 6.1.3;
 - Use of appropriate language and information, considering that the target audience of the presentation are the parents of students;
 - Ideas are presented in a clear manner that is easy to understand for the intended audience: parents. Considering that parents might not be familiar with some of the concepts around safety and privacy, every new term and concept should be properly explained and not assume that parents already know it; and
 - Capacity to summarise a few key ideas within the 5 minutes given to them. They should not try to cover all concepts from Lessons 6.1.1., 6.1.2. and 6.1.3. as there is not enough time for that. Even if they just cover a few concepts, it is acceptable, as long as those few concepts are well explained and they stick to the given timing.



Checking student teachers' understanding

Guide student teachers in realising the importance of keeping private information private and how much information about themselves might be available online for anyone to access it. Encourage students to learn more about the privacy features of the different social media, instant messaging apps and other online platforms that they might be using to avoid sharing private information.



Review questions and possible student teachers' responses

1. What are the risks of interacting with the internet?
 - Age-inappropriate content, illegal content, misinformation, incitement to harm, hate speech, defamation, copyright infringement; harmful advice, identity theft, phishing, commercial fraud, grooming, cyberbullying, disclosing private information, profiling, plagiarism.

2. What can users do to avoid being affected by the risks and threats of interacting with the internet and online communication platforms?
 - Stay vigilant and try to spot signs that might alert them of the possible threat. Also, take the necessary measures to protect themselves, which might include: keeping password safe; creating strong passwords; providing only the information that is mandatory when signing up in new online websites; keeping in mind age requirements; logging out from personal accounts when operating with a public ICT device; keeping all software up-to-date; downloading content only from trusted sources; accepting friend requests on Facebook only from people that we know; learning about the privacy settings of social media accounts; etc.

Unit Summary



Key messages

- Although the internet provides many opportunities to access information, self-expression, acquire new knowledge and communicate, it also exposes users to risks related to their health, privacy, safety and overall well-being.
- Citizens have to understand the threats and risks that they are exposed to when engaging with the internet.
- Citizens must stay vigilant when interacting and engaging with the internet to avoid being affected by the risks and threats of the online world.
- Citizens have to understand the loss of privacy that might occur as a result of engaging with certain online platforms, especially social media.
- It is important to understand and know how to manage personal information through the privacy management functions of social media networks and other communication platforms on the internet.
- Youth are especially vulnerable to the risks in the online world.



Unit reflection

1. Why is it important to understand the risks that users are exposed to when interacting and engaging with the internet?
2. What steps can be taken to protect the privacy of minors in the online world?



Further reading

(Including names of printed materials and links to online materials)

Title	Link	QR Code	Source
MIL Curriculum For Teachers (English)	http://unesdoc.unesco.org/images/0019/001929/192971e.pdf		UNESCO
MIL Curriculum For Teachers (Myanmar Language)	http://unesdoc.unesco.org/images/0019/001929/192971MYA.pdf		UNESCO
Digital Citizenship Videos	https://www.common sense.org/education/video/digital-citizenship		Common Sense Education
The State of the World's Children 2017: Children in a Digital World	https://www.unicef.org/publications/index_101992.html		UNICEF
Media Smarts	https://mediasmarts.ca/digital-media-literacy		Canada's Centre for Media and Digital Literacy
Internet Bawdar	https://www.internetbawdar.com/		Phandeeyar

Unit 7

Computer Application

You are going to navigate the basic functions of presentation tools in this unit. In semester one of first year, you have learnt and became familiar with basic Word processing which most of its basic functions are similar to Presentation that you are going to learn in this unit. If you know how to modify text, paragraph, tables, illustrations, pictures in word processing, you should be able to do the same in Presentation without any difficulty. The new functions you are going to learn in Presentation are slide layout and formatting, inserting hyperlinks/images/charts/audio/video clips which are divided into three lessons under one unit: Basic functions of presentation 1, 2 and 3.

Expected learning outcomes

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

- Describe and perform the basic functions of presentation tools such as Microsoft PowerPoint (slide layout and formatting, inserting hyperlinks/images/charts/audio/video clips); and
- Print a presentation file.



7.1. Presentation

What is presentation program?

A presentation program is an application software which allows you to organise your ideas by using text, images, videos, diagrams with animations and transitions in slideshows format in order to share with other people. There are many types of presentation software, such as: Libre Office Impress; FlowVella; Powtoon and many more. People in different industries are wisely using presentation application in their daily official life. For example, Medical Presentations are used to give awareness about health to the public, Financial Presentations are used to present about financial analysis using graph or chart, Marketing Presentations are used to present marketing plan or attract new clients.

In education, teacher can create a presentation file to teach lessons. Presentation is an important skill for student teachers to present the lessons effectively for any other subjects using a computer. Student teachers need to be familiar with the basic features of presentation. A creative presentation can engage students to the lesson and help the students to deepen the understanding of the topic by images, videos, graphics, motion pictures. The presentation file is easy to share and if teacher have recorded the explanation of the lecture in the presentation, students can review it by themselves for the part they were not able to catch during the lesson. Students can present their assignments, school project by using the presentation application. Administration staffs, especially school principal can use presentation application to share their management plan or administration information in the meeting with parents, school committee, teachers and other education officials. In this unit, you will be learning Microsoft PowerPoint to get familiar with the basic features of a presentation application. If you know how to use Microsoft PowerPoint, you will be able to easily adapt the features of other presentation software.

7.1.1.

Basic functions of presentation 1

Expected learning outcomes



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

- Describe the basic features of a presentation application;
- Manage layout, design and formatting of presentation slides; and
- Do font, paragraph and text formatting.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning



Time: 1 period of 50 minutes



Learning strategies: Flipped classroom, group work, individual work after class



Preparation needed: At the end of the previous lesson, student teachers are instructed by teacher educators to do self-study of the Student Teacher Textbook prior to the lesson. Student teachers need to write down questions or difficulties found during their self-study so that these questions can be discussed in the class. Student teachers need to be able to use the computer room or ICT room or any room with ICT facilities out of school hours to complete the activities.

At the same time, teacher educators also need to complete the reading and practical tasks in this lesson in the Student Teacher Textbook in advance. Teacher educators can explore the following website to widen the content knowledge. The references are particularly useful if the topics to be covered are new to teacher educators.

Title	Link	QR Code	Source
Basic ICT Literacy Training Manual	https://edc.moe.edu.mm/en/resource/unesco-basic-ict-literacy-training-manual-myanmar		UNESCO
Understanding Microsoft PowerPoint and How to Use it	https://www.lifewire.com/how-do-i-use-PowerPoint-2767371		Lifewire
File format reference for Word, Excel, and PowerPoint	https://docs.microsoft.com/en-us/deployoffice/compat/office-file-format-reference		Microsoft
PowerPoint Basics	https://edu.gcfglobal.org/en/PowerPoint2010/		GCFGLobal

Student teachers can sit in the normal classroom settings and can easily work in groups of 3-5 in the computer room or the ICT room.



Resources needed: ICT Student Teacher Textbook, 7.1.1. Computer, presentation software



Learning activity 1: Introduction (35 minutes)

1. As the whole class, ask student teachers to explain some functions that a presentation application can do.
2. Ask student teachers to work in groups to discuss common problems using Microsoft PowerPoint.
3. Each group discusses the problems they encountered when using Microsoft PowerPoint and suggests ways to address them. Each group should take notes by filling the table provided in Student Teacher Textbook. and be prepared to share their discussion output with the whole class.
4. Ask some groups to share their problems using Microsoft PowerPoint and possible solutions/suggestions.
5. Demonstrate the tasks that most student teachers could not completed, provide

necessary support and clarifications.



Assessment

Formative assessment

Teacher educator can observe the student teachers’ individual work during self-study using student teacher text book. Teacher educator can observe the student teachers’ individual work and provide verbal feedback.

Summative assessment information

The output created by student teachers can be used for summative assessment of the lesson.



Possible student teachers’ responses

The student teachers’ responses could be varied. Some possible responses are as following:

Common Problems using Microsoft Word	Possible Solution / Suggestion
I cannot change the existing layout.	Select the slide you want to change, click dropdown arrow of layout button and click the new layout you prefer.
I cannot fix that my slide it moving from one to another quickly.	Make sure to check the box of On Mouse click in Timing group of Transitions tab.
I draw two shapes. I want to move the first shape at the back of another shape.	Select the shape you want to rearrange, click the dropdown arrow of the Arrange button, click send to back.



Check student teachers’ understanding

Teacher educator can check student teachers’ understanding by observing their work which is saved in the computer and their responses during the discussion in class.



Extension and differentiation activities

For more-able student teachers, teacher educators can advise them to try to make a PowerPoint presentation. Tell the student teachers that many features on Google Slides are similar to those available in Microsoft PowerPoint. The

advantage of using Google Slides is that different student teachers can get connected to collaborate on the same presentation slides at the same time. Real time changes can be seen on the screen and the presentation slides is automatically saved. One downside is that one needs to be online when editing the Google Slides. There is also a feature that the Google Slides can be converted and saved in Microsoft PowerPoint format for easy file sharing for working further offline.

Teaching tips

More explanations about Google Slides can be found at <https://www.google.com/slides/about/>



For less-able student teachers, teacher educators may provide some screencast links about basic features of a PowerPoint application so that student teachers can learn by themselves following the screencasts.



Learning activity 2: Individual work (15 minutes)

Teacher educator will guide student teachers to complete their tasks according to the step-by-step instruction in student teacher textbook. Student teacher can continue working on the activity after class. Student teachers are requested to submit their assignment as soft copy by USB flash drive or any other way as deemed appropriate by teacher educators. Ensure that the computer room or the ICT room is available for access outside school hours so that student teachers can do the assignments. If needed, prepare a sign-up sheet to ensure that different student teachers get a timeslot to use the computer.

Note: Please provide the instruction for student teachers to prepare for the next lesson.



Assessment

Formative assessment

In this activity, teacher educators can observe the student teachers' individual work.

Summative assessment information

The output created by student teachers can be used for summative assessment of the lesson.



Possible student teachers' responses

Student teachers should produce a PowerPoint file which include 13 slides, title on the first slide, facet and blue green theme color, the third slide includes picture with 85% transparency without background graphic, slide number inserted, different transitions for each slide, slide content with animation.



Check student teachers' understanding

Teacher educator can check student teachers' understanding by observing their work which is saved in the computer with the file name 'Lesson 7.1.1_Activity 2_ [Add Your Name Here]'.



Extension and differentiation activities

For more-able student teachers, teacher educators can advise them to try to make a PowerPoint presentation. Tell the student teachers that many features on

Google Slides are similar to those available in Microsoft PowerPoint. The advantage of using Google Slides is that different student teachers can get connected to collaborate on the same presentation slides at the same time. Real time changes can be seen on the screen and the presentation slides is automatically saved. One downside is that one needs to be online when editing the Google Slides. There is also a feature that the Google Slides can be converted and saved in Microsoft PowerPoint format for easy file sharing for working further offline.

For less-able student teachers, teacher educators may provide some screencast links about basic features of a PowerPoint application so that student teachers can learn by themselves following the screencasts.

Teaching tips

More explanations about Google Slides can be found at <https://www.google.com/slides/about/>



7.1.2. Basic functions of presentation 2

Student teachers should have known how to navigate the PowerPoint interface and working in formatting slides under design tab, transitions tab, animations tab. This lesson will provide student teachers to further learn and practice more features, such as table, images and illustration, links, media files.

Expected learning outcomes



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

- Insert and modify table, images and illustrations; and
- Insert links, media files and manage them.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning



Time: 1 period of 50 minutes







Learning strategies: Flipped classroom, group work, individual work after class



Preparation needed: At the end of the previous lesson, student teachers are instructed by teacher educators to do self-study on the Student Teacher Textbook prior to the lesson. Student teachers need to write down questions or difficulties found during self-study so that these questions can be discussed in the class. Student teachers need to be able to use the computer room or ICT room or any room with ICT facilities out of school hours to complete the activities.

At the same time, teacher educators also need to complete the reading and practical tasks in this lesson in the Student Teacher Textbook in advance. Teacher educators can explore the following website to widen the content knowledge. The references are particularly useful if the topics to be covered are new to teacher educators.

Title	Link	QR Code	Source
Basic ICT Literacy Training Manual	https://edc.moe.edu.mm/en/resource/unesco-basic-ict-literacy-training-manual-myanmar		UNESCO
Understanding Microsoft PowerPoint and How to Use it	https://www.lifewire.com/how-do-i-use-PowerPoint-2767371		Lifewire
File format reference for Word, Excel, and PowerPoint	https://docs.microsoft.com/en-us/deployoffice/compat/office-file-format-reference		Microsoft
PowerPoint Basics	https://edu.gcfglobal.org/en/PowerPoint2010/		GCFGLobal

Student teachers can sit in the normal classroom settings and can easily work in groups of 3-5 in the computer room or the ICT room.



Resources needed: ICT Student Teacher Textbook, Lesson 7.1.2, Computer, presentation software



Learning activity 1: Introduction (15 minutes)

1. Ask student teachers to work in groups to discuss common problems during self-study using their note and the work they saved.
2. Each group should discuss the problems they encountered when using Microsoft PowerPoint and suggest ways to address them. Each group should take notes by filling the table provided in Student Teacher Textbook and be prepared to share their discussion with the whole class.

3. Ask some groups to share their problems using Microsoft PowerPoint and possible solutions/suggestions.
4. Demonstrate the tasks that most student teachers could not complete, provide necessary support and clarifications.



Assessment

Formative assessment

Teacher educator can observe the student teachers' individual work during self-study using student teacher text book. Teacher educator can observe the student teachers' individual work and provide verbal feedback.

Summative assessment information

The output created by student teachers can be used for summative assessment of the lesson.



Possible student teachers' responses

The student teachers' responses could be varied. Some possible responses are as following:

Common Problems in using Microsoft Word	Possible Solution / Suggestion
I would like to keep the audio I put in first slide to keep playing until the end of the presentation but I cannot.	Select the audio you inserted in slideshow, select the checkboxes of Play Across Slides and Loop until stopped in Audio Options group in Playback tab.
I do not know how to modify effect in a slide.	Select a textbox you would like to modify, choose one Animation and click dropdown arrow of Effect Options under Animation tab, click on the option you prefer.



Check student teachers' understanding

Teacher educator can check student teachers' understanding by observing their work which is saved in the computer and their responses during the discussion in class.



Extension and differentiation activities

For more-able student teachers, teacher educators can advise them to try to make a PowerPoint presentation. Tell the student teachers that many features on Google Slides are similar to those available

in Microsoft PowerPoint. The advantage of using Google Slides is that different student teachers can get connected to collaborate on the same presentation slides at the same time. Real time changes can be seen on the screen and the presentation slides is automatically saved. One downside is that one needs to be online when editing the Google Slides. There is also a feature that the Google Slides can be converted and saved in Microsoft PowerPoint format for easy file sharing for working further offline.

Teaching tips

More explanations about Google Slides can be found at <https://www.google.com/slides/about/>



For less-able student teachers, teacher educators may provide some screencast links about basic features of a PowerPoint application so that student teachers can learn by themselves following the screencasts.



Learning activity 2: Individual work (35 minutes)

Teacher educator should guide student teachers to complete the tasks according to the step by step instruction in the Student Teacher Textbook. Student teacher can continue working on the activity after class. Student teachers are requested to submit their assignment as soft copy by USB flash drive or any other way as deemed appropriate by teacher educators. Ensure that the computer room or the ICT room is available for access outside school hours so that student teachers can do the assignments. If needed, prepare a sign-up sheet to ensure that different student teachers get a timeslot to use the computer.

Note: Please provide the instruction for student teachers to prepare for the next lesson.



Assessment

Formative assessment

In this activity, teacher educators can observe the student teachers' individual work.

Summative assessment information

The output created by student teachers can be used for summative assessment of the lesson.



Possible student teachers' responses

Student teachers should produce a PowerPoint file which include 13 slides, title on the first slide, facet and blue green theme color, the third slide includes picture with 85% transparency without background graphic, slide number inserted, different transitions for each slide, and slide content with animation.



Extension and differentiation activities

For more-able student teachers, teacher educators can advise them to try to make a PowerPoint presentation. Tell the student teachers that many features on Google Slides are similar to those available

in Microsoft PowerPoint. The advantage of using Google Slides is that different student teachers can get connected to collaborate on the same presentation slides at the same time. Real time changes can be seen on the screen and the presentation slides is automatically saved. One downside is that one needs to be online when editing the Google Slides. There is also a feature that the Google Slides can be converted and saved in Microsoft PowerPoint format for easy file sharing for working further offline.

Teaching tips

More explanations about Google Slides can be found at
<https://www.google.com/slides/about/>



For less-able student teachers, teacher educators may provide some screencast links about basic features of a PowerPoint application so that student teachers can learn by themselves following the screencasts.

7.1.3.

Basic functions of presentation 3

In Lessons 7.1.1. and 7.1.2., student teachers have learnt how to navigate the commonly used PowerPoint Presentation interface and become familiar with its basic functions. In this lesson, they are to revisit those features practically and apply the skills in the educational context.

Expected learning outcomes

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

- Describe and perform the basic functions of Microsoft PowerPoint to create a presentation file; and
- Print a presentation file.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning



Time: 1 period of 50 minutes



Learning strategies: Flipped classroom, Group work, Individual work after class



Preparation needed: Prior to lesson, student teachers should do the revision and practice all the tasks in Lessons 7.1.1. and 7.1.2. Student teachers are advised to write down questions or difficulties found. Student teachers need to be able to use the computer room or ICT room or any room with ICT facilities out of school hours to complete the activities.

At the same time, teacher educators also need to complete the reading and practical tasks in this lesson in the Student Teacher Textbook in advance.

Student teachers can sit in the normal classroom settings and can easily work in groups of 3-5 in the computer room or the ICT room.



Resources needed: ICT Student Teacher Textbook, Lessons 7.1.1., 7.1.2., & 7.1.3.; Computer, presentation software



Learning activity 1: Introduction (15 minutes)

1. Ask student teachers to work in groups to discuss common problems during their self-study using their notes and the work they saved.
2. Each group discusses the issues or any tasks that they still unclear or cannot complete by each group member.
3. In group, brainstorm and suggest ways to address the issues. Each group should take notes by filling the table provided in Student Teacher Textbook and be prepared to share their discussion with the whole class.
4. Ask some groups to share their problems using Microsoft PowerPoint and possible solutions/suggestions.
5. Demonstrate the tasks that most student teachers could not completed, provide necessary support and clarifications.



Assessment

Formative assessment

Teacher educator can observe the student teachers' individual work during self-study using student teacher text book. Teacher educator can observe the student teachers' individual work and provide verbal feedback.

Summative assessment information

The output created by student teachers can be used for summative assessment of the lesson.



Possible student teachers' responses

The student teachers' responses could be varied. Some possible responses are as following:

Common Problems using Microsoft Word	Possible Solution / Suggestion
I do not know how to make background picture to become blur.	Click format background in Design tab, increase the percentage of Transparency using up arrow.
I would like to make all the background picture the same in all slides.	Select the slide that you already insert a picture as a background. Click Format Background in Design tab, click Apply to All button.
I would like to change the color of the selected theme.	Click on the slide, click the dropdown arrow of Variants group, click on color and choose the color you like.



Check student teachers' understanding

Teacher educator can check student teachers' understanding by observing their work which is saved in the computer and their responses during the discussion in class.



Extension and differentiation activities

For more-able student teachers, teacher educators can advise them to try to make a PowerPoint presentation. Inform student teachers that many features on Google Slides are similar to those available

in Microsoft PowerPoint. The advantage of using Google Slides is that different student teachers can get connected to collaborate on the same presentation slides at the same time. Real time changes can be seen on the screen and the presentation slides is automatically saved. One downside is that one needs to be online when editing the Google Slides. There is also a feature that the Google Slides can be converted and saved in Microsoft PowerPoint format for easy file sharing for working further offline.

Teaching tips

More explanations about Google Slides can be found at <https://www.google.com/slides/about/>



For less-able student teachers, teacher educators may provide some screencast links about basic features of a PowerPoint application so that student teachers can learn by themselves following the screencasts.



Review questions and possible student teachers' responses

	Yes	No	Not sure
Lesson 7.1.1.			
I can manage layout, design and formatting of presentation slides, do font, paragraph and text formatting.			
Lesson 7.1.2.			
I can insert and modify table, images and illustrations, links, media file.			
Lesson 7.1.3.			
I can describe and perform the basic functions of Microsoft PowerPoint to create a presentation file and print a presentation file.			

Unit Summary



Key messages

- A presentation application allows you to present information or provide lecture in an attractive way to uphold the audiences' attention with graphic, video, audio, and animation.
- Editing text, table, shape, pictures and many more basic features in Presentation are the same as in Word processing.



Unit reflection

Possible student teachers' responses

1. How will you apply presentation application utilising skills to create an active learning environment in your class?

I will create PowerPoint presentation to provide lecture for my subject. In my presentation slides, I will put graphics to reinforce the content, relevance video to boost visual impact. I will also prepare some questions to involve students along the presentation and I will pause at sudden points to help student thinking on the information they observe.




2. Do you think using presentation file to present a lesson add value to the lecture? Why?

Yes, I do because it helps teachers to organise the facts to present in a proper sequence and can keep the note of each slide so that teachers will not miss any important points. The various graphics, video and audio helps to draw student's attention. However, it is beneficial only if a teacher uses it in a proper way.



Further reading

(Including names of printed materials and links to online materials)

Title	Link	QR Code	Source
Basic ICT Literacy Training Manual	https://edc.moe.edu.mm/en/resource/unesco-basic-ict-literacy-training-manual-myanmar		UNESCO
Understanding Microsoft PowerPoint and how to use it	https://www.lifewire.com/how-do-i-use-powerpoint-2767371		Wendy Russell (2019)
File format reference for word, excel, and PowerPoint	https://docs.microsoft.com/en-us/deployoffice/compat/office-file-format-reference		Daniel H. Brown (2018)

Unit 8

ICT in Education

There is an emerging broad consensus worldwide about the benefits that can be brought to school education through the appropriate use of ICT. As you have learnt in Unit 1, ICT makes education more accessible, improves the quality of education and provides an effective and efficient management tool. The range of possible benefits covers practically all areas of activity in which knowledge and communication play a critical role: from improved teaching and learning processes to better student outcomes, from increased student engagement to seamless communication with parents, and from school networking and twinning to more efficient management and monitoring within the school. In this unit, you will be provided with more information about ICT use in various aspects of education, including but not limited to teaching, learning, assessments, professional development and management.

Expected learning outcomes



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

- Understand the importance of collaboration among teachers using ICT;
- Understand the importance of active teaching and learning facilitated by ICT;
- Understand the importance of different types of assessments facilitated by ICT;
- Understand the importance of professional development facilitated by ICT;
- Understand the usage of e-portfolio; and
- Understand how ICT can facilitate school management.

8.1. ICT in Education

8.1.1. ICT in teaching preparation and collaboration, active teaching and learning, and assessments

Expected learning outcomes



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

- Understand the importance of collaboration among teachers using ICT;
- Understand the importance of active teaching and learning facilitated by ICT; and
- Understand the importance of different types of assessments facilitated by ICT.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

B2.1 Demonstrate capacity to monitor and assess student learning

B 4.1 Demonstrate strategies for working together with other teachers, parents, and the local community to improve the learning environment for students



Time: 1 period of 50 minutes



Learning strategies: Flipped classroom and Teacher-led discussions to complete Learning activity 1

Group work in class to complete Learning activity 2




Resources needed: Pictures of ICT use in classrooms in some other countries

Transition between this lesson and the previous lesson: This lesson links to what the student teachers have learnt throughout Year 1 of their teacher education programme. This lesson also provides more details about ICT use particularly in education, following introduction to the same in the first lesson of Year 1 of the teacher education programme.

Preparation

- Guidance on what the teacher educator needs to know about the topic and references to resources for reading to strengthen subject proficiency

Teacher educators may refer to the following reference to prepare for this lesson.

Title	Link	QR Code	Source
E-learning Series on ICT in Education	http://archive1.unescobkk.org/fileadmin/user_upload/ict/Teacher_Training_Workshops/UNESCObkkE-LearningSerieOnICTInEducation.zip		UNESCO

- Resources and materials:
Pictures of ICT use in classrooms in some other countries for Learning activity 3.
- Flipped classroom ideas:
Student teachers are instructed to complete Learning activity 1 on the Student Teacher Textbook prior to the lesson. Ask them to write down at least one question about the topic so that this question can be discussed in the lesson.
- Links to other subjects:
This lesson provides more examples of the potential uses of ICT in Myanmar primary school classrooms. One important message from the lesson is that ICT has potential benefits to improve teaching and learning of various subjects, given that it is used properly by trained teachers.

Teaching and Learning Process

- **Ways to determine student teachers' prior knowledge**

At the beginning of the lesson, ask student teachers if they have any questions which need to be clarified based on the reading text at Learning activity 1. Remind student teachers to get familiar with the practice that every time when they read the text, mark at least one question so that this can be further discussed in the lesson.

Ask the student teachers to complete Learning activity 2 in class. This allows teacher educators to understand how much student teachers know about examples of ICT. ICT has a broader meaning including a range of electronic tools for storing, processing, creating, displaying and exchanging information and communicating.

- **Problems of any sort to anticipate in advance (cognitive, management) (informal checklist of student signs)**

Student teachers may find it hard to explain how particular ICT devices or applications can be effectively used in a classroom. For instance, student teachers may know that they can use smartphones to access the Internet to search useful resources for teaching; however, there is a possibility that they may not know how accessing the Internet in a classroom may be beneficial to teaching and learning. It is advised you particularly request some student teachers to share their thoughts to the entire class after individually completing Learning activity 3.

Sample Lesson Activities



Learning activity 1: Brainstorming

- Time management:
It is expected that around 15 minutes should be spent on this activity.
- Suggested time arrangements:

1 minute	Explain the tasks and ask student teachers to write down as many examples as possible of ICT that they know. Remind student teachers that ICT does not simply refer to computers and the internet. ICT has a broader meaning including a range of electronic tools for storing, processing, creating, displaying and exchanging information and communicating.
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3 minutes	Write down examples of ICT by individuals.
6 minutes	Ask some student teachers to read aloud their answers and record them on the whiteboard so that there will be a consolidated list of examples of ICT on the whiteboard. Briefly explain some of the ICT devices if the terms are unfamiliar with some of the student teachers.
5 minutes	Ask student teachers to circle on their Student Teacher Textbook the ICT devices that individual thinks that he/she is familiar with using. This is a quick check to see how many student teachers know about the use of some ICT devices.

- Suggested answers:

This is not an exhaustive list of examples of ICT. Student teachers may have some other examples of ICT suggested. As long as the devices fit in the definition of ICT as electronic tools for storing, displaying, processing, creating and exchanging information and communicating, the answers should be acceptable.

Storing	hard disk, CD (compact disc), VCD (video compact disc), DVD (digital versatile disc), flash drive, cloud storage
Displaying	television, monitor, projector, printer, interactive whiteboard, touchscreen, virtual reality, augmented reality, podcast, vodcast
Processing	calculator, CPU (central processing unit), GIS (geographic information system), GPS (global positioning system), EMIS (education management information system), smartphone, tablet, phablet (combination of smartphone and tablet), laptop, desktop, wearable devices (such as smartwatch)
Creating	audio, video, graphic, digital recorder, digital camera, voice recognition, OCR (optical character recognition), screencast, website, blog, wiki
Exchanging information	WiFi (wireless fidelity), MiFi (mobile WiFi hotspot), LAN (local area network), WAN (wide area network), bluetooth, radio
Communicating	email, forum, instant messaging, web conferencing, social networking

- Extension activities:

Student teachers can be asked to provide some other examples of commonly seen devices in daily life and write them down on the board. This may be useful for activity 3 to help student teachers brainstorm the types of devices which are appropriate for particular scenarios.



Learning activity 2: Roles of ICT in Myanmar classrooms

- **Time management:**
It is expected that around 35 minutes should be spent on this activity.
- **Suggested time arrangements:**

3 minutes	Explain the tasks and divide student teachers into groups. It is ideal if each group is of the size of 3-5 student teachers.
5 minutes	Brainstorm individually to answer the questions ‘What ICT devices and/or applications do you have? Do you think the ICT devices and/or applications have potential of being used in Myanmar primary school classrooms? Explain your answers. ‘Remind student teachers to think about the need and characteristics of primary students when brainstorming.
8 minutes	Instruct each group to assign one student teacher as a note-taker. Take turns within each group to share the answers with the group members.
9 minutes	Call for some student teachers to present their group outputs to the whole class.
10 minutes	Show and explain some pictures of ICT use in classrooms in some other countries to give an idea to student teachers of some possible use of ICT in classrooms. Debrief how ICT can be used in the classrooms to contribute to teaching and learning.

- **Room organisation:**
There is no specific requirement for the room organisation. Student teachers can sit in the normal classroom settings and work in groups of 3-5, depending on the class size.
- **Suggested answers:**
This is not an exhaustive list of potential ICT use in Myanmar primary school classrooms.

ICT device/application	Potential of ICT use in Myanmar primary school classrooms
Laptop and projector	To show animations and videos relevant to the subject to the entire class
Smartphone	To allow students to take pictures and to use relevant mobile applications to complete learning tasks
Internet	To browse websites to search information



Extension and differentiation activities

Instead of listing potential ICT use in Myanmar primary school classrooms, student teachers may work in groups to draw an ideal Myanmar primary school classroom with appropriate use of ICT.

If student teachers have difficulty in suggesting potential ICT use, you may show some pictures of ICT use in classrooms in some other countries before the group work to allow student teachers get some sense of what possibilities ICT can bring to classrooms.

For weaker student teachers, the focus of the activity may be on looking at the pictures of ICT use in classrooms in some other countries and asking student teachers to identify how ICT is used in the pictures and give their views on whether the same can happen in Myanmar primary school classrooms.

8.1.2.

ICT in professional development and school management

Expected learning outcomes

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

- Understand the importance of professional development facilitated by ICT;
- Understand the usage of e-portfolio; and
- Understand how ICT can facilitate school management.



Competencies gained

A2.2 Demonstrate understanding of appropriate use of Information Communication Technology (ICT) in teaching and learning

D 2.1 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



Time: 1 period of 50 minutes



Learning strategies: Flipped classroom to complete Learning activity 1

Individual and group work to complete Learning activities 2

Group work in class to complete Learning activity 3




Resources needed: Internet

Transition between this lesson and the previous lesson: This lesson links to what the student teachers have learnt throughout Year 1 of their teacher education programme. This lesson also provides more details about ICT use particularly in education, following introduction to the same in the first lesson of Year 1 of the teacher education programme. This is also a continuation of the previous lesson to talk about ICT in professional development and school management, other than ICT in teacher preparation and collaboration, active teaching and learning and assessments.

Preparation

- Guidance on what the teacher educator needs to know about the topic and references to resources for reading to strengthen subject proficiency.

Teacher educators may refer to the following reference to prepare for this lesson.

Title	Link	QR Code	Source
E-learning Series on ICT in Education	http://archive1.unescobkk.org/fileadmin/user_upload/ict/Teacher_Training_Workshops/UNESCObk-kE-LearningSerieOnICTInEducation.zip		UNESCO

- Resources and materials:
Internet

- **Flipped classroom ideas:**
Student teachers are instructed to complete Learning activity 1 on the Student Teacher Textbook prior to the lesson. Ask them to write down at least one question about the topic so that this question can be discussed in the lesson. They are advised to try to browse the websites introduced in the reading text.
- **Links to other subjects:**
This lesson provides more examples of the potential uses of ICT in Myanmar primary school classrooms. One important message from the lesson is that ICT has potential benefits not only for classrooms but also outside classrooms for teacher professional development and school management.

Teaching and Learning Process

- **Ways to determine student teachers' prior knowledge**

At the beginning of the lesson, ask student teachers if they have any questions which need to be clarified based on the reading text at Learning activity 1. Ask some student teachers to describe their experience in browsing some of the websites in the reading text. Sample questions such as what student teachers could see from the websites and what they found useful from the websites can be asked.

- **Problems of any sort to anticipate in advance (cognitive, management) (informal checklist of student signs)**

Student teachers may find it hard to discuss ICT in school management because this may be an area which they may not be too familiar with. Student teachers are encouraged to do some online search to identify examples of ICT in school management, which can also help them complete learning activity 4.

Sample Lesson Activities



Learning activity 1: Professional development resources

- **Time management:**
It is expected that around 20 minutes should be spent on this activity.

- Suggested time arrangements:

1 minute	Explain the tasks and ask student teachers to write down what they have explored before the lesson about an interesting MOOC module. Student teachers are requested to visit the following websites as a starting point: Commonwealth of Learning (http://cctionline.org/), Coursea (https://www.coursera.org), edX (https://www.edx.org/) and Open Learning (https://www.openlearning.com/).
5 minutes	Complete 'My selected MOOC module which I find interesting' by individual student teacher.
8 minutes	Divide student teachers into groups of 3-4. Ask some student teachers to share their selected MOOC module with other student teachers in their group.
5 minutes	Complete 'Another interesting MOOC module suggested by my peer' by individual student teacher.
1 minute	Encourage student teachers to complete these two modules of professional development during the college break.

- Room arrangement:

There is no specific requirement for the room organisation. Student teachers can sit in the normal classroom settings and work in groups of 3-4, depending on the class size.

- Extension activities:

Student teachers can be asked to write down their answers on a Microsoft PowerPoint slide. Teacher educator can collect the slides and compile them. Teacher educator can share this compiled file to all student teachers as a catalogue of professional development modules suggested by the class. Student teachers can then choose any two to complete during the college break.



Learning activity 2: E-portfolio

- Time management:

It is expected that around 15 minutes should be spent on this activity.

- Suggested time arrangements:

3 minutes	Guide the student teachers to recall what they have learnt in their Reflective Practice and Essential Skills class about the importance of being a reflective practitioner (for example, to do self-reflection about teaching and to identify ways for improvement). An e-portfolio describes a collection of digital resources that are presented in an organised way for record. The e-portfolio can be either online (on a website or blog) or offline (in a USB flash drive).
6 minutes	Divide student teachers into groups of 3-4. Ask some student teachers to do an online search about e-portfolio for teachers and its components. Student teachers should write down what would be included in a good e-portfolio for teachers.
6 minutes	Select 2-3 groups to present their discussion outputs to the whole class.

- Room arrangement:

There is no specific requirement for the room organisation. Student teachers can sit in the normal classroom settings and work in groups of 3-4, depending on the class size.

- Suggested answers:

This is not an exhaustive list of elements of a good e-Portfolio.

- Weekly reflective journal entries;
- Personal Action Plans for each essential skill covered in the Reflective Practice and Essential Skills class;
- Teaching and learning materials created; and
- Peer and self-evaluations.



Learning activity 3: Using ICT in school management

- Time management:

It is expected that around 20 minutes should be spent on this activity.

- Suggested time arrangements:

3 minutes	Explain the tasks and divide student teachers into groups. It is ideal if each group is of the size of 3-4 student teachers.
3 minutes	Brainstorm individually to write down what ICT tools can be used to support school management and how the tools can be used in a primary school.
8 minutes	Instruct each group to assign one student teacher as a note-taker. Take turns within each group to share the answers with the group members.
6 minutes	Call for some student teachers to present their group outputs to the whole class.

- Room organisation:

There is no specific requirement for the room organisation. Student teachers can sit in the normal classroom settings and work in groups of 3-4, depending on the class size.

- Suggested answers:

This is not an exhaustive list of examples of ICT tools to support school management.

ICT tool to support school management	How the ICT tool can be used in a primary school
Word processing software	E-notice and e-circular can be prepared to disseminate information
Spreadsheet	Student and staff records (such as admissions files, attendance register, student performance) can be kept
Database software	Stock register of the school and record of library resources can be kept
Email/SMS/Social network	Communication with parents and guardians of the students
Online calendar	Teaching timetable, arrangements of classrooms and examination and practicum schedule can be made.
School management system	This is a comprehensive system which can perform many of the above functions in one place.



Review questions and possible student teachers' responses

1. Reflect on what you have learnt in the lessons under this unit, and assess your understanding of the subject.

	Yes	No	Not sure
Lesson 8.1.1.			
I can explain the importance of collaboration among teachers using ICT.			
I can explain the importance of active teaching and learning facilitated by ICT			
I can explain the importance of assessments facilitated by ICT.			
Lesson 8.1.2.			
I can explain the importance of professional development facilitated by ICT.			
I can explain what e-portfolio is.			
I can explain how ICT can facilitate school management.			

Unit Summary



Key messages

- The teaching skills of the future will include the ability to develop innovative ways of using technology to enhance the learning environment, and to encourage technology literacy, knowledge deepening and knowledge creation.
- There are five areas of work for which teachers in the 21st century will need to perform with the use of ICT: ICT in teacher preparation and collaboration, ICT in active teaching and learning, ICT in assessments, ICT in professional development, and ICT in education management.
- Some online tools allow different teachers to work together on the same document simultaneously so that every teacher involved can see the real-time changes to the learning materials being developed collectively.
- Using ICT for active learning can not only make the lessons more engaging and interesting but also provide real-time student response data available to the teachers who can then decide how to address the diverse needs of students.
- Using ICT in assessments can record large amount of data and help conduct analysis on student performance, allowing teachers to understand their student learning better and also their own teaching to see if any improvement is needed.
- Massive open online courses (MOOCs) provide structured course content for teacher professional development.
- Teachers can document progress made for teacher professional development through portfolios, reflecting on teaching experience and documenting improvement.
- The national-wide Education Management Information System (EMIS) can be used to collect school data, which are useful for understanding teacher need at the regional level and for education planning for teacher deployment.





Unit reflection

1. How do you plan to use ICT in the five areas of work? Please provide at least ONE example about how you plan to use ICT in each of the areas of work mentioned in this unit.
 - a. Student teachers can provide any examples which are appropriate. Some examples include:
 - i. Using Google docs Microsoft Teams or Dropbox to facilitate teacher preparation and collaboration by preparing the same document together;
 - ii. Using the online learning portal to access learning materials via e-library and to access online learning modules via e-learning;
 - iii. Using video chat applications such as Skype or Google Handouts to interact with teachers from other schools or even other countries;
 - iv. Using Google Forms or Kahoot to obtain responses from students in real-time;
 - v. Using Padlet to allow students to brainstorm ideas;
 - vi. Using Survey Monkey and Quiz Star to collect students' responses and provide feedback;
 - vii. Using massive open online courses (MOOCs) to access structured course content for professional development;
 - viii. Using wikis, blogs, online forums or social media groups for educators for professional development;
 - ix. Using e-portfolios to record, reflect and summarise teacher personal learning for the profession;
 - x. Using Fedena to keep staff and student records; and

- xi. Using Education Management Information System (EMIS) to collect school data, which are useful for understanding teacher need at the regional level and for education planning for teacher deployment.
2. Among the five areas of work, which is/are your priority/priorities of using ICT in case there are limited ICT resources in your school? Please explain your answer.
- a. Student teachers are free to rank their priorities. Firstly, student teachers need to set the scenario about what it means by limited ICT resources in the school. Is there a limited number of laptops and desktops? Is there a limited access to the Internet? Secondly, student teachers need to see how feasible ICT can be used in the school for the five areas of work. If not all the five areas of work can be performed using ICT, student teachers may give justifications to focus on one or more areas of work to prioritize the use of ICT, considering all constraints.



Further reading

Title	Link	QR Code	Source
UNESCO ICT Competency Framework for Teachers (English)	https://unesdoc.unesco.org/ark:/48223/pf0000213475		UNESCO
Free online course on Teacher ICT Integration	http://cctionline.org/		Commonwealth of Learning

Glossary

Terms	Elaborations
Arithmetic Logic Unit (ALU)	The part within a Central Processing Unit which carries out arithmetic operations like addition, subtraction, multiplication and division and other logical actions such as AND and OR functions and operates on data available in the main memory and send them back after processing.
Artificial Intelligence (AI)	A computer system that stimulates human intelligence process which include learning, reasoning and interacting.
Asynchronous	Something not occurring at the same time or delay between two or more points. For example, in asynchronous conferencing, there is a delay in interaction between participants.
CD-ROM	An adaptation of the CD that is designed to store computer data in the form of text and graphics. Its full name is Compact Disc, Read-Only-Memory.
Central Processing Unit (CPU)	The main part of a computer in which all processing is carried out and which controls the activities of the whole computer configuration.
Control Unit	The part which directs all operations inside a computer and can be known as the heart of the computer because it controls and coordinates all hardware operations including the Central Processing Unit, input and output devices.
Conferencing	Two or more people have simultaneous conversation using Internet, it is called conferencing. When this process is adding video streaming technology, it is called video conferencing.

Terms	Elaborations
Copyright	A set of rights granted to the author or creator of a work, to restrict others' ability to copy, redistribute and reshape the content. Rights are frequently owned by the companies who sponsor the work rather than the creators themselves, and can be bought and sold on the market.
Democracy	A system of government where the people have final authority which they exercise directly or indirectly through their elected agents chosen in a free electoral system. It also implies freedom to exercise choice over decisions affecting the life of the individual and the protection of fundamental rights and freedoms. In this context independent media and free access to information are fundamental to the pursuit of democracy and freedom in the whole world.
Digital	The electronic technology using two electronic states: ON and OFF expressed in Digits (ON = 1 and OFF = 0), to generate, store and process data. In computer system, the information are stored in the form of a string of 0's and 1's, and each digit is referred to as a Bit.
DVD	A digital optical disc storage format which can store computer data with higher capacity than a compact disc (CD), while having the same dimensions.
File	The digital version of resource or data stored in computer system.
Flash drive	A data storage device which is also called thumb drive, pen drive or flash stick. It is typically removable, rewritable and much smaller than an optical disk.
Folder	The cataloging structure of a directory in a file system which can put files inside.

Terms	Elaborations
Freedom of Expression	A fundamental human right. It is used to indicate not only the freedom of verbal speech but any act of seeking, receiving and delivering information.
Graphical User Interface (GUI)	A feature which allows users to interact with the system and applications through graphical icons instead of text-based user interfaces.
Hard Disk Drive (HDD)	An electromechanical data storage device which use magnetic storage technology to store and retrieve digital information.
Information Literacy	Focuses on the purposes of engaging with information and the process of becoming informed. It is associated with the concepts of learning to learn and making decisions through its emphasis on defining needs and problems, relevant information and using it critically and responsibly (ethically).
Input device	Any device that enters information into a computer from an external source.
Internet	The most well-known and the largest network linking hundreds of thousands of individual smaller networks all over the world.
Joystick	A cursor control device used in computer games and assistive technology, being a hand-held lever that pivots on one end and transmits its coordinates to a computer.
Local Area Network (LAN)	A network of computers that interconnect within a limited area.

Terms	Elaborations
Media	Physical objects used to communicate, or mass communication through physical objects such as radio, television, computers, films, etc. It also refers to a physical object used to communicate media messages. Media are a source of credible information in which contents are provide through an editorial process determined by journalistic values and therefore, editorial accountability can be attributed to an organisation or person. In more recent years the term media is often used to include new online media. Media are channels of information and education through which citizens can communicate with each other and disseminate stories, ideas and information, they are also vehicles for cultural expression and cultural cohesion within and between nations.
Media Literacy	The ability to read, analyse, evaluate and produce communication in a variety of media forms (e.g. television, print, radio, computers, etc.).
Memory	The part in a computer to store information, which can be recalled and accessed when required.
Metropolitan Area Network (MAN)	A network that interconnect computer resources in a geographic area or region larger than that covered by LAN.
Modem	A conversion device which converts signals from one device into signals another device can read. Its full name is Modulator-Demodulator. For example, a modem may covert the digital data of a computer into an analog signal that can be read and carried by a telephone line.
Operating System	The system software which operates hardware and acts as the platform for end-users' application software.
Optical character recognition	A device which reads printed or written text characters and then translates the character image into commonly used character codes for data processing.

Terms	Elaborations
Output device	Any device that translates the computer output into a form understood by human beings.
Processing device	Any electronics that process or transform information provided as an input to a computer to an output.
Right to information	The right of citizens to access information held by public bodies (Government, parliament, military, etc.).
Solid-state Storage Drive (SSD)	A data storage device which use integrated circuit assemblies as memory to store data persistently. SSDs are more resistant to physical shock, lower latency, faster access time but more expensive than HDDs.
Voice recognition	A device which enables the translation of spoken language into text.
Wide Area Network (WAN)	The computer network which is also called telecommunications network. The Internet may be considered a WAN.

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The Government of the Republic of the Union of Myanmar
Ministry of Education