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1. Introduction and Scope

There is constant worry among educators about how the individual interactivity that we provide can be met with in an e-learning approach. Hence the module design must confidently resolve this tension, while it gives the benefit of flexibility and cost-effectiveness for the students. The e-learning module developers must ensure that they use a wide range of educational approaches and fitting e-learning resources and support.

2. Getting started from the very beginning

- This document, in detail, Developing the Expected Learning Outcomes for the Module:
  - Developing the Expected Learning Outcomes (ELOs) is the first thing you should start doing. This process is called module mapping.
  - Developing the ELOs for your module establishes the purpose and the goals in context of the programme and field of study. Building ELOs creates direction for module development and ensures a clear roadmap for learner-cantered module delivery.

3. Programme Analysis

Creating ELOs for the module begins with programme analysis, in which you evaluate how your module aligns with the goals of a programme or a sequence of modules. You will remember that when we discussed the development of a programme, we used various techniques to arrive a set of goals and learning objectives for the programme. The learning objectives decides the modular outcomes and the ultimate collection of modules.

Analyse the programme in which this module is included. Even if your programme does not have formal programme outcomes, the programme coordinator or faculty leadership often has a vision and understanding of all the overall goals of the curriculum. To determine the purpose of your module within the context of the programme, consider the following questions:

a) Professional goals

- What professions and roles does the programme of study prepare learners for?
- How do those goals relate to learners' fields of practice and future professions?
- What kinds of experiences outside of the classroom might support the professional goals of this programme?

b) Programme Goals and Outcomes

- What are the overall goals and outcomes for the programme of your study?
- What external standards, if any, do the programme outcomes align with?
- When do learners take your module in the programme sequence?

c) Module learning outcomes

- What skills, knowledge, and attitudes does this module equip students with?
- What are the prerequisites for this module?
- Are there any core proficiency skills or competencies that are addressed in the module?

It is important to consider these questions and to take notes as you evaluate the goals and vision for your module. Utilize these notes when determining the competencies, module learning outcomes, and learning outcomes of the various themes that you include in the module in the next few steps.

4. Definitions

For the purposes of this programme map guide, read the **definition of terminologies** used in this programme map guide.

- You will notice that competencies, level descriptors, programme outcomes, and module outcomes all address the educational targets for the learner.
- You will notice that level descriptors from an integral part in the design of ELOs as they have a direct implication to the programme level, as classified in the Maldives national Qualifications Framework (MNQF) version 2.2.

It is necessary to pay attention to the scope, time to achievement, and the purpose for each. At the programme competency level, the scope is much broader and may take more time to accomplish, while outcomes are narrower and should be attainable by the end of the module or the end of a particular theme in the module.

5. The Three Domains of Learning

When developing your module ELOs, it is necessary to have them mapped on the three domains of learning activities. This will help you in mapping them onto specific **level descriptors** that we will address later in this document.

a) Cognitive Domain

The cognitive domain, is the information base. Module competencies that address the cognitive domain include facts, concepts, important terminology from the field of study, classifications, principles, theories, models, and structures.

It is critical that learners have a well-developed knowledge base; so, your module competencies should ensure that learners understand the meaning of terminology and have a basic comprehension of classifications, principles, theories, models, and structures necessary to apply those concepts if they do not already have those coming into the module. The cognitive domain has been the primary focus of most traditional education and is frequently used to structure curriculum competencies, outcomes, assessments, and activities.

To construct competencies for cognitive domain, ask yourself "What do I want my graduates to recall, understand, apply, analyse, evaluate or create?"

Examples:

- Knowledge of contract price and cost analysis/cost accounting techniques so as to compile and evaluate price and/or cost data for a variety of pre-award and/or post-award procurement activities.
- Identify and address core issues in public governance, through a comparative approach and bearing in mind of the challenges posed by global processes
- Critically evaluate the origin of corruption and its far-reaching effects on the society.

b) Skills (Psychomotor Domain)

Skills, or the psychomotor domain, includes metacognitive skills to support critical thinking and problem-solving techniques.

Learners need to be able to use their knowledge to solve problems and perform in real-world settings. Competencies that address the psychomotor domain help learners develop procedural knowledge such as steps, techniques, methods, and algorithms used in the field of practice. Skills are considered to be a higher-level type of competency that leads to deep learning.

To construct competencies that address the Skills or Psychomotor domain, ask yourself "What do I want my graduates to physically be able to do?"

Examples:

- Skill in typing at the rate of 40 words per minute with less than 3 errors per 100 words typed.
- Skill in operating specialized medical equipment such as cardiac monitor, blood pressure cuff, and CAT scans to obtain accurate results.
- Skill in driving a full-size automobile, with standard transmission, obeying traffic rules, in urban and rural areas in all types of weather and traffic conditions to deliver courier documents to various locations in the city.

c) Attitudes (Affective Domain)

Attitudes, or the affective domain, often relates to ethics in the field or valuing different knowledge and skills as they relate to practice. This type of competency helps learners understand how to act using ethics, morals, and values in the professional field.

Attitudes can include emotions, feelings, values, and appreciation, to name a few. Personal characteristics are predispositions on the part of an individual to behave in a certain way. Personal characteristics represent what an individual wants to or will do, as opposed to what the individual can do or has the capacity to do.

To constructor competencies that address the Attitudes or Affective Domain, ask yourself "What do I want my graduates to think or care about?"

Examples:

- Patience
- Tact
- Morals
- Values

6. Level Descriptors

According to SEEC (2016) level descriptors as the he level of challenge, complexity, and autonomy expected of a learner on completion of a defined and bounded learning activity such as a module or programme of study.

The SCQF which is the standard followed in the Maldives, defines level descriptors as broad terms that describe what learners should be able to do or demonstrate at a particular level of studies.

The level descriptors set out the knowledge, understanding, skills and attributes which define/recognize learning and ascribe it to a particular academic level. They are designed to help assign credit to higher education-level learning defined by the MNQF as levels 1 through to 10.

The descriptors set out the characteristic generic outcomes of every level. They are intended to provide a general, shared understanding of every level and to allow broad comparisons to be made between qualifications and learning at different levels.

Please refer MNQF Version 2.2 for further information on the Level Descriptors adopted by MQA.

7. Characteristics of Level Descriptors

Each level descriptor has five characteristics which provide a reference point for determining the level of a qualification, learning programme, module and unit of learning or for the recognition of prior learning (RPL). They are not intended to give precise or comprehensive statements of required learning for individual qualifications. The five characteristics are:

1. Knowledge and understanding
2. Practice: applied knowledge, skills and understanding;
3. Generic cognitive skills;
4. Communication, numeracy and ICT skills; and
5. Autonomy, accountability and working with others.

a) CHARACTERISTIC 1: Knowledge and Understanding

- These descriptors describe the growing knowledge and conceptual base of the field of study and the degree of complexity expected as the leaner progresses.
- Knowledge and understanding provide the basis of development of many of the other skills and attributes in the description.
- This should provide a general overview of what would be expected of a typical learner at a specified MNQF level
- The outcomes assessed under this characteristic fitting to a particular level descriptor shall refer to the specific subject, discipline of sector.

- Terms used in describing the specific descriptor levels should reflect the expected extent of the demands required at particular level.

  - **Descriptor Level 1 Example**:

    Demonstrate or work with
    - **Basic** knowledge
    - **Simple** facts and ideas in, and associated with, a subject/discipline/sector

    In the example above, the terms, '**basic**' and '**simple**' have the following meanings:
    - **Simple:** Undemanding activity not necessarily part of a formal structure - not as advanced as '**basic**'
    - **Basic:** Activity is early stepping stone on a structure or framework that can be built upon – more advanced than '**simple**'

  - **Descriptor Level 2 Example**:

    Demonstrate and/or work with:
    - **Basic** knowledge.
    - Some **simple** facts and ideas in, about, and associated with, a subject/discipline/sector.
    - Knowledge of basic processes, materials and terminology.

    In the example above, we see the same terms, **'basic'** and **'simple'** as that found in the Level 1 descriptor. Here distinction will have to be made in the complexity of the knowledge, facts, ideas and processes involved. They should demand a higher level of cognition than that for the level 1.

  - **Descriptor Level 3 Example**:

    Demonstrate or work with
    - Basic knowledge: mainly factual but has some theoretical component
    - A range of simple facts and ideas and theories in, about, and associated with, a subject/discipline/sector

    In the example above, we see the same terms, '**basic**' and '**simple**' as that found in the Level 2 descriptor. Here distinction will have to be made in the complexity of the knowledge, facts, ideas and processes involved. They should demand a higher level of cognition than that for the level 2. Also, at this level we must note that emphasis is also made on theoretical components. While knowledge is more related to concrete experience,

theory will demand an understanding of a supposition of system of ideas based on principles. A proof of theory may not be available in concrete terms.

- **Descriptor Level 4 Example**:

  Demonstrate or work with

  - An appreciation of the body of knowledge that constitutes a subject/discipline/sector.
  - A range of knowledge, facts, theories, ideas, properties, materials, terminology, practices and technique
  - Relating the subject/discipline/sector to a range of practical and/or commonplace applications

  In the example above, the term, '**appreciation**' has the following meaning:

  - **Appreciation:** A sense, perception, a hold, fix or grasp of one or more of the various aspects of a subject/discipline/sector.

- **Descriptor Level 5 Example**:

  Demonstrate or work with

  - An overall appreciation of the body of knowledge that constitutes a subject/discipline/sector.
  - Knowledge that is embedded in the main theories, concepts and principles of the subject/discipline/sector.
  - An awareness of the dynamic nature of knowledge and understanding.
  - An understanding of the difference between explanations based on evidence and/or research and other sources, and of the importance of this difference.

  In the example above, the term, '**knowledge**', '**awareness**', and '**understanding**' have the following meanings in the context of a level 4 descriptor:

  - **Awareness:** Consciousness, including a background consciousness. Can be a starting point for further exploration.
  - **Knowledge:** Facts, ideas, theories and concepts in a subject/discipline/sector acquired through experience and/or education – a surer grasp than **appreciation** so more advanced

- **Understanding:** A thorough and firm grasp of a subject/discipline/sector or an element or elements of it, derived from education/study, experience and reasoning in appropriate combination. Can be defined as 'know why', as opposed to 'know that'. More holistic knowledge of processes and contexts, so more advanced than **appreciation** and **knowledge**

- **Descriptor Level 6 Example**:

  Demonstrate or work with

  - A knowledge of the scope, defining features, and main areas of the subject/discipline/sector.
  - Specialist knowledge in some areas.
  - A discerning understanding of a defined range of core theories, concepts, principles and terminology.
  - Awareness and understanding of some major current issues and specialisms.
  - Awareness and understanding of research and equivalent scholarly/academic processes.

  In the example above, the term, '**discerning**' has the following meanings:

  - **Discerning:** Using judgement to recognize differences but not fully equipped/informed to analyse and discuss them in depth, so less advanced than critical.

- **Descriptor Level 7 Example**:

  Demonstrate or work with

  - An understanding of the scope and defining features of a subject/discipline/sector, and an integrated knowledge of its main areas and boundaries.
  - A critical understanding of a range of the principles, principal theories, concepts and terminology of the subject/discipline/sector.
  - Knowledge of one or more specialisms that is informed by forefront developments.

  In the example above, the term, '**critical**' have the following meanings:

  - **Critical:** Fully informed, capable of supporting in-depth analysis and assessment.

- **Descriptor Level 8 Example**:

  Demonstrate or work with

- Knowledge that covers and integrates most of the principal areas, features, boundaries, terminology and conventions of a subject/ discipline/sector.
- A critical understanding of the principal theories, concepts and principles.
- Detailed knowledge and understanding in one or more specialisms, some of which is informed by, or at the forefront of, a subject/ discipline/sector.
- Knowledge and understanding of the ways in which the subject/discipline/sector is developed, including a range of established techniques of enquiry or research methodologies.

- **Descriptor Level 9 Example**:

  Demonstrate or work with

  - Knowledge that covers and integrates most, if not all, of the main areas of the subject/discipline/sector – including their features, boundaries, terminology and conventions.
  - A critical understanding of the principal theories, concepts and principles.
  - A critical understanding of a range of specialized theories, concepts and principles.
  - Extensive, detailed and critical knowledge and understanding in one or more specialisms, much of which is at, or informed by, developments at the forefront.
  - A critical awareness of current issues in a subject/discipline/sector and one or more specialisms.

b) CHARACTERISTIC 2: Practice: Applied Knowledge, Skills and Understanding

- These descriptors describe across levels in a range of circumstances. Beyond the purely academic, particularly in applied areas.
- The descriptors focus more on teams, rather than individual or groups to reflect the growing professional nature and expectations in this area.
- Use of Bloom's taxonomy will help in writing SLOs to fit the desired descriptor level.
- This should provide a general overview of what would be expected of a typical learner at a specified MNQF level
- The outcomes assessed under this characteristic fitting to a particular level descriptor shall refer to the specific subject, discipline of sector.

- Terms used in describing the specific descriptor levels should reflect the expected extent of the demands required at particular level.

  - **Descriptor Level 1 Example**:
    - Relate knowledge to personal and/or everyday contexts with some prompting.
    - Use a few basic, routine skills to undertake familiar and routine tasks.
    - Complete pre-planned tasks.
    - Use, with guidance, basic tools and materials safely and effectively

    In the example above, the terms, '**personal**', **'everyday**' '**familiar** 'and '**routine**' have the following meanings:

    - **routine:** Used as an adjective throughout and applied to terms including skills, tasks, elements, practices, contexts, methods and problems where it describes activity that is standard, usual, unvarying, customary, common.
    - **personal:** An experience relating only or primarily to the person – one would expect to start here then widen out into the rest of the world, so not as advanced as 'familiar'
    - **every day:** Slightly more advanced and beyond personal but a known experience/activity encountered/applied regularly - less advanced than 'familiar'.
    - **familiar:** Often encountered or experienced; common; something one has a good knowledge of - more advanced than 'personal' and 'everyday', not as advanced as 'routine'.

  - **Descriptor Level 2 Example**:
    - Relate knowledge to personal and/or practical contexts.
    - Use a few skills to complete straightforward tasks with some non-routine elements.
    - Prepare for familiar and routine tasks.
    - Select and use, with guidance, appropriate tools and materials safely and effectively

    In the example above, the terms, '**straightforward**' has the following meanings:

    - **Straightforward:** Clear and uncomplicated activity, but not as demanding or systematic and therefore not as advanced as 'routine'.

- **Descriptor Level 3 Example**:
  - Relate knowledge and ideas to personal and/or practical contexts.
  - Use a range of skills associated with the subject/discipline/sector to complete some routine and non-routine tasks.
  - Plan and organise both familiar and unfamiliar tasks.
  - Select appropriate tools and materials and use them safely and effectively.
  - Adjust tools where necessary following safe practices.

  In the example above, the terms, '**unfamiliar**' has the following meanings:
  - **Unfamiliar:** New territory for an activity.

- **Descriptor Level 4 Example**:

  Apply knowledge, skills, and understanding:
  - In known, practical contexts.
  - In using some of the basic, routine practices, techniques and/or materials associated with the subject/discipline/sector.
  - In exercising these in routine contexts that may have non-routine elements.
  - In planning how skills will be used to address set situations and/or problems and adapt these as necessary.

- **Descriptor Level 5 Example**:

  Apply knowledge, skills, and understanding
  - In practical contexts.
  - In using some of the basic and routine professional skills, techniques, practices and/or materials associated with the subject/discipline/sector.
  - To practice these in both routine and non-routine contexts.

- **Descriptor Level 6 Example**:

  Apply knowledge, skills, and understanding
  - In using a range of professional skills, techniques, practices and/or materials associated with the subject/discipline/sector, a few of which are advanced and/or complex.
  - In carrying out routine lines of enquiry, development or investigation into professional level problems and issues.
  - To adapt routine practices within accepted standards.

- **Descriptor Level 7 Example**:

  Apply knowledge, skills, and understanding

  - In using a range of the principal professional skills, techniques, practices and/or materials associated with the subject/discipline/sector.
  - In using a few skills, techniques, practices and/or materials that are specialized and/or advanced.
  - In practising routine methods of enquiry and/or research.
  - To practise in a range of professional level contexts that include a degree of unpredictability.

- **Descriptor Level 8 Example**:

  Apply knowledge, skills, and understanding

  - In using a wide range of the principal professional skills, techniques, practices and/or materials associated with the subject/discipline/sector.
  - In using a few skills, techniques, practices and/or materials that are specialised, advanced and/or at the forefront of a subject/discipline/sector.
  - In executing a defined project of research, development or investigation and in identifying and implementing relevant outcomes.
  - To practise in a range of professional level contexts that include a degree of unpredictability and/or specialism.

- **Descriptor Level 9 Example**:

  Apply knowledge, skills, and understanding

  - In using a significant range of the principal professional skills, techniques, practices and/or materials associated with the subject/discipline/sector.
  - In using a range of specialised skills, techniques, practices and/or materials that are at the forefront of, or informed by forefront developments.
  - In applying a range of standard and specialised research and/or equivalent instruments and techniques of enquiry.
  - In planning and executing a significant project of research, investigation or development.
  - In demonstrating originality and/or creativity, including in practices.
  - To practise in a wide and often unpredictable variety of professional level contexts.

c) CHARACTERISTIC 3: GENERIC COGNITIVE SKILLS;

- These descriptors describe across levels in a range of circumstances, skills relating to critical thinking, and the ability to solve complex problems
- The descriptors focus on those skills that apply across a variety of jobs and life contexts.
- These skills that these descriptors address are known as essential skills, key competencies, necessary skills, transferable skills and employability skills.
- This should provide a general overview of what would be expected of a typical learner at a specified MNQF level
- The outcomes assessed under this characteristic fitting to a particular level descriptor shall refer to the specific subject, discipline of sector.
- Terms used in describing the specific descriptor levels should reflect the expected extent of the demands required at particular level.

  - **Descriptor Level 1 Example**:
    - Identify with some prompting a process to deal with a situation or issue.
    - Operate in familiar contexts using given criteria.
    - Take account of some identified consequences of action.

  - **Descriptor Level 2 Example**:
    - Use, with guidance, given stages of a process to deal with a problem, situation or issue.
    - Operate in straightforward contexts.
    - Identify and/or take account of some of the consequences of action/inaction.

  - **Descriptor Level 3 Example**:
    - Use a process to deal with a problem, situation or issue that is straightforward.
    - Operate in a familiar context, but where there is a need to take account of or use additional information of different kinds, some of which will be theoretical or hypothetical.

    In the example above, the terms, '**hypothetical**' have the following meanings:

    – **Hypothetical:** Supposed, assumed for the sake of argument.

  - **Descriptor Level 4 Example**:

- Obtain, organize and use factual, theoretical and/or hypothetical information in problem solving.
- Make generalizations and predictions.
- Draw conclusions and suggest solutions.

- **Descriptor Level 5 Example**:
  - Present and evaluate arguments, information and ideas that are routine to a subject/discipline/sector.
  - Use a range of approaches to address defined and/or routine problems and issues within familiar contexts.
- **Descriptor Level 6 Example**:
  - Undertake critical analysis, evaluation and/or synthesis of ideas, concepts, information and issues that are within the common understandings in a subject/discipline/sector.
  - Use a range of approaches to formulate and critically evaluate evidence-based solutions/responses to defined and/or routine problems and issues

  In the example above, the terms, '**analysis**' and '**synthesis**' have the following meanings:
  - **Analysis:** Examine in detail with a view to explanation and interpretation.
  - **Synthesis:** Combine discrete elements into a coherent whole

- **Descriptor Level 7 Example**:
  - Undertake critical analysis, evaluation and/or synthesis of ideas, concepts, information and issues in a subject/discipline/sector.
  - Identify and analyse routine professional problems and issues.
  - Draw on a range of sources in making judgements.

- **Descriptor Level 8 Example**:
  - Critically identify, define, conceptualise and analyse complex/professional problems and issues.
  - Offer professional insights, interpretations and solutions to problems and issues.
  - Demonstrate some originality and creativity in dealing with professional issues.
  - Critically review and consolidate knowledge, skills, practices and thinking in a subject/discipline/sector.

- Make judgements where data/information is limited or comes from a range of sources.

In the example above, the terms, '**originality**', '**creativity**', and '**professional**' have the following meanings:

- **Originality:** Often used in combination with 'creativity'. There is overlap in definition, but the defining characteristic of originality appears to be independence
- **Creativity:** Often used in combination with 'originality'. There is overlap in definition, but the defining characteristic of creativity appears to be imagination
- **Professional:** Used throughout as an adjective and applied to terms including level, skills, techniques, practices, contexts, and issues where it bears broad interpretation as 'behaving appropriately/doing things properly and well and to notions of accepted, (including externally) prescribed standards', as well as narrow, relating to a specific occupation designated as a profession. In this latter sense, the term applies in all contexts including academic study, e.g., footnoting properly

- **Descriptor Level 9 Example**:
  - Apply critical analysis, evaluation and synthesis to forefront issues, or issues that are informed by forefront developments in the subject/ discipline/sector.
  - Identify, conceptualise and define new and abstract problems and issues.
  - Develop original and creative responses to problems and issues.
  - Critically review, consolidate and extend knowledge, skills, practices and thinking in a subject/discipline/sector.
  - Deal with complex issues and make informed judgements in situations in the absence of complete or consistent data/information.

d) CHARACTERISTIC 4: COMMUNICATION, ICT AND NUMERACY SKILLS;

- These descriptors describe across levels in a range of circumstances, attributes relating to functional skills pertaining to literacy, numeracy and information communication and technology (ICT)
- The descriptors focus on those skills that are essential developing competency to interact with others and deal with situations in both personal and professional life.

- This should provide a general overview of what would be expected of a typical learner at a specified MNQF level
- The outcomes assessed under this characteristic fitting to a particular level descriptor shall refer to the specific subject, discipline of sector.
- Terms used in describing the specific descriptor levels should reflect the expected extent of the demands required at particular level.

- **Descriptor Level 1 Example**:

  Use simple skills for example:

  - Produce and respond to simple written and oral communication in familiar/routine contexts.
  - Carry out simple tasks to process and access information.
  - Use simple numerical and graphical data in everyday contexts.

  In the example above, the term, '**graphical data**' has the following meaning:

  – **Graphical Data:** Encompasses maps, plans, diagrams, tables and graphs.

- **Descriptor Level 2 Example**:

  Use some routine skills for example:

  - Produce and respond to simple but detailed written and oral communication in familiar contexts.
  - Use the basic features of familiar ICT applications to process and obtain information.
  - Use basic numerical and graphical data in straightforward and familiar contexts.

- **Descriptor Level 3 Example**:

  Use a range of routine skills for example:

  - Produce and respond to detailed written and oral communication in familiar contexts.
  - Use standard ICT applications to process, obtain and combine information.
  - Use a range of numerical and graphical data in routine contexts that may have some non-routine elements.

- **Descriptor Level 4 Example**:

Use a wide range of skills for example:

- Produce and respond to detailed and relatively complex written and oral communication in both familiar and unfamiliar contexts.
- Select and use standard ICT applications to process, obtain and combine information.
- Use a wide range of numerical and graphical data in routine contexts which may have non-routine elements.

- **Descriptor Level 5 Example**:

  Use a wide range of routine skills and some advanced skills associated with a subject/discipline/sector, for example:

  - Convey complex ideas in well-structured and coherent form.
  - Use a range of forms of communication effectively in both familiar and unfamiliar contexts.
  - Select and use standard ICT applications to process and obtain a variety of information and data.
  - Use a range of numerical and graphical skills in combination.
  - Use numerical and graphical data to measure progress and achieve goals/targets

- **Descriptor Level 6 Example**:

  Use a wide range of routine skills and some advanced and specialised skills associated with a subject/discipline/sector, for example:

  - Convey complex information to a range of audiences and for a range of purposes.
  - Use a range of standard ICT applications to process and obtain data.
  - Use and evaluate numerical and graphical data to measure progress and achieve goals/targets

- **Descriptor Level 7 Example**:

  Use a wide range of routine skills and some advanced and specialised skills in support of established practices in a subject/discipline/ sector, for example:

  - Present or convey, formally and informally, information on standard/mainstream topics in the subject/discipline/sector to a range of audiences.
  - Use a range of ICT applications to support and enhance work.
  - Interpret, use and evaluate numerical and graphical data to achieve goals/targets.

In the example above, the term, '**present**' has the following meaning:

- **Present:** Set out, put forward, deliver information using a variety of mediums as appropriate.

- **Descriptor Level 8 Example**:

  Use a wide range of routine skills and some advanced and specialised skills in support of established practices in a subject/discipline/ sector, for example:

  - Present or convey, formally and informally, information about specialised topics to informed audiences.
  - Communicate with peers, senior colleagues and specialists on a professional level.
  - Use a range of ICT applications to support and enhance work at this level and adjust features to suit purpose.
  - Interpret, use and evaluate a wide range of numerical and graphical data to set and achieve goals/targets.

- **Descriptor Level 9 Example**:

  Use a wide range of routine skills and a range of advanced and specialised skills as appropriate to a subject/discipline/sector, for example:

  - Communicate, using appropriate methods, to a range of audiences with different levels of knowledge/expertise.
  - Communicate with peers, more senior colleagues and specialists.
  - Use a wide range of ICT applications to support and enhance work at this level and adjust features to suit purpose.
  - Undertake critical evaluations of a wide range of numerical and graphical data.

e) CHARACTERISTIC 5: AUTONOMY, ACCOUNTABILITY AND WORKING WITH OTHERS;

- These descriptors describe across levels in a range of circumstances, attributes relating to competencies that a one attains in being able to function independently, take responsibility and work as a contributing member of a team
- The descriptors focus on those skills that are essential developing autonomy, and accountability while working in personal or professional settings.
- This should provide a general overview of what would be expected of a typical learner at a specified MNQF level
- The outcomes assessed under this characteristic fitting to a particular level descriptor shall refer to the specific subject, discipline of sector.

- Terms used in describing the specific descriptor levels should reflect the expected extent of the demands required at particular level.

  - **Descriptor Level 1 Example**:
    - Work alone or with others on simple tasks under frequent directive supervision.
    - Participate in the setting of goals, timelines, etc.
    - Participate in the review of completed work and the identification of ways of improving practices and processes.
    - Identify, given simple criteria, own strengths and weaknesses relative to the work.

    In the example above, the term, '**directive**' has the following meaning:
    - **Directive:** Applied to 'supervision', signifies a task or activity that is guided.

  - **Descriptor Level 2 Example**:
    - Work alone or with others on tasks with regular, directive supervision.
    - Contribute to the setting of goals, timelines, etc.
    - Contribute to the review of completed work and offer suggestions for improving practices and processes.
    - Identify own strengths and weaknesses relative to the work.

  - **Descriptor Level 3 Example**:
    - Work alone or with others on tasks with minimum directive supervision.
    - Agree goals and responsibilities for self and/or work team.
    - Take lead responsibility for some tasks.
    - Show an awareness of own and/or others' roles, responsibilities and requirements in carrying out work and contribute to the evaluation and improvement of practices and processes.

  - **Descriptor Level 4 Example**:
    - Take responsibility for carrying out a range of activities where the overall goal is clear, under non-directive supervision.
    - Exercise some supervisory responsibility for the work of others and lead established teams in the implementation of routine work within a defined and supervised structure.
    - Manage limited resources within defined and supervised areas of work.

- Take account of roles and responsibilities related to the tasks being carried out and take a significant role in the evaluation of work and the improvement of practices and processes.

In the example above, the term, '**exercise**' has the following meaning:

- **Exercise:** Used in connection with management and/or supervisory responsibility, denotes a requirement of a formal, substantive role.

- **Descriptor Level 5 Example**:
  - Exercise some initiative and independence in carrying out defined activities at a professional level in practice or in a subject/discipline/sector.
  - Accept supervision in less familiar areas of work.
  - Exercise some managerial or supervisory responsibility for the work of others within a defined and supervised structure.
  - Manage limited resources within defined areas of work.
  - Take the lead in implementing agreed plans in familiar or defined contexts.
  - Take account of own and others' roles and responsibilities when carrying out and evaluating tasks.
  - Work, under guidance, with others to acquire an understanding of current professional practice.

- **Descriptor Level 6 Example**:
  - Exercise autonomy and initiative in some activities at a professional level in practice or in a subject/discipline/sector.
  - Exercise managerial responsibility for the work of others within a defined structure.
  - Manage resources within defined areas of work.
  - Take the lead on planning in familiar or defined contexts.
  - Practise in ways that show awareness of own and others' roles, responsibilities and contributions when carrying out and evaluating tasks.
  - Work, under guidance, with others to acquire an understanding of current professional practice.
  - Manage, under guidance, ethical and professional issues in accordance with current professional and/or ethical codes or practices.

- **Descriptor Level 7 Example**:
  - Exercise autonomy and initiative in some activities at a professional level in practice or in a subject/discipline/sector.
  - Exercise managerial responsibility for the work of others and for a range of resources.
  - Practise in ways that show awareness of own and others' roles and responsibilities.
  - Work, under guidance, with specialist practitioners.
  - Seeking guidance where appropriate, manage ethical and professional issues in accordance with current professional and/or ethical codes or practices.

- **Descriptor Level 8 Example**:
  - Exercise autonomy and initiative in professional/equivalent activities.
  - Exercise significant managerial responsibility for the work of others and for a range of resources.
  - Practise in ways that show awareness of own and others' roles and responsibilities.
  - Work, under guidance, in a peer relationship with specialist practitioners.
  - Work with others to bring about change, development and/or new thinking.
  - Manage complex ethical and professional issues in accordance with current professional and/or ethical codes or practices.
  - Recognise the limits of these codes and seek guidance where appropriate.

- **Descriptor Level 9 Example**:
  - Exercise substantial autonomy and initiative in professional and equivalent activities.
  - Take responsibility for own work and/or significant responsibility for the work of others.
  - Take significant responsibility for a range of resources.
  - Work in a peer relationship with specialist practitioners.
  - Demonstrate leadership and/or initiative and make an identifiable contribution to change and development and/or new thinking.
  - Practise in ways which draw on critical reflection on own and others' roles and responsibilities.

- Manage complex ethical and professional issues and make informed judgements on issues not addressed by current professional and/or ethical codes or practices.

8. Minimum credit requirements at specific descriptor level for various levels of Programmes

Programme Level	Minimum Credit Requirement	Minimum Credits at programme level
Level 1 Certificate	10 credits	
Level 2 Certificate	30 credits	
Level 3	40 credits	
Level 4: Advanced Certificate	120 credits	At least 90 credits shall fall at or above descriptor level 4
Level 5 Diploma, Advanced Diploma, Professional Diploma, Higher Professional Diploma	120 credits	All credits shall fall at least at descriptor level 5 Specific qualifier depends on the level of highest 90 credits.
Level 6 Associate degree	240 credits	No credit should be below descriptor level 5 At least 90 credits should match descriptor level 6
Level 7 Bachelor's Degree	360 credits	No credit should be below descriptor level 5 At least 90 credits should match descriptor level 6 At least 90 credits should match descriptor level 7
Level 7 Bachelor's Honors Degree	480 credits	No credit should be below descriptor level 5 At least 90 credits should match descriptor level 6 At least 150 credits should match descriptor level 7

Level 8 Post Graduate Certificate	120 credits	No credit should be below descriptor level 8
Level 9 Master's Degree	120 credits	No credit should be below descriptor level 8 At least 90 credits should match descriptor level 9

9. Competencies and Level Descriptors

Exercise 1

Competencies are broad, long-range outcomes that refer to the general aims or purposes of education, such as clear communication and problem-solving skills. Competencies are typically visionary and are used to develop learning outcomes.

Module competencies target not only the educational goals, but they address the professional and interpersonal goals for the learner. They help identify the general facts and principles (Knowledge), procedures and methods (skills), and values and characteristics (Attitudes) that learners will attain from completing the module.

Each characteristic of a module descriptor has different level of competencies that must be achieved at each level.

For each characteristic and for each level, you must identify the competency that you intend to develop among the learners.

It is most essential to target the maximum possible characteristics of the module descriptors and identified competencies at the desired level, addressing at least the minimum credit requirements for the level of the module.

For example, if your module belongs to a Bachelors programme, here are some of the areas you must consider:

1. Scan the entire module list and identify the purpose this module will serve in the broader sense of contributing to the main goals and objectives of the programme.
   Example 1:

   The following are the goals and objectives for a programme

Programme Goals and outcomes	The Module Introduction to Public Organization should contribute to:
To inculcate awareness of the relationship between rationality and responsibility in the field of public administration.	Yes
To develop analytical and critical thinking skills that are critical for the role of serving the public.	yes
To develop problem-solving and decision-making skills	Yes
To develop skills necessary for role of leading in a given domain	Yes
To provide interdisciplinary training in public affairs.	
To management and ethical attitude necessary for public administration.	Yes
To develop a holistic understanding of the political, social, technological, and economic factors that influence the development and implementation of public policies	
To develop basic knowledge of methodologies appropriate to policy analysis and programme evaluation.	
To develop appreciation of the skills required for planning, and, managing, public sector programmes.	
To develop competent professional who will serve the public	Yes
Gain knowledge about public administration theory, research and practice	Yes
Develop analytical and critical thinking skills to inform public and community problem-solving and decision-making processes	Yes
Develop an understanding of the ethical basis for public service	Yes
Develop an understanding of intra-organizational, inter-organizational and public oral and written communication skills	Yes

Appreciate the diversity of issues that influence the policymaking in a range of contexts	
Understand the need to respect for and ability to engage the diversity of perspectives and interests involved in local governance	
Explore on the developing world, such as immigration, identity politics, terrorism and violent extremism – have a growing impact in advanced democracies as well	
Evaluate the models of individual and collective behaviour and their management implication	
Use some computer applications available for the purpose of public administration.	
Develop an awareness of the challenges in the electronic governance and its security issues in the implementation procedure	
Familiarize with the public administrative laws and planning in Maldives	
Appreciate the ranges of measures required for various spheres managerial domains in which the prospective public administrator may have to work in.	

Note: It is necessary to develop a mapping of all the modules on to the goals and outcomes. This mapping is necessary to finalize exactly how you will ensure that all the programme goals and objectives are achieved through the combination of modules. However, this is not in the scope of this document.

2. Identify if the purpose of the module is:

a. To serve as an introductory module such as that fitting a level 5 descriptor
b. To serve as a core module for the programme fitting a level 6 or level 7 descriptor
c. To serve as an applied module that aims to develop key competencies necessary for level descriptor characteristics such as character 3, 4, or 5
d. To serve as an elective module to broaden the understanding of inter-related or inter disciplinary fields and the expected descriptor level.

When identifying your programme competencies, think about the long-term impact you want this module to have on your students and why this programme will be meaningful to them in both their educational and professional outlook.

Once you have identified sound answers for the above, it is time to launch the module competency mapping.

By now you should be able to answer the following questions.

- What do you want learners to take with them from this module?
- What are the core skills, knowledge, and attitudes related to the purpose of those module (does your department have programme goals and/or outcomes)?
- How are those skills, knowledge, and attitudes related to the learners' educational goals and profession?

Example 2

Level Descriptor Characteristic	Descriptor Level	Competency	Purpose	Real World, field, or educational goal connection (External standards if applicable)
Knowledge and understanding	Level 1	Foundational knowledge	Scientific inquiry	*Foundational knowledge of basic physical principles.*
Knowledge and understanding	Level 7	Critical thinking and problem solving	A critical understanding of a range of the principles, principal theories, or concepts and use methodical approach to	Reasoning about principles, concepts, theories and models

			problem solving.	
Applied Knowledge, Skills and Understanding	Level 3	Critical thinking and problem solving	Relate knowledge and ideas to personal and/or practical contexts	Reasoning about principles, concepts, theories and models
Applied Knowledge, Skills and Understanding	Level 7	Creativity	To practise in a range of professional level contexts that include a degree of unpredictability.	Apply knowledge, skills and understanding to arrive at a solution with a given situation with limited resources
Autonomy, accountability, and working with others	Level 4	adaptability and resiliency	Exhibits a growth mindset and embraces and adapts to change	Take calculated risks and persists in doing something to achieve a goal.
Autonomy, accountability, and working with others	Level 9	Career Design and Management	Understands and knows his or her own potential, and develop competencies to create a personal brand and establish networks	Establish one's own startup company or becomes associated with a professional body in a professional capacity such as a chartered accountant.
Communication, ICT and numeracy skills	Level 5	Intercultural and global fluency	Interprets intercultural experiences with	Use a range of forms of communication effectively in

			empathy, curiosity, and openness	both familiar and unfamiliar contexts
Autonomy, accountability, and working with others	Level 7	Leadership	Understands leadership capabilities and displays effective leadership skills	Exercise autonomy and initiative in some activities at a professional level in practice
Communication, ICT and numeracy skills	Level 6	Oral and Written Communication	Communicates with clear organization, language, and delivery and uses supporting material to convey a compelling central message	Convey complex information to a range of audiences and for a range of purposes
Autonomy, accountability, and working with others	Level 6	Teamwork	Contributes to team meetings, facilitates the contributions of team members and fosters constructive team climate	Practise in ways that show awareness of own and others' roles, responsibilities and contributions when carrying out and evaluating tasks.
Communication, ICT and numeracy skills	Level 7	Information and Communication Technology	Use a range of ICT applications to support	Provides solution at workplace to improve efficiency and

			and enhance work.	effectiveness through ICT
Communication, ICT and numeracy skills	Level 9	Quantitative Literacy	Undertake critical evaluations of a wide range of numerical and graphical data.	Collect necessary data and evaluate them using standard techniques to show trends, improve performance, etc.
Autonomy, accountability, and working with others	Level 9	Values and Ethics	Manage complex ethical and professional issues and make informed judgements on issues not addressed by current professional and/or ethical codes or practices	Act responsibly in novel and complex situations that demands a high level of ethical and moral decision making.
Autonomy, accountability, and working with others	Level 8	Autonomy and Accountability	Exercise substantial autonomy and initiative in professional and equivalent activities	Demonstrate exemplary leadership skills in managing complex projects.

Notes:

- It is necessary to note that the five characteristics of the 5 level descriptors presents a range of competencies that are expected to be achieved at specific levels.
- Through a careful mapping of module or programme objectives, curriculum developers and module developers must ensure a wide range of competencies are addressed such that the thresholds mentioned for each level of programme are met.
- While the characteristics of level descriptors articulate a generic set of competencies, achieving them through discipline specific knowledge, skills and attitude are compulsory.

10. Module Competencies Exercise

Download The E-learning Programme Mapping Guide Exercise Worksheet. Read the Programme Competencies information and instructions. Once you've created your programme competencies, move on to the Learning Outcomes page where you will use the competencies created in this worksheet.

Exercise 2

For the purposes of this exercise, you will create two to three competencies for each credit hour of instruction for your module. The competencies you create will provide a vision for your module which will be used in the next step of module design to develop module learning outcomes.

1) Identify the level of the descriptor your module aims to target.
   Example: Level 5
2) Identify the type of level descriptors your module aims to target
   a. Knowledge and Understanding
   b. Practice: Applied knowledge, skills and understanding;
   c. Generic cognitive skills;
   d. Communication, numeracy and ICT skills; and
   e. Autonomy, accountability and working with others

   Example: It is necessary that we try to address all the types of level descriptors in each module. Hence, we will design our module learning outcomes to cover all level descriptors
3) Write the Corresponding Competencies
4) Write the corresponding competency.
5) Define the purpose of the competency.
6) Provide the real-world, field, or educational goal connection.

Example:

Level Descriptor Characteristic	Descriptor Level	Competency	Purpose	Real World, field, or educational goal connection (External standards if applicable)
Knowledge and understanding	Level 5	Foundational knowledge	Develop an appreciation of the body of knowledge that constitutes the subject	*Foundational knowledge of basic principles underlying the subject*
Knowledge and understanding	Level 5	Critical thinking and problem solving	An understanding of the difference between explanations based on evidence and/or research and other sources, and of the importance of this difference.	Reasoning about principles, concepts, theories and models
Knowledge and understanding	Level 5	Critical thinking and problem solving	Apply knowledge and skills learnt in practical contexts	Use theory and skills learnt in the workplace
Applied Knowledge, Skills and Understanding	Level 5	Critical thinking and problem solving	Relate knowledge and ideas to personal and/or	Reasoning about principles, concepts,

			practical contexts	theories and models
Applied Knowledge, Skills and Understanding	Level 5	Creativity	To practise in a range of professional level contexts that include a degree of unpredictability.	Apply knowledge, skills and understanding to arrive at a solution with a given situation with limited resources
Generic cognitive skills	Level 5	Attention to detail	Present and evaluate arguments, information and ideas that are routine to a subject	Process a given set of information to arrive at logical conclusions
Generic cognitive skills	Level 5	Abstract and spatial reasoning	Use a range of approaches to address defined and/or routine problems and issues within familiar contexts	Evaluate a current scenario with pressing issues and provide reasonable solutions
Generic cognitive skills	Level 5	Data analysis and decision making	Use a range of approaches to address defined and/or routine problems and issues within familiar contexts	Collect and process data to identify trends and suggest solutions

Communication, ICT and numeracy skills	Level 5	ICT and communication	Convey complex ideas in well-structured and coherent form	Summarize raw data and present in an easy to understand visual form
Communication, ICT and numeracy skills	Level 5	Oral and Written Communication	Communicates with clear organization, language, and delivery and uses supporting material to convey a compelling central message	Convey complex information to a range of audiences and for a range of purposes
Communication, ICT and numeracy skills	Level 5	ICT and numeracy skills	Use numerical and graphical data to measure progress and achieve goals/targets.	Convey complex information to a range of audiences and for a range of purposes
Autonomy, accountability, and working with others	Level 5	Adaptability and resilience	Work, under guidance, with others to acquire an understanding of current professional practice.	Display attitude and skills to seek assistance and work with a team
Autonomy, accountability, and working with others	Level 5	Teamwork	Take account of own and others' roles and	Act responsibly in novel situations

			responsibilities when carrying out and evaluating tasks	and unfamiliar grounds
Autonomy, accountability, and working with others	Level 5	Autonomy and Accountability	Exercise some managerial or supervisory responsibility for the work of others within a defined and supervised structure.	Demonstrate leadership skills in managing tasks

11. Programme Outcomes and Expected Learning Outcomes (ELOs)

Now that we have learnt how to map our key competencies that we want to achieve form the module onto the desired level of descriptors and their characteristics, it is time that we look at closely on Programme Outcomes and see how they can be mapped onto our key competencies and the respective level descriptors and their characteristics. Please note that as at MQA, Module Learning Outcomes are referred to as Expected Learning Outcomes, we will use the terms Module Learning Outcomes (MLOs) and ELOs interchangeably.

Thus, we will now look at closely how to form and write good Module Learning Outcomes

Module Learning Outcomes are specific and measurable statements that define the **knowledge, skills, and attitudes** learners will demonstrate by the completion of a module. We will refer to this as Expected learning outcomes or ELOs for short. ELOs are written with a verb phrase and declare a demonstrable action within a given time frame, such as by the end of the module. Ideally, they should be observable, measurable, and achievable within a specified time period.

Writing an effective ELO that is measurable involves the structuring of two parts, a verb and an object. The verb phrase describes the intended cognitive process or what the learner is intended to do, and the object phrase describes the knowledge students are expected to acquire or construct (Anderson & Krathwohl, 2001).

Bloom's Framework for Writing Learning Outcomes

Bloom's revised taxonomy provides a framework for transforming competencies into essential learning outcomes or intended results. It is the most widely used and accessible across programmes and fields. The taxonomy categorizes six orders of thinking on a continuum of lower-order to higher-order thinking skills:

- Remember - retrieve information and relevant knowledge from memory
- Understand - construct meaning from instructional messages
- Apply - Carry out or using a procedure in a given situation
- Analyse - Break into parts and determine how parts contribute to an overall structure or purpose
- Evaluate - Make judgments based on criteria and standards
- Create - Put elements together to form a new coherent pattern or structure
- The categories are on a continuum of increasing cognitive complexity, from lower order thinking skills to higher order thinking skills. A learner who is able to achieve the application level is understood to have already mastered the content at the knowledge (remember) and comprehension (understand) levels.

Bloom's revised taxonomy provides a framework for transforming competencies into essential learning outcomes or intended results. The revised taxonomy organizes these verbs or cognitive processes on a scale of lower-order to higher-order thinking skills. These categories define what learners should be able to do at each level of cognitive complexity. For example, having students "explain" or "discuss" a concept will demonstrate their understanding (lower-level), and having students "calculate" or "justify" will demonstrate their ability to analyse and evaluate (higher-level). **Read more about Bloom's Revised Taxonomy** and **download a Bloom's chart**.

Note that not all actions or processes are measurable. For example, "understand" is a category label for the lower-level thinking skill of comprehension; however, the verb *understand* itself is difficult to observe and cannot be easily measured. Learners can demonstrate understanding by their ability to **define**, **describe**, or **explain**. Use these kinds of observable action words in place of understand. It is often helpful to consider how you will assess the evidence of learning and how you will measure levels of mastery in order to determine the learning outcome you expect at the end of a programme.

You will take your module competencies and mould them into ELOs. Each module competency should be transformed into at least one ELO, though if needed, you can mould them into multiple outcomes.

You can structure each learning outcome using two parts, a verb and an object, where the verb describes the cognitive process and the noun describes the knowledge students are expected to acquire or construct.

You may strengthen your learning outcomes by including a conditional statement. The conditional statement may be necessary if learners are expected to perform under specific conditions or contexts, if learners are given specific data sets or variables to work with, expected to reach specific target, or if learners will need to draw on prior knowledge and pre-set conditions ahead of time. See examples of how to strengthen your learning outcomes below:

Not measurable	Good	Better
Understand the significance of the Neolithic Revolution.	Explain the significance of the Neolithic Revolution.	Explain the characteristics of the Neolithic Revolution and its impact on the early civilizations.
Become familiar with evolutionary theory about human behaviour.	Evaluate the origins of evolutionary theory about human behaviour.	Evaluate the evidence for various frameworks surrounding evolutionary theory about human behaviour.
Understand bonding and molecular structure theories.	Use bonding and molecular structure theories.	Use bonding and molecular structure theories to predict chemical properties of elements and compounds.
Understand the derivative of a function at a point.	Interpret the derivative of a function at a point as the slope of the tangent line.	Interpret the derivative of a function at a point as the slope of the tangent line and estimate its value from the graph of a function.
Gain an appreciation for the development of art in its global context.	Make cross-cultural comparisons of historical art works from 1400-1945.	Make cross-cultural comparisons of historical art works Europe, North America, Japan, China, Korea, and parts of Africa from 1400-1945.

12. Learning Outcomes Exercise

Exercise 3

Continue using the E-learning Module Mapping Exercise. With your completed programme competencies, fill out the Expected Learning Outcomes. When you've finished, move on to the **Mapping Your Mapping** page.

Example

Module Name: *Public Administration and Organization*

Competency	Expected Learning Outcome	Level Descriptor
Foundational knowledge *of basic principles underlying the subject*	*Explain various definitions of public administration*	Knowledge and understanding
Foundational knowledge *of basic principles underlying the subject*	*Explain various administrative systems and modes of governance*	Knowledge and understanding
Foundational knowledge *of basic principles underlying the subject*	*Explain the core theories, concepts of public administration*	Knowledge and understanding
Use of **Critical thinking and problem solving** to reason about principles, concepts and theories	*Compare and contrast the various definitions and theories of public administration*	Knowledge and understanding
Apply **Critical thinking and problem solving** at workplace	*Identify ways that public and private organizations are similar and different.*	Applied Knowledge, Skills and Understanding
Apply **Creativity** in a range of professional level contexts that include a degree of unpredictability	*Identify and address some issues in public governance, keeping in mind of the challenges posed by global processes*	Applied Knowledge, Skills and Understanding
Pay **attention to detail** in evaluating a arguments, information and ideas	*Explain the consequences of those differences for what government does and does not do.*	Generic cognitive skills
Use **abstract and spatial reasoning** to evaluate a given scenario with pressing issues and provide rational solutions	*Discuss the origin of corruption and reasons for its existence*	Generic cognitive skills
Use **data analysis and decision-making** principles to identify trends and present them for a given scenario.	*Discuss the importance of Data Driven Decision Making in Public administration*	Generic cognitive skills

Use **ICT and communication** tools to convey complex ideas in an easy-to-understand form	*Discuss the tools that modern public administrators use to pursue public goals, along with the pros and cons of those tools*	Communication, ICT and numeracy skills
Use **oral and written communication** skills to convey complex information to a range of audiences and a range of purposes	*Present relevant case studies relating to public administration for a range of audiences*	Communication, ICT and numeracy skills
Use **ICT and numeracy skills** to represent information graphically and present.	*Discuss the importance of Data Driven Decision Making in Public administration*	Communication, ICT and numeracy skills
Develop **adaptability and resilience** through work and guidance from others to acquire an understanding of current professional practices	*Discuss public policy challenges in specific administrative areas (health, social insurance, taxation, energy, financial market, sustainability, diversity, etc.), of interest to the students*	Autonomy, accountability, and working with others
Display **teamwork** by taking account of own and others' responsibilities	*Discuss the importance of Data Driven Decision Making in Public administration*	Autonomy, accountability, and working with others
Display **autonomy and accountability** through leadership	*Prepare a report to explain the major values that public administration has and illustrate how those affect the work of government.*	Autonomy, accountability, and working with others

Note:
Once the ELOs are worked out and mapped on to the competencies and Level descriptors, you may find that more than one competency and level descriptor can be achieved through one outcome. On the other hand, scanning of the outcomes may show that some important areas that you feel are not addressed.

So, you must revise your mapping, until you get a satisfactory set of outcomes that gives an appropriate coverage of the subject, before finalizing the outcomes.

Also, you must carefully scrutinize the verbs and phrases used in the outcome to see if they fit the level of difficulty and depth expected by the level descriptors. It may be a good idea to revisit the section on level descriptors and see if your outcome statements match with the corresponding level descriptors.

Finally, it may be a good idea to submit your work to a colleague for second opinion. Once all this is done, you are now ready to write down your ELOs for the module.

Exercise 4.

Now on your Mapping Module Outcomes Worksheet, attempt to filter and refine your module outcomes or the ELOs. The example below will help.

Example 4:

By the end of the Module, learners will be able to:

i. *Explain various definitions of public administration*
ii. *Assess various administrative systems and modes of governance*
iii. *Explain the core theories, and concepts of public administration*
iv. *Compare and contrast the various definitions and theories of public administration*
v. *Identify ways that public and private organizations are similar and different.*
vi. *Identify and address some issues in public governance, keeping in mind of the challenges posed by global processes*
vii. *Explain the consequences of those differences for what government does and does not do.*
viii. *Discuss the origin of corruption and reasons for its existence*
ix. *Discuss the tools that modern public administrators use to pursue public goals, along with the pros and cons of those tools*
x. *Discuss the importance of Data Driven Decision Making in Public administration*
xi. *Analyse a given set of data in order to enable informed decision making in public administration*
xii. *Present relevant case studies relating to public administration for a range of audiences*
xiii. *Prepare a report to explain the major values that public administration has and illustrate how those affect the work of government.*

13. Mapping Your Module

The Mapping Your Module section is the second entry point in this E-learning Module Mapping guide. Now that you've created expected learning outcomes based

upon foundational competencies and programme outcomes, you are ready to start mapping your programme

a) Module Map Template

It is very important that you understand what each of the fields stand for. You may very well read the following document: Guideline for Programme Accreditation (October 17, 2022) published on www. mqa.gov.mv

Please refer the Module Map template which you can download from the Module Mapping page of the www.micollege.edu.mv

Please note the various fields of the Module Mapping Template:

1. Module: Here you state the name of the module and describe the broad objectives that this module will help to achieve in relation to the wider scope of the programme in which this module is offered.

2. Module Code Number: Here you will follow the **module coding nomenclature** followed in the College

3. **Credits, learning hours and contact hours:** Information relating to credits of the module or unit should be provided. The relation of contact hours to individual learning should be outlined. It is expected that contact hours should be 50% (1/2) of learning hours for qualifications from Certificate 1 to Certificate 3, and 33.33% (1/3) of learning hours for qualifications from Certificate 4 and above.
   One credit resembles 10 learning hours. Furthermore, information should be provided about how the assessment about the individual study time has been made

4. **Mode(s) of delivery:** Information should be provided about the mode or modes of delivery, i.e., lectures, seminars, workshops, group works, distance education, blended learning, e-learning, online study or virtual learning.
   When your module that you are developing is planned for e-learning delivery, care must be taken to choose the most efficient methods of delivering the module. This can be properly worked out only after you have completed the module mapping. Hence this section shall be filled after mapping the module.
   It is expected that an explanation is provided about why and how the chosen mode of delivery best contributes to the achievement of the learning outcomes.
   Include options for part-time and fulltime study. If it is a part-time mode, it is necessary to understand the module should be planned to cover in 1.5 times the

full-time delivery mode. However, this does not increase the total contact hours or the credit hours. This only increase the time span over which the module is delivered.
Information should also be included about every delivery site at which the HEI intends delivering the Programme.

5. **Minimum qualification and experience of instructors/lecturers:** Information should be provided about the minimum academic qualifications required from teaching staff involved in the module or unit. This policy should be consistent with the policies described prescribed in the MQA Guidelines for programme approval Section 2.2.

6. **Pre-requisites:** If the module or unit requires any pre-requisites, these should be outlined

7. **Co-requisites:** If the module or unit requires any pre-requisites, these should be outlined

8. **Expected learning outcomes:** Information should be provided about the expected learning outcomes of the module or unit. This should include a description of how the specific teaching and learning methodology is best suitable to acquire the intended learning outcomes.
This is where you write down the previously worked out ELOs

9. **Curricula content:** Information should be provided about the specific curricula content that is covered in the module or unit. This should include an overview of the individual sessions that form part of the module or unit. This information should be presented in a table format.
Information about any practical or work-based involvement, if any, should also be provided.
These components must be linked directly to the expected learning outcomes of the Programme and the assessments of the module. In turn the assessments must be linked to the ELOs
Please complete the Exercise on mapping the module. Care must be taken to ensure that appropriate credit hours are identified for various module ELOs through appropriate content.

10. **Specific assessment methods and grading criteria:** Information should be provided about the specific forms of assessment and grading criteria in the module or unit. An account should be given as to how the chosen form of

assessment best relates to the expected learning outcomes of the module or unit. In general, the amount of work expected from any student across all assessment tasks should relate to the credit point value of the subject and with the complexity of the material studied

11. **List of reference materials, if relevant:** Information should be provided about the reference material to be used in the module or unit. If available, names of documents such as hand-outs, workbooks, teacher guides, lecture notes or textbooks should be annexed as a list.
    For all e-learning programmes, each set of lessons covering an ELO, should be provided with the necessary learning materials.

Fill out the general programme information. Then, transfer your expected learning outcomes from the Exercise Worksheet and follow the steps below to complete the programme map.

b) How To Map Your Module

1. creating topics

Scaffold your Module Learning Outcomes (also referred to as Expected Learning Outcomes or ELOs) and create a structure by organizing them into manageable units of learning or topics.

2. Scaffolding

As you begin to map your programme, think about your learner and how to guide them towards the end goal of the programme. Decide how your expected learning outcomes build upon one another or scaffold. For example, foundational learning outcomes that are lower on the cognitive scale such as define or explain, are typically addressed early on in the programme while higher-level cognitive skills such as distinguish or design may not be accomplished until later.

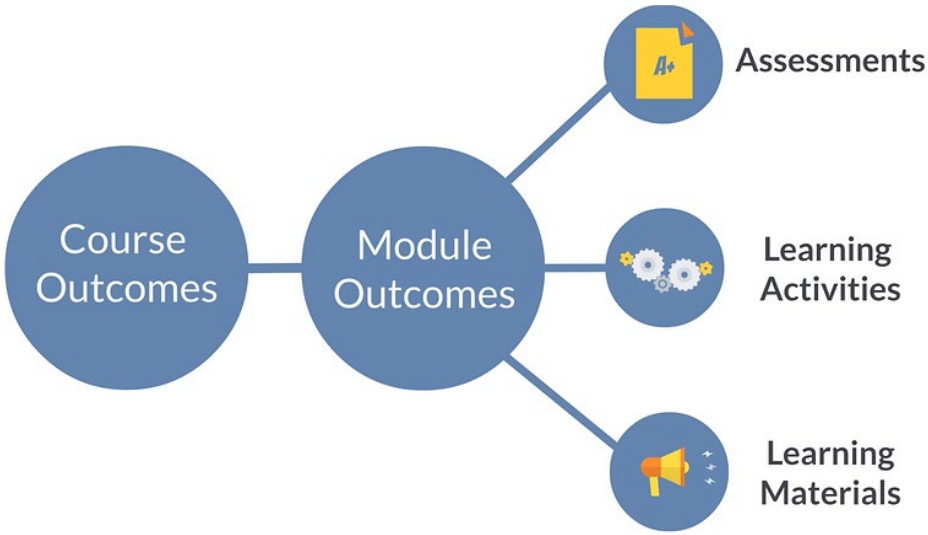
3. Organizing your programme Topics

Next, structure your programme according to the order of your module learning outcomes from lower complexity to higher complexity. Determine how the outcomes can be broken into units of learning. For example, Expected Learning Outcomes I and II might be achieved together in one learning topic earlier in the programme. For each topic, write the corresponding module learning outcome as a Roman numeral in the second column. In the next step, you will be creating learning outcomes for each *topic* that align to the expected learning outcomes you've identified. These are called the Topic Learning Outcomes or TLOs.

4. Alignment

Alignment is the direct link between expected learning outcomes and module components: assessments, activities, and learning materials.

Alignment is a key part of backward design and is visualized through the module mapping process. Using the module Map Template to map out your module will help you determine the essential assessments and activities that build comprehension and application of the learning material, leading to achievement of the expected learning outcomes. A well-aligned programme means that all components of the programme contribute to the learner's experience and lead them directly towards achieving the expected learning outcome.



Why is alignment important?

Research has shown that students often struggle, lack motivation, or fail to complete e-learning programmes due to information overload, ineffective time management, and lack of meaningful and personal connection.

Alignment attempts to tackle these challenges by ensuring there is a connection between the learning material, activities, and assessments to the expected learning outcomes, which results in more intentional instruction, appropriate assessments, and meaningful engagement of learners.

According to Wiggens and McTighe (2012), alignment also provides consistency for students and supports more accurate construction of programme concepts.

- Ensure that each topic learning outcome is achievable and has proper learning materials and activities that build comprehension and ability.

- Show clarity and transparency in purpose, process, and evaluation of learning.
- Enable metacognition – control and regulation of one's own learning
- Prevent information overload and extraneous time spent on activities that don't contribute to achievement of topic learning outcomes.
- Determine assessments that accurately and fairly evaluate achievement of the topic learning outcome(s).

Showing alignment with Mapping

On the module map template, you will state which learning objectives will be addressed in each individual module.

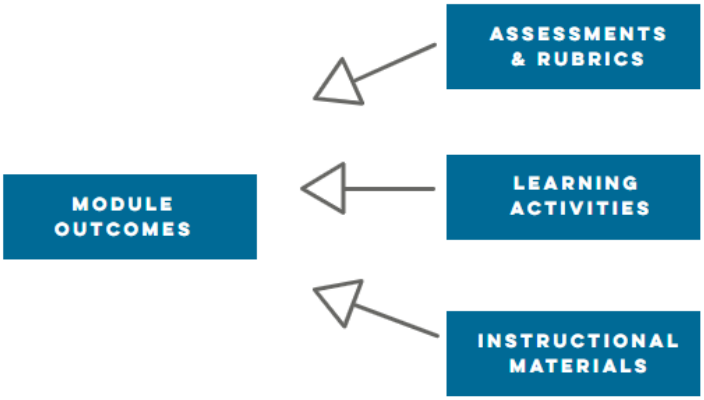
You should list all **Expected Learning Outcomes** on page one utilizing **Roman numerals**. For each topic, you will indicate which module outcomes are being addressed by referencing to each module outcome by their Roman numeral.

When listing your **Topic Learning Outcomes,** you should **list each using an integer based upon the topic number**.

For example:
Topic One Outcome One would be written 1.1
Topic Four Outcome Three would be written 4.3

To **align expected learning outcomes with topic learning outcomes** you will write the topic learning outcome then write the Roman numeral(s) of the expected learning outcomes(s) that your module outcome aligns to.

5. **Topic Learning Outcomes and Assessments/activities/Materials**
Now that alignment has been made between expected learning outcomes and topic learning outcomes, and you will want to align the rest of the module content. All assessments, learning activities, and instructional materials should align to at least one topic learning outcome. By doing so all components of the programme will align back to your programme's learning objectives.



6. **Topic Learning Outcomes:**
   Identify the specific learning outcomes for each topic and note how they target Module Learning Outcomes.

   The process of writing Topic Learning Outcomes (TLOs) is very similar to writing your Module Expected Learning Outcomes (ELOs), in which you pair a verb and an object. See **How to Write Measurable Learning Outcomes**.

   When writing Topic learning outcomes, the level of specificity becomes narrower. Topic Learning Outcomes are time-bound and should be achievable within a few hours or days, rather than weeks or months.

   In the third column of your programme map, for each topic, identify three to eight topic learning outcomes that are specific to that topic. TLOs should state the actionable items that will be accomplished in the topic from the perspective of the learner. Every TLO should contribute or link to at least one ELO, demonstrating alignment.

   Topic Learning Outcomes help scaffold your programme to incrementally reach your stated module learning outcomes.

   When writing your topic learning outcomes, consider:
   - **Time to achievement:** Can learners attain this outcome by the end of this learning module or unit?
   - **Assessment:** How will the learning outcome be assessed or observed?

- **Activities:** What kinds of activities will allow learners to practice and gain feedback before they are assessed?
- **Instructional Material:** What kinds of learning materials and tools do learners need to equip them and give them the foundational knowledge for achieving the outcome?

If the learning outcome is not directly supported by the learning material or will not be assessed, reconsider its necessity and whether it meets the goals of the module.

7. **Assessments:**
   Identify the formative assessments and the summative assessments. Determine acceptable evidence of the achieved learning outcome at different levels of mastery.

   After defining your topic learning outcomes, determine how you will assess the knowledge learners have gained, the skills they have mastered, and their ability to determine and construct meaning.

   The assessments below are a few examples of the formative and summative assessments that can be incorporated into an e-learning or blended programme. Not all assessments have to be graded or need to have a point-value; however, all assessments in a programme should be meaningful, contributing to the desired learning outcome.

   a. **Formative Assessments**
      Formative assessments are ongoing throughout a programme and can be incremental or sequential, building upon one another. Formative assessments help instructors gauge how learners are progressing, how learners perform at specific milestones, and how learners engage with the material. Formative assessments also provide learners the opportunity to put their knowledge into practice, self-assess, ask clarifying questions, and reflect on their learning. These types of formative assessments can often drive instructor-learner contact, require active feedback, and trigger engagement throughout the e-learning or blended modality programme.

   b. **Summative Assessments**
      Summative assessments occur at the end of a programme or at the end of a series of modules and typically result in a score or a grade. Summative

assessments evaluate the learner's achievement of the desired learning outcome at the completion of the programme or learning module. Summative assessments are higher stakes, and often consists of performance evaluations, authentic writing assignments or projects, or exams.

Formative Assessments	Summative Assessments
- Quizzes and Surveys	- Essays
- Prompted Discussions	- Research papers
- Journal Reflections	- Projects
- Summaries	- Reports
- Write-ups	- Recordings
- Peer and Self Assessments	- Recitations
- Group Collaborations	- Presentations
- Case Studies	- Demonstrations
- Photos of artwork	- Final Exams
- Videos of field/site visits	- Portfolios

8. Learning Activities

Brainstorm the types of activities that will facilitate meaningful engagement, practice, and transfer of learning.

After determining the formative and summative assessments for your module, think about the level of interaction this module will encompass and the kinds of activities that will help learners gain practice and build their skills.

An e-learning module that is high-touch and engaging involves meaningful learning activities. Learning activities include interactions and engagements that allow learners to practice, self-assess, obtain feedback, and establish retention and transfer of their learning. These interactions can be categorized into three types:

1. learner-content interaction,
2. learner-learner interaction, and
3. learner-instructor interaction.

To identify the appropriate learning activities for your module, consider the kinds of interaction that will contribute to a deeper understanding of the instructional material, give learners the opportunity to practice and document specific

procedures and methods, engage learners in collaborating with their peers, and improve their skills through helpful feedback from the instructional team.

Learner-Content Interaction	Learner-Learner Interaction	Learner-Instructor Interaction
- self-paced learning material	- peer review	- office hours
- self-check quizzes	- discussion forum	- synchronous meetings
- drag-n-drop, matching	- group collaboration	- discussion boards
- digital textbooks	- community boards	- grading rubrics
- videos with self-check quizzes	- wiki	- assignment feedback
- labwork, field work	- file share	- announcements
- practice items	- breakout rooms	Learner-Instructor Interaction

9. Instruction

Determine the learning materials, resources, and key principles that will equip learners and provide a solid foundation of understanding.

In backward design, instructional material is determined after establishing the learning outcomes, assessments, and activities for the programme. This helps instructors focus on the perspective the learners and the end goal of the programme. This method also helps instructors determine essential information versus extraneous information that may not contribute to the objective of the programme.

Now, consider the kind of instructional materials that will best equip your learners to participate in activities, succeed in their assessments, and achieve the intended outcomes. Think about the learning experience you want your learners to gain in each module and in your programme as a whole. Determine the most appropriate materials and method(s) for instructional delivery, which include but are not limited to: video, textbook readings, recorded demos, PowerPoint slides, articles, and graphics.

Keep in mind that delivery of content should always be accessible, providing alternative modes of delivery: transcripts, descriptive text, speech-reader capability, searchable text, etc. See Accessibility Guide.

14. Definitions

Programme: An academic course, or an organised sequence of modules and subjects which are built on a planned curriculum.

Goals of the Programme: Broad statement identifying what students should learn, understand, or accomplish as a result of their studies by the completion of an academic programme. Programme Goals are broad in scope and set the higher-level learning goals for all students.

Competency: General statement of long-range outcome defining the applied knowledge, skills, and attitudes that enable learners to successfully perform in professional, educational, and other life contexts.

Outcomes of the Programme: Statements that identify what students will be able to demonstrate, produce or represent as a result of what and how they have learned in a programme. Unlike Programme Goals, Programme Outcomes are not fixed and are often modified for specific assessment cycles.

Expected Learning Outcome (or Module Learning Outcome): Measurable statement defining the specific knowledge, skills, and attitudes achieved at the end of a module. Abbreviated form = ELO

Topic Learning Outcome: Measurable statement defining the specific knowledge, skills, and attitudes achieved at the end of a topic. Abbreviated form = TLO

Alignment: The direct link between learning outcomes and programme components: assessments, activities, instructional material, and tools.

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