UNIVERSITY OF DAR ES SALAAM

A HANDBOOK FOR COMPETENCE-BASED ASSESSMENT METHODS FOR LECTURERS AND INSTRUCTORS AT THE UNIVERSITY OF DAR ES SALAAM

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FOREWORD

A Handbook for Competence-Based Assessment Methods is a guide for lecturers and instructors at the University of Dar es Salaam on assessment that promotes student learning and measures student achievement of required competences. Part One introduces the handbook, its purpose and the foundations of good assessment practice. Part Two examines the context of assessment at the University, while Part Three provides an overview of competence-based assessment (CBA) with a focus on its meaning and purpose. Part Four examines competence-based assessment processes with a focus on guiding University lecturers and instructors on how to develop assessment criteria and grading rubrics.

Part Five considers the methods suitable for assessing competences with the emphasis on their development, applications and specific tools associated with each assessment method. Part Six and Seven provides guidance on the moderation and feedback processes in the context of CBA, respectively.

It should be noted that, this handbook does not provide ready-made CBA tools, rather it equips university lecturers and instructors with the capability to develop or adapt the existing assessment tools depending on the needs.

ABBREVIATIONS AND ACRONYMS

B.A (Ed.)	Bachelor of Arts with Education
B.Ed. (ECE)	Bachelor of Education in Early Childhood Education
B.Ed. (PESS)	Bachelor of Education in Physical Education and Sport Sciences
B.Sc. (Ed.)	Bachelor of Science with Education
CA	Continuous Assessment
CBA	Competence-Based Assessment
CBE	Competence-Based Education
CDE	Challenge Driven Education
CoICT	College of Information and Communication Technology
CRA	Criterion Referenced Assessment
HEI	Higher Education Institutions
PT	Practical Training
QAU	Quality Assurance Unit
TCU	Tanzania Commision for Universities
TP	Teaching Practice
UDSM	University of Dar es Salaam
UE	University Examination

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DEFINITION OF KEY TERMS

Assessment	Assessment refers to the systematic processes of collecting, analysing and interpreting evidence to make judgements about the achievement of students in units of study and over a course of study.
Assessment criteria	Means specific outcomes that are expected to be demonstrated in any assessment task.
Competence	The ability to choose and use an integrated combination of knowledge, skills and attitudes to perform a particular task to a prescribed standard.
Competence-based assessment	Assessment that focuses on collecting evidence based on certain criteria in order to make judgment about whether a person or a group of people can perform a task or activity to a required standard.
Formative assessment	Assessment activities that are designed primarily to provide feedback to students on their progress against learning outcomes. Formative feedback can also inform lecturers and instructors on student on-going learning which can inform their teaching.
Grading rubric	Is a descriptive tool for determining the level of performance or quality of a piece of work.
Learning outcomes	Clear statements to indicate what students are expected to know or be able to do at the completion of a unit or course.
Performance standard	A clearly articulated description of the level of attainment that acts as a stable reference point or recognised measure for the purposes of reaching a decision on the quality of a student's work. Is a more detailed breakdown of each criterion to give specific information about what is required to achieve a particular grade/mark. A performance standard is also referred to as a standard descriptor.
Summative assessment	Assessment activities that contribute to the final unit marks or grades. Usually conducted at the end of a course or programme and award the learner with the final mark/grade.
Reasonable adjustment	Alterations or modifications that are provided to alleviate the implications of a disability/health condition, after due consideration is given to inherent requirements and academic integrity.
The University	Means the University of Dar es Salaam.

PART ONE

INTRODUCTION

In recent decades, rapid changes have occurred in education policy and practice, both in developed and developing countries. Most countries have embarked on education reforms toward competence-based education (CBE) based on the understanding that education and the economy are inextricably linked. Competence-based education focuses on preparing graduates with relevant competences (knowledge, skills and values) that graduates might use in a range of different employment and life activities in their communities rather than focusing only on acquiring and reproducing knowledge as the content-based curriculum does.

The University of Dar es Salaam (UDSM) is one of the higher education institutions (HEIs) in Africa that have embarked on reforming their curricula to respond to the skill needs for national development by strengthening collaboration between the UDSM and the industry, enhancing labour market-oriented teaching, and strengthening competence-based teaching and learning. Competence-based teaching and learning aims to enable learners to develop, integrate and use the desirable competences, including the 21st century skills such as critical thinking, creativity, communication, collaboration (teamwork), information technology, and meta-learning (learning to learn). To achieve this, competence-based assessment becomes an integral part and should therefore be aligned to the desired learning outcomes.

Competence-based assessment methods are increasingly applied in various higher learning institutions in the world to support students' development of knowledge, potential skills and attitudes. Competence-based assessment methods test not only mastery, but also the application of relevant knowledge and skills in practice/real life situations. This is in line with the University of Dar es Salaam (UDSM) Vision 2061, which focuses on supporting students to develop transferable skills and competences relevant for the 21st century and to realise the country's philosophy of education, which is 'education for self-reliance'. Despite this focus, the analysis of the existing assessment practices at the UDSM shows that, overall, a large part of both continuous and summative assessments is mainly knowledge-based assessment, meaning that they put more emphasis on assessing students' acquisition of knowledge rather than demonstration of practical skills and application of the acquired knowledge and skills in the real-world situations. This observation is supported by findings from the tracer study conducted by the UDSM in 2022/2023 academic year, which indicate that more than a half of the interviewed graduates considered the assessment processes at the UDSM to be moderately adequate, though they rely more on measuring students' mastery of knowledge than its practical application in real-world or simulated

situations. This suggests that the UDSM needs to strengthen competence-based assessment practices by, among other efforts, putting in place an assessment guideline that could be used by lecturers and instructors as a reference.

This Handbook of competence-based assessment methods establishes clear guidelines for assessment at the UDSM and assists University lecturers and instructors to undertake assessment that promotes student learning and measures student achievement of required competences in ways that are valid, reliable, fair, transparent, and equitable. Also, the Handbook acknowledges the existence of diverse programs or disciplines offered at the UDSM. Therefore, the methods and tools suggested in this Handbook can be customised and adapted to suit the unique requirements and context of specific programs or disciplines.

Further, it is important to note that although this Handbook is on competence-based assessment, it is also useful in the curriculum review process at the University, for it provides some skills on how to articulate course competences, learning outcomes, and assessment criteria, as well as on designing or selecting relevant assessment methods. These elements are in line with the Tanzania Commission for Universities (TCU) curriculum development framework. It should also be noted that this Handbook supports rather than contravenes other University policy and procedures governing examinations.

1.1 Purpose of the CBA Handbook

This Handbook intends to equip the University lecturers and instructors with the capability to develop and use relevant assessment methods and tools for measuring students' achievement of desirable competences. The Handbook provides information and strategies for designing and carrying out competence-based assessment to measure students' achievement of learning outcomes in a course or programme of study. Specifically, the Handbook is expected to:

a) Enable UDSM programmes to blend both theoretical knowledge and practical experience.

b) Enable identification and measurement of the acquired knowledge and potential skills that are deemed to be essential to success in carriers.

c) Enhance Quality Assurance criteria focusing on employability to facilitate quality enhancement and potential programme evaluation.

d) Enable the consistent and traceable application of developed assessment methods and tools (example, for practical training/work-based learning, final year projects, internship).

1.2 Foundations of the CBA Handbook

As the University aspires to offer competence-based programmes, assessment of students' learning should observe good assessment practice. The foundations of good assessment practices are identified in this Handbook which sets the University's commitment to assess student academic work appropriately. The following are the foundations of good assessment practice, which this Handbook embrace:

a) Assessment will be designed to promote student learning;
b) Assessment will be undertaken in a manner that is efficient, fair, transparent and equitable;
c) Results will reflect student achievement against specific learning outcomes;
d) Assessment will be regularly reviewed and improved; and
e) University decisions regarding assessment and results will be subject to review and appeal on grounds specified within relevant University procedure.

PART TWO

THE CONTEXT OF ASSESSMENT AT THE UNIVERSITY OF DAR ES SALAAM (UDSM)

The assessment process at the UDSM involves both continuous assessment (that is, assessment conducted as the teaching and learning processes continue) and summative assessment (that is, assessment conducted at the end of semester). In most units (colleges/schools/institutes), continuous assessment is conducted using methods that include written assignments, quizzes, tests and, in some cases, class presentations. Summative assessment is conducted mainly through end of semester University examinations that involve traditional paper and pen examinations. In some natural science and engineering courses, end of semester University examinations involve doing practical work in the laboratories or workshops within the University premises. Generally, a large part of both continuous and summative assessments is mainly knowledge-based assessment in the sense that they assess students' acquisition of knowledge rather than demonstration of practical skills and application of the acquired knowledge and skills in the real-world situations.

Nevertheless, some units in the UDSM, for example the College of Information and Communication Technology (CoICT), have practised some competence-based teaching and assessment methods in the form of challenge driven innovation/education (CDE) or problem-based learning, where students are given a real-world challenge/problem for which they should study and find a solution, either in form of an innovation, or product/service. The assessment of students participating in the program has been carried out through various ways including:

a) Practical training assessment where students write reports and visited while in the field and interviewed to gauge their learning progresses;
b) Observing the process outputs such as products or services coming out of the process; and
c) Multi-stage presentations at various levels of the program whereby students also get feedback.

However, the assessment process is not clearly documented because there is no evidence of an effective grading rubric that shows how students' varying levels of performance could be measured.

In the field of science and engineering, final year projects assessment involves three components which are oral presentations, demonstrations of student work/product, and report writing. All components are assessed by using checklists and rating scales which have some criteria for assessing students without clear clarification of how well a student must demonstrate a particular

ability so as to be awarded a particular mark (standard descriptors). For example, the modality for practical training in natural sciences and engineering streams differs according to the nature of the course and therefore, varies from industrial exposure, government and private institutions' offices, hospitals, to laboratories and remote places such as geological sites and in the wilderness. However, there is a common practical training structure of assessment for most of natural sciences and engineering streams at UDSM as follow:

a) Supervisor from the host institution 10-20 marks
b) Log book or daily activities report 15- 30 marks
c) University supervisor 0-10 marks
d) Final report 50-75 marks
e) Presentations 0-10 marks

Methods used by the University and field supervisors on practical training supervision include direct observations and interviews. However, as noted earlier, there is no uniformity (in terms of content and structure) of the assessment tools across the departments. Most of the tools contain criteria without standard descriptors which provide further clarification of the varying levels of performance for each criterion. This could not enable the consistent and traceable application of developed assessment methods and tools. Final report marking involves only specified weight for each section of a report without description of performance criteria, while interviews after practical training have no guideline on how to assess.

In terms of laboratory work, most degree programs in natural sciences and engineering have a laboratory component whereby the practice varies from one unit to another. Two types of practices can be identified as follows;

a) Full practical course whereby assessment is 100% from a combination of many practical works.
b) Part of the course is theory and part of the course is practical work. In this case a larger portion of coursework assessment (20%) comes from practical work, another 20% comes from tests, quizzes and/or homework; while 60% comes from the University Examination.

Further, like in the social sciences and humanities, laws and business degree programmes, most of the classroom-based courses for natural sciences and engineering programmes use traditional assessment methods whereby the distribution of assessment marks is 60% University examination and 40% coursework. Course work can include tests, quizzes, and written assignments (to be done individually or in groups). However, there are few practice-based courses especially in engineering programs that carry coursework of 100%. Such courses include Engineering Drawing (ME 101) and Plant Design (CP 425).

In education programmes, assessment of theoretical courses is conducted through traditional methods, which include tests, quizzes, written assignments and class presentations whereby the distribution of assessment marks is 60% University examination and 40% coursework. For practical courses such as teaching methods courses, the distribution of assessment marks is 50% coursework and 50% University examination. Assessment of field experience, commonly known as Teaching Practice/Practical Training is conducted through methods like direct observation, interviews, portfolio assessment and field report with the help of various assessment tools based on the categories of education programmes, such as B.Ed. (PESS); B.Ed. (ECE); B.A. (Ed.); BSc. (Ed.); etc. Most of the tools are in the form of a rating scale. These tools assess a variety of knowledge, attitudes, and practical skills which are clustered into different areas based on a specific programme. Assessment is done in collaboration between the University staff and institutions where the student-teachers undertake practical training. Examples of assessment tools for TP/PT include:

a) Teaching Institutions Assessment Form;
b) Non-Teaching Institution Assessment Form;
c) Teaching Stations Supervisors Assessment Form; and
d) Portfolio Assessment Form.

However, although the different assessment tools have established criteria on which to base the assessment, the assessment tools do not include rubrics which could indicate description of performance levels for each criterion.

Generally, the analysis of the existing assessment practice at the UDSM shows that there are different assessment tools in various units - either in form of a checklist or rating scale. These tools establish the criteria on which to base the assessment and marks to be awarded for each criterion, but they do not show how well students must demonstrate those competences (that is, the tools do not have standards/performance descriptors). That means the tools do not provide further information about what is required to achieve a particular grade/mark expressed in a more detailed breakdown of each criterion. The performance descriptors help to indicate clearly how the students will be assessed and judged fairly. Therefore, there is the need to review the existing assessment practices, especially tools used for assessing practical experience, final year projects, and internship so as to align them with the requirements of competence-based assessment and education in general.

PART THREE

AN OVERVIEW OF COMPETENCE-BASED ASSESSMENT (CBA)

3.1 Conception of Competence

The definition of the 'competence' concept may vary according to the context in which it is used. What transpires as a prime focus in various conceptions of competence is the development of competent people, having the ability or capability (relevant knowledge, skills and attitudes) to satisfactorily complete some task(s) both in work or in life situations. In general, the concept of competence centres on the ability to do, which in turn focuses attention on the attributes that comprise this ability. This handbook, however, adopts the broader conception of competence as the ability to choose and use an integrated combination of knowledge, skills and attitudes to perform a particular activity or to meet the demands in a particular context to a prescribed standard. This definition embodies both cognitive and affective competence, example, the ability to choose the attributes (knowledge, skills and attitudes) needed to perform a particular task, and functional competence, example, the ability to apply such knowledge, skills and attitudes in a specific realistic task, whether cognitive, affective or psychomotor task (see also Nzima, 2016).

3.2 Categories of Competences

A distinction can be made between 'domain-specific' and 'generic' competences, following Evarwijn's (1996 as cited in Kouwenhoven, 2003) categorisation. Competences can be 'domain specific', relating to groups of knowledge, skills and attitudes within a particular profession or subject. 'Generic' competences are those needed in all/across content domains in professions or curricula and can be utilised in new problem or life situations (transferable), for example, communication, numeracy, information technology, problem solving, critical thinking, and working with others. The term 'life skills' is sometimes considered to refer to generic competences because of their transferability. On account of the nature of transferability, generic competences seem basic for the life of today, within and outside professions or subjects (Kouwenhoven, 2003).

3.3 Competence-based Assessment (CBA)

3.3.1 Meaning and Purpose

Competence-based assessment is a form of assessment that focuses on collecting evidence (examples, products, records) so as to make judgement about whether a person or a group of people can perform a task or activity to a required standard. Since learning and the application of educational experiences is the focus and the ultimate goal of competence-based education, assessment becomes an important component, which should focus on assessing both theoretical

knowledge and practical experience. According to Lines (2004), assessment under competence-based education aims to achieve three main purposes namely; supporting and enhancing learning, providing certification for advancement, and a form of quality assurance for stakeholders. This means, apart from certification and quality assurance purposes, the purpose of CBA is to provide students and teachers with information that can be used to guide individual improvement in the learning and teaching processes. Thus, formative (that is, assessment done as the teaching-learning process continues) rather than summative assessment (that is., assessment done at the end of a course or programme) should be emphasised. In this regard, more weight should be put on formative assessment, for it aims to help teachers and students to track the progress of learning, identify instructional weaknesses and diagnose individual student learning problems for the purpose of improving subsequent learning and teaching (see also Wolf, 1995; Guskey, 2005).

With these rationales in mind, as the University aims to implement CBA, it is important to reform assessment practices by, among others, allocating more weight on formative/ continuous assessment than final university examination. For instance, in courses primarily centered on practical aspects, continuous assessment should account for the entire assessment (100%) and will have no final university examination. Conversely, for courses encompassing both theoretical and practical components, continuous assessment could constitute 60% of the overall assessment, with the remaining 40% attributed to final university examination. Also, continuous assessment should be conducted using a variety of methods and tools, such as written assignments, tests, oral presentations, quizzes, and practical activities, which in turn departments/units can have flexibility in distributing marks for each continuous assessment component.

Competence assessment is conducted to determine if someone can perform the job to the level of skill and knowledge required. This means that competence-based assessment is done based on set criteria, hence it is criterion-referenced rather than norm-referenced assessment, which grades learners on the basis of their performance in relation to each other.

3.3.2 Criterion Referenced Assessment

Criterion referenced assessment (CRA) is the process of assessing (and grading) the learning of students against a set of pre-specified criteria (Brown, 1998; Harvey, 2004). Its purpose is to measure an individual's achievement against precise and explicit criteria. The pre-specified criteria are what a student must do during assessment to demonstrate that he/she has achieved the learning outcomes. How a student should perform a particular task is described at different levels in terms of standards descriptors - often presented in a rubric. Assessment criteria provides a clear focus for the assessment task, and is more informative about what an individual has learned and how well. The value of CRA is summarised in Box 1.

Box 1: The value of CRA

When conducted well, criterion referenced assessment has the following values:

- ➔ provides a shared language between students, teachers and assessors about assessment
- ➔ identifies what is valued in a curriculum, and ensures that what is measured by assessment is the same as the skills, knowledge and understandings defined by the intended learning outcomes
- ➔ makes explicit to students and assessors what evidence of achievement is expected at each of the grade standards
- ➔ enables reliable and valid judgements about students
- ➔ enables evaluation of how well students have achieved the learning outcomes of a course/unit
- ➔ enables identification of teaching, learning, and assessment practices that may need review
- ➔ supports students to develop strong self-evaluation capacity, providing tools for them to review, refine, and improve their own work

Source: Curriculum and Academic Development. (2022). *Guidelines for Good Assessment Practice* (5th ed.). Hobart, Australia: University of Tasmania.

3.3.3 Principles of Competence Assessment

In line with Gravells (2015), Paul (2015), and Bertha (2018), competence assessment should adhere to the following principles:

a) Validity

The frequency of assessment determines the accuracy in assessing competencies. Assessment of competence must be done more than one time in order to ensure validity of the assessment results. Further, assessment instruments must be prepared according to the specific purpose in order to ensure that they measure what they are intended to measure.

b) Relevance

Assessment should relate directly to the programme aims and expected learning outcomes. It is also expected to cover all the required competencies and enables learners to develop various competencies. Hence, it involves selection of the most relevant methods appropriate to the kind of performance being assessed.

c) Timely Feedback

Timely feedback is important in the assessment of competencies. It facilitates and promotes teaching and learning in many ways, including providing both the learners and instructors with

information on what learners know or can do, and which competences require further development. Also, course instructors may use assessment data to improve pedagogy.

d) Sufficiency and authenticity

Assessment should cover all the required competencies at a given time and levels. It should also involve specific realistic tasks that require application of knowledge and skills in real work or life situations.

e) Reliability

Assessment methods, tools and procedures should be designed to ensure consistent and accurate assessment of learning outcomes across different times, assessors and places.

f) Flexibility

Flexibility refers to the opportunity for individuals to negotiate certain aspects of their assessment and timing of assessment. This means that students may be involved in the process of brainstorming the relevance of assessment criteria and in decision making of when to undertake assessment.

g) Fairness

Means that assessment does not advantage or disadvantage particular candidates or groups of candidates based on gender, disabilities, culture backgrounds, etc.

PART FOUR

COMPETENCE-BASED ASSESSMENT PROCESS

The procedure for designing a competence-based assessment involves the following steps:

a) Identifying the desired competencies in a course of study;
b) Identifying the course intended learning outcomes to be measured;
c) Developing criteria for assessing each learning outcome;
d) Designing a grading rubric; and
e) Choosing relevant assessment methods and tools

4.1 Identifying the Desired Competencies in a Course of study

When you want to assess students in order to judge whether or not they are achieving the intended learning outcomes, you should be guided by the predetermined competencies and learning outcomes of a course. Identification of the predetermined competencies helps to decide on the appropriate methods and tools to use for assessing the competences. If the competences had not been determined in advance, then you should formulate them for the purpose of guiding assessment. In this case you can formulate course competences from needs assessment.

4.2 Identifying the Course Learning Outcomes

In the context of competence-based education most courses will specify both competences and learning outcomes. Competence indicates an overall ability of a person to perform a particular activity to a prescribed standard. For purposes of assessment, a competence has to be broken into more specific and measurable learning outcomes. A learning outcome is a very specific statement that describes exactly what a student will be able to know and do in some measurable way. Therefore, a competence may have several specific learning outcomes. Learning outcomes are the basis for an assessment program that focuses on what a student knows and can do either upon completion of a course or upon graduation from a program. Also, learning outcomes form the bases for developing assessment criteria (see also Huba and Freed (2000).

4.3 Developing criteria for assessing learning outcomes

As noted earlier, competence-based assessment is conducted based on set criteria, hence it is criterion-referenced assessment. Assessment criteria can simply be defined as standards that articulate what students must do during assessment to demonstrate that they have achieved the learning outcomes. Well-defined assessment criteria are valuable tools because they:

a) communicate how a teacher exercises his/her judgment as a marker;
b) form a basis for grading individual learner's achievement and learning;

c) specify standards expected; and
d) help to establish the assessment process as open, fair and justifiable as possible, with consistency, equity and parity.

Assessment criteria provide students with information about the qualities, characteristics and aspects of an assessment task that will be used to measure their attainment of each of the learning outcomes.

4.3.1 Key Features of Good Assessment Criteria

Assessment criteria should:

a) relate directly to the module/course learning outcomes;
b) indicate what is required at a pass level, in a positive way (statement of which aspects of a learner's work will be judged, in relation to the desired learning outcomes);
c) be distinct from each other;
d) help learners know what they need to do and how to do it;
e) help learners understand what you expect at differing levels of achievement;
f) be understandable to all stakeholders; and
g) be manageable in number.

4.3.2 How to Develop Assessment Criteria

Developing assessment criteria and rubrics is an important part of the assessment process in the context of competence-based assessment. The following tips provide guidance for developing assessment criteria:

a) Start with the module learning/course outcomes

The assessment criteria should cover all the module/course desired learning outcomes. There is a very close relationship between assessment criteria and learning outcomes (that is, many of the words will be repeated). Assessment criteria describe the level of performance required, often through the use of more evaluative words example, thorough, clear, accurate, wide ranging, rigorous, main, meaningful, well-reasoned, etc.

b) Look at the existing examples of assessment criteria

You may be able to save much time and energy by looking at examples of criteria to modify and adapt. You may find it helpful to use others' words, if they express and articulate your thoughts. You may also be able to eliminate some examples as inappropriate for your needs. However, you

must bear in mind that your assessment criteria must relate to the learning outcomes for each individual module/course.

c) Identify the different levels of performance for each grade/mark

Having decided on the aspects to be judged (that is, the assessment criteria), the next question is 'What will a learner need to demonstrate in order to achieve a specific grade/mark?' This means the assessor should think about the standards descriptors that will help to show the different levels of performance. Developing a rubric/grid can be particularly useful to achieve this purpose.

The difference between learning outcomes and an assessment criterion is shown in the Table 1.

Table 1: Learning outcomes and assessment criteria

Learning outcome	Assessment criteria
You will be able to… 'identify and articulate a relevant research question in environmental science'	*You will be judged on…* 'clear identification and articulation of a relevant research question in environmental science'
You will be able to…. 'identify and use appropriate methods for data collection'	*You will be judged on…* 'proper identification and use of appropriate methods for data collection'
You will be able to… 'describe your own styles of interpersonal communication'	*You will be judged on….* 'clarity of description of own style of interpersonal communication and use of meaningful and relevant examples, relating own style to context'

Box 2: Things to consider when developing criteria statements

When developing assessment criteria, it may help to consider the following:

- *The number of criteria*

Using too many criteria can make the marking process complex and lead to a more rigid approach example, more than 7 or 8 per module may be difficult to work with. Efficiency and effectiveness are increased by not having too many.

- *The number of grades of achievement (performance levels)*

A 5-point scale is normally broad enough to mark the full range of learner work. Too many levels may result in difficulties in the marking process and an averaging out of the marks. Research has shown that reliability of marking between assessors is increased by using a smaller number of bands.

- *The relationship between the criteria and the module learning outcomes*

Will each criterion relate directly to each individual outcome, or will you group some outcomes together by theme? Several Learning Outcomes could be linked by a single assessment criterion.

- *Avoid telling the learner what to do*

When writing criteria, you need to ensure you are not telling learners precisely what to include in their assignment. For example, an assessment criterion should be *'Your work will be judged on the relevant application of key concepts',* rather than *'Your work will be judged on their reference to the concepts of X, Y and Z'* It is important to note that it is useful to think of the challenge that you are presenting to the learners, and ensure that your criteria do not diminish that challenge.

Source: Learning and Teaching Institute - Sheffield Hallam University (2008)

4.4 Designing Grading Rubrics

As stated earlier, criteria define the characteristics of the work or performance that should be demonstrated by a student, but they do not define how well students must demonstrate those characteristics. The work of clarifying how well the students must demonstrate in each criterion is done by preparing standard descriptors. The purpose of standard descriptors is to clarify the varying degrees/levels of performance in each criterion. They provide further information about what is required to achieve a particular grade/mark expressed in a more detailed breakdown of each criterion.

Therefore, the difference between assessment criteria and the standards descriptors is that assessment criteria provide for students the answer to the question, "What do I have to do?", and the standards descriptors provide the answer to the question, "How do I do that?".

Usually, the standard descriptors are specified in a rubric. A rubric is a descriptive tool for determining the level of performance or quality of a piece of work. A rubric consists of two dimensions: pre-established performance criteria and performance levels (with or without associated grades), in which each level or grade is described to differentiate it with the performance of other levels.

Box 3: The value of a rubric

The following are the value of a rubric

- ➔ **Transparency:** Rubrics provide a clear and concise roadmap for students, outlining exactly what is expected of them. When students understand the criteria for success, they are better able to achieve it.
- ➔ **Consistency:** Rubrics promote consistency in grading. They ensure that all students are assessed according to the same criteria, which reduces the likelihood of bias or subjectivity in grading.
- ➔ **Feedback:** Rubrics can provide detailed feedback on student performance, pointing out strengths and areas for improvement. This can guide students' learning and help them to focus their efforts where they are most needed.
- ➔ **Self-Assessment:** Rubrics can also be used by students for self-assessment and peer assessment. This can promote reflection and deeper learning, as students have to think critically about their own work and that of their peers.
- ➔ **Efficiency:** For instructors, rubrics can make grading more efficient. Once a rubric is developed, it can be used multiple times, saving time in the long run.
- ➔ **Validity:** By aligning the rubric with the intended learning outcomes, it ensures that the assessment is valid - it measures what it is supposed to measure.
- ➔ **Reliability:** Rubrics increase the reliability of assessments by providing a standardised grading scheme that can be applied uniformly across students and tasks.

In a summary, rubrics/grids can:

- ➔ inform students in advance how their work or demonstration of learning outcomes will be assessed
- ➔ increase transparency for all stakeholders
- ➔ facilitate moderation
- ➔ be useful if there are multiple module/course assessors
- ➔ be particularly useful in providing the basis for giving feedback

There are primarily three types of rubrics: holistic rubrics, analytic rubrics, and single-point rubrics. Each has its own advantages and uses, depending on the context and purpose of the assessment.

a) **Holistic Rubrics**

These assess student work as a whole. They define levels of performance by associating each level with a descriptive statement that represents a range of performances. They are typically used when a quick or gross judgment needs to be made, and the assessment does not require detailed feedback. While they are quicker to develop and apply, they provide less detailed feedback for students.

b) **Analytic Rubrics**

These break down the assessment criteria into multiple, separate dimensions, allowing the assessor to rate each criterion independently. They provide detailed feedback on each criterion and are useful when there are multiple dimensions to a task, such as in a research paper or a project, where you might be assessing the clarity of argument, organisation, use of evidence, and so forth. While they require more time to develop and apply, they provide more specific feedback to students and can provide more consistent scoring.

c) **Single-Point Rubrics**

These identify the criteria for a task and provide descriptions of competent performance, leaving room for feedback on either side. This type of rubric focuses on the expected performance level, with room to note if the student fell short of the expectation or exceeded it. Single-point rubrics are easier to create and use than analytic rubrics, and they provide more flexibility for providing personalised feedback.

The next subsection provides guidance on how to create and use a grading rubric with some examples of grading rubrics.

4.4.1 How to Create a Grading Rubric

The following steps can be useful when creating a rubric:

Step 1: Identify the Learning Outcomes

Start by identifying the learning outcomes that the assessment task is designed to measure. These outcomes should be aligned with the course objectives and should be clear, measurable, and learner-centred.

Step 2: Define the Criteria

The criteria are the specific aspects that you will be assessing in the task. For example, if the task is a research paper, the criteria might include clarity of argument, use of evidence, organisation, and grammar and spelling. The criteria should be closely tied to the learning outcomes. For instance, if a learning outcome is to "demonstrate critical thinking skills," a related criterion could be "depth of analysis."

Step 3: Decide what kind of rubric you will use: a holistic rubric, single-point or an analytic rubric?

Step 4: Determine the Levels of Performance

For each criterion, determine the different levels of performance. These are often expressed as a scale (example, 1-4 or poor to excellent) and should cover the range from below expectations to exceeds expectations. Each level should be clearly defined so that it's clear what distinguishes one level from the next.

Step 5: Describe Each Level of Performance for Each Criterion

For each level of performance, write a description of what that level looks like for each criterion. These descriptions should be specific, observable, and measurable. They form the bulk of the rubric and provide a detailed guide for grading.

For example, for the "use of evidence" criterion in a research paper, a level 3 (out of 4) performance might be described as "Uses relevant and credible evidence to support most points. Some evidence may lack clear ties to points, or minor misuse of source material may occur."

Step 6: Review and Refine the Rubric

After drafting the rubric, take the time to review and refine it. Consider whether the criteria and levels of performance are aligned with the learning outcomes. Check for clarity and specificity in the descriptions. You might also want to seek feedback from colleagues or even students.

Step 7: Use the Rubric

Finally, use the rubric to grade the assessment tasks. Note any issues or problems that arise, as these can provide valuable feedback for refining the rubric in the future. In addition to using the rubric to grade an assignment/assessment, you may wish to:

a) distribute the rubric with the assignment;
b) ask students to use the rubric to evaluate their own work; and
c) ask students to use the rubric for peer review.

Table 2: An example of analytic rubric with differentiated descriptors (performance descriptors)

CRITERIA	Performance descriptors				
	Weak/Poor = 1	**Average =2**	**Good=3**	**Very Good=4**	**Excellent=5**
Clarity of description of own style of interpersonal communication, and use of meaningful and relevant examples, relating own style to context'	Few styles of communication described which may be unrelated to self, in a confused manners. Inadequate or irrelevant examples	Describes main personal styles of communication generally used, with a relevant example of each main style from a specific context	Describes the difference in own personal styles used in different contexts, with relevant examples from each context.	Describes a range of personal styles which might be used and justifies why particular ones were used in a particular context	Describes a wide range of personal styles of communication which they could use and describes how they exploit one style in a particular context, to maximise its effect.

PART FIVE

ASSESSMENT METHODS AND TOOLS

5.1 Assessment Methods

Assessment methods are the means of collecting the evidence required to demonstrate satisfactory performance. With the changing direction of higher education towards the development of skilled and competent graduates, it is important that appropriate assessment methods are used in order to promote student learning and measure student achievement of the desirable competences in ways that are valid, reliable, fair, transparent, and equitable.

There are many different competence-based assessment methods suitable for higher education. The selection of assessment methods and tools should be aligned with the learning outcomes and competencies to be assessed, as well as the teaching and learning methods used. For instance, if a course focuses heavily on group work and collaboration, it might be appropriate to include a group project as part of the assessment. If a course is focused on developing practical skills, work-based assessments such as observations or simulations might be most suitable.

Competence-based assessments are designed to measure not just knowledge, but also the ability to apply that knowledge in different contexts. These assessments focus on students' ability to perform specific tasks or demonstrate specific skills. The following are some of the most commonly used methods in competence-based assessment as summarised in Figure 1.

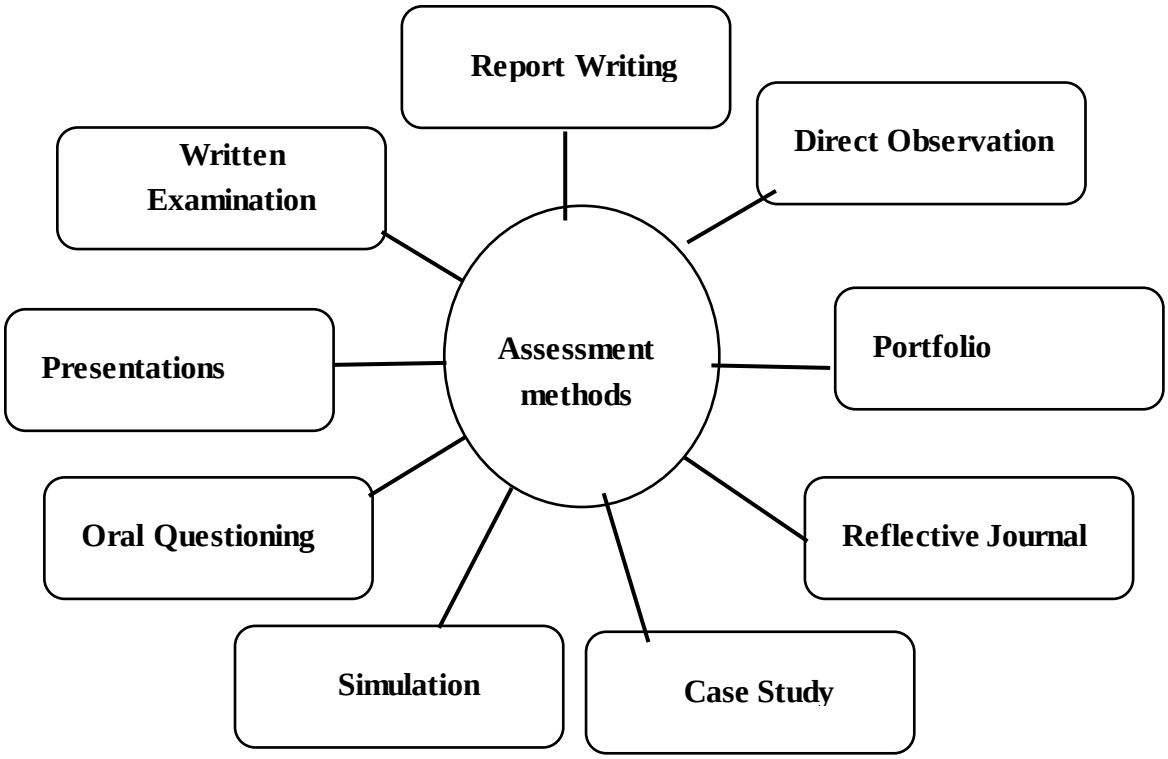

Figure 1: Methods for competence assessment

5.1.1 Direct Observation

This method involves observing a student performing a real work activity at the college/workplace or observing video evidence that was taken when a student was performing a real work activity. The method is suitable for assessing and evaluating students' practical skills as they perform a task in real time or in a simulated off-the-job situation that reflects a workplace. It provides real-time feedback and allows for immediate correction or reinforcement.

Modality for conducting observations: The assessor observes a student performing the real workplace task and sees if they have the ability to perform it properly. The intent of observation is to collect evidence-based abilities of a student, providing feedback for improving students' performance, and grading. The assessor can observe the entire work or only part of the work. Observations are often not adequate for a full assessment, thus maybe followed by other supplementary assessment methods such as interviews.

Relevant assessment tool: Observations can be conducted with the aid of a rubric. An example of a direct observation grading rubric is shown in Table 4 in the Appendix.

Advantages of direct observation

a) Observation provides an opportunity to assess a student performing real work.

b) Observation minimises or offset chances for plagiarism or false reports.
c) It is the best way to assess practical skills.

Disadvantages of direct observation

a) Direct observation is often not adequate for a full assessment; oral questioning or other supplementary assessments may be required.
b) Direct observation assessment requires a lot of time to assess and to prepare, thus it is an expensive way of assessing.
c) The presence of the observer can affect a student's performance because being observed can be intimidating for many students. Hence the assessor may not get the real behaviour of a student being observed. Furthermore, the dynamics of the observation room may change as the observer/assessor enters.
d) It can sometimes be subjective even in the presence of a standard marking rubric.

Box 4: Tips on how to design a good direct observation assessment

Consider the following tips:

- ➔ Ensure students know what the objectives of the observation assessment are.
- ➔ Provide students the specific time for observation, location, guidelines, requirements, and assessment criteria. Students should also be aware of who is going to assess them – whether a lecturer/instructor, peers and/or self? And if peers or themselves are going to assess, would the weightings be the same as the tutor's assessment?
- ➔ Prepare a structured marking rubric for all assessors.
- ➔ Feedback is very important for a good observation assessment.

5.1.2 Portfolio Assessment

A portfolio is a collection of a student's work which gives evidence to show how the student can meet the specified learning outcomes. A typical portfolio consists of work selected by the student, reasons for selecting these works and self-reflection on the learning process. In competence-based assessment, a portfolio can provide a comprehensive picture of a learner's ability to apply their knowledge and skills in different situations.

Portfolio is a developmental process; thus, it is not only the product that the student or teacher assesses upon, but also the learning process in which the student develops during a given period. Portfolio assessment is a method that monitors the growth and development of student learning in a particular discipline/profession. A portfolio can be used for assessing students' factual and

procedural knowledge, knowledge of the institutions where they work, creativity, critical thinking, innovation, communication skills and collaboration, among others. A portfolio assessment is sometimes followed by an oral assessment.

Relevant assessment tool: A portfolio can be assessed with the aid of a rubric as it is shown in Table 5 in the Appendix.

Key components of a portfolio

Evidence of work: This can include a wide range of items such as written assignments, reports, projects, case studies, presentations, reflections on learning experiences, and any other work that demonstrates the learner's competence.

Reflections: Reflections are a critical part of a portfolio. They provide the learner an opportunity to think critically about their work, understand their learning process, and make connections between their experiences and the competencies they are developing.

Feedback: Feedback from instructors, peers, and sometimes from self-assessment can also be included in the portfolio. This helps the learner understand their strengths and areas for improvement.

Types of Portfolio

a) *Documentation portfolio*: It highlights the development and improvement of student learning during a given period of time. It often contains a range of artefacts from brainstormed lists to rough drafts to finished products.
b) *Process portfolio:* This is similar to a documentation portfolio, in which it contains all the evidence required to prove the learning outcomes in the given time, in addition, it integrates reflection and higher-order cognitive activities. It emphasises metacognitive functioning and encourages students to become active participants in understanding their own learning. Process portfolio often contains documentation of reflection such as learning logs, journals and diaries.
c) *Product portfolio:* This kind of portfolio demonstrates a student's best work. It is typically used for interviews. It is more of a summative assessment and has no reflection on the learning process.

Advantages of Portfolio Assessment

a) Comprehensive Assessment: Portfolios provide a comprehensive view of a learner's abilities, as they can include a wide range of evidence collected over time. This allows for the assessment of a broad range of competencies.
b) Contextual: Portfolio assessment considers the context in which learning occurs. The learner can showcase how they have applied their skills and knowledge in real-world or simulated scenarios.
c) Encourages Reflection: The process of building a portfolio encourages learners to reflect on their learning experiences, which can deepen their understanding and improve their learning strategies.
d) Demonstrates Progress and Development: Since portfolios are developed over time, they can show the progress and development of the learner's competencies.

Disadvantages of Portfolio Assessment

a) Time-Consuming: Creating, maintaining, and assessing portfolios can be time-consuming for both learners and educators.
b) Subjectivity in Assessment: The assessment of portfolios can be subjective, as it often relies on the evaluator's judgement. Clear criteria and rubrics can help mitigate this.
c) Organization and Management: Portfolios can become quite large and potentially unwieldy, making organisation and management a challenge.

Box 5: Tips on how to design a portfolio assessment

Consider the following tips:

- ➔ Ensure the students know what the objectives of the portfolio assessment are.
- ➔ Provide students with sufficient time period, guidelines, requirements, assessment criteria and if there are items that must be included in the portfolio. The students should also be aware of who is going to assess them. If peers, would the weightings be the same as the tutor's assessment?
- ➔ Prepare a structured marking rubric for all assessors.

➔ Feedback is very important for a good portfolio assessment.

However, some components of a portfolio such as reflective journal, work sample, and case study can sometimes be assessed independently and considered as independent assessment methods.

5.1.3 Reflective Journals

A reflective journal is a means of recording ideas, personal thoughts and experiences, as well as reflections and insights a student has in the learning process of a course. A reflective journal requires a student to think more deeply, to challenge their old ideas with new incoming information, to synthesise experiences they have learnt during a course or field experience into their personal thoughts and philosophy, and also to integrate it into their daily experiences and future actions. Reflective journals are assessed systematically by using a rubric. Among others, they help to assess a students' ability to set their work plans, milestones and goals, as well as to reflect on their daily performance and take steps for improvement in the future.

There are two forms of reflective journals as described below:

a) Structured Journal: in this form students are given a specific question, target, or set of guidelines on which to base their writings
b) Unstructured journals/free-form journals: in this form students are required to record thoughts and feeling with minimal direction

Students can use both structured and unstructured journals to do various activities including the following:

a) To discuss or argue a journal paper/report/an issue from one's own standpoint or from various perspectives
b) To synthesise or analyse some materials or resources for building up an argument
c) To compare and contrast a particular issue with prior or new knowledge
d) To describe personal experiences and integrate them into the issues in concern
e) To express freely for or against the specific questions given by teachers
f) To develop the ability and critical attitude to integrate learning into real-world experiences

Relevant assessment tool: A reflective journal can be assessed with the aid of a rubric as its example shown in Table 6 in the Appendix.

Advantages of Reflective Journal

a) **Active learning** - The process of reflection encourages the students to take the initiative to be active, self-driven; allows individual learners to explore concepts and ideas in relation to their thoughts and feelings from different perspectives. Students can become independent thinkers through practice and to enable themselves to solve various problems on their own.
b) **Understanding the progress of students** – If used when the course is running, reflective journals provide good opportunities for lecturers and instructors to gain better understanding about how the students think and feel about the course.
c) **Improving writing skills** - Writing reflective journals can involve students in a new form of writing which they may not have had a chance to experience in the past. This exposure can bring out improvement in students' writing skills.
d) **Freely expressing personal views and criticising one-self** - Reflective journal assignments provide good opportunities for students to freely express what they think and feel about the course or activity and their learning process, and also promote their expression of ideas, personal experiences and opinions.
e) **Enhance critical thinking and creativity** - The process of self-reflection enhances the development of critical thinking skills among students when they relate their knowledge to real world issues. It can help students develop their creativity and a questioning attitude towards different issues and problems.

Disadvantages of Reflective Journal

a) **Difficult for objective marking** – Unless a marking rubric is carefully designed and training provided to instructors, it is rather difficult for assessors to be objective and have consistent grading due to the subjective nature of reflective assignments. Different assessors when marking may have quite a large discrepancy in their judgement of different types of work.
b) **Time consuming for grading** - The context of reflective writing can often be very wide, and involves a wide range of concepts, issues, and perspectives. As a result, it often takes a considerable amount of time for assessors to read and grade students' works.
c) **Confidentiality** - As students have to disclose their personal and private views and information in their reflection, some of them may be unwilling to honestly disclose their real perspectives. They may be concerned that what they wrote will significantly affect the grade they receive.
d) **Clear guidelines needed** - Many students may not be familiar with the procedure of writing reflective assignments and may feel very lost when working on it for the first time.

Teachers have to give clear guidelines to students about what should be included in the reflective journals, what can be learnt from writing it, as well as how they will be graded.

Box 6: Tips on how to design a good reflective journal assessment

Consider the following tips:

- ➔ Consider the types of reflective journals that fit your course (if students are inexperienced with reflective journals, the structured form would be more 'student-friendly' because specific questions and guidelines are provided by the course instructors)
- ➔ Make sure there are clear ideas about expectations and assessment criteria given to the students. (Example, what can students put in their journals? What is the definition of 'reflection'? What is the approximate length for each journal entry?)
- ➔ Try to make students understand the purpose and benefits of reflective journals from the very beginning
- ➔ Make sure you explain and discuss with students the policies concerning privacy and confidentiality of information
- ➔ Decide the frequency/regularity of journal entry (example, daily, weekly, monthly)
- ➔ Provide timely feedback to students

5.1.4 Case Study

This is an assessment method used for evaluating students' application of theoretical concepts, principles or laws into a real-life/realistic scenario. Also, case study can be used to assess students' ability in decision making, problem solving, teamwork, research and time management, as well as communication skills. Case study can be in the forms of a scenario presented within a short paragraph, diagram, or newspaper journals. Case may not always be an exact mimic of a real-life scenario. It is also possible that the case study is presented with some questions and instructions. Thus, the students can understand what is happening in the case and what they are trying to achieve, and they report their analysis, findings and discussion through short presentations, essays, posters, debate, etc.

Relevant tool: Checklist or rubric with a narrative description or rating scale. An example of case study grading rubric is shown in Table 7 in the Appendix.

Box 7: Tips on how to design a good case study assessment

Below are some tips to consider when designing case study assessment:

- ➔ Decide the topics and learning outcomes that students will accomplish
- ➔ Create a case that students can apply the theoretical concepts and skills. Ensure that a case is actually feasible
- ➔ Make sure the case fit into the context of the subject
- ➔ Decide how the case study is to be practised (example, as individual activity or group activity)
- ➔ Assign the case to students before class, so that they have to do their research outside the class, or give the case to students in class, so that they can brainstorm ideas in class, or even ask students to look for a case based on their interests
- ➔ Provide a few questions for students to do their analysis. This assist and guide students to develop "the best strategy" for problem solving in the case
- ➔ Provide feedback and comments on students' performance after the activity has been finished
- ➔ Prepare for unexpected outcomes to emerge. As real-life cases are complex and open to different disciplines and opinions, there may be no right or authoritative answer in some scenarios, students may give answers that are innovative and out of the course context
- ➔ Invite people from related industries to supervise the activity. For example, if the case is about industrial waste management, teachers can invite some people from specific industries to supervise the activity and share their first- hand experiences in relation to the case
- ➔ Decide the way students would present their analysis. After students have finished their analysis, they have to share their findings and opinions with other tutors/instructors/teachers and students. They can present their work in the forms of oral presentation, short summary, poster and even debate with other groups.
- ➔ Tutors/instructors/teachers have to decide the form of presentation because they assess their students based on those presentations and posters

5.1.5 Simulation

Simulation as an assessment method refers to creating a situation or environment that closely mirrors real-life conditions, allowing students to demonstrate their ability to apply knowledge, skills, and attitudes in a controlled but realistic context. Simulations create a realistic scenario in which students can demonstrate their competencies. This method is particularly useful in fields where real-world practice might be logistically challenging or potentially dangerous, such as medicine or aviation.

Key Points about Simulation as an Assessment Method

Imitates Real-World Scenarios: Simulations can replicate various real-life scenarios or processes that require the application of specific skills or decision-making abilities. For instance, a business class might use a market simulation to allow students to practise strategic decision-making. In contrast, a medical program might use patient simulations to assess students' clinical and diagnostic skills.

Safe Environment: Simulations provide a safe environment for students to make mistakes and learn from them without any actual risks or negative consequences that could occur in real-world situations.

Performance-Based Assessment: Simulation-based assessments are performance-based, meaning they evaluate students' ability to perform or act in situations that reflect what they might encounter in their field of study or future career.

Promotes Higher-Order Thinking: Simulations can promote higher-order thinking skills, such as analysis, synthesis, and evaluation, as they often require students to respond dynamically to evolving situations.

Feedback and Reflection: After the simulation, students can receive feedback on their performance and reflect on their actions, decisions, and outcomes. This feedback and reflection process is an integral part of learning in simulation-based assessments.

Interdisciplinary Learning: Simulations can often involve multiple aspects of a profession, fostering interdisciplinary learning. For example, a healthcare simulation might involve aspects of medicine, nursing, and healthcare administration.

However, it is essential to note that while simulations can provide a rich, immersive learning and assessment experience, they also require considerable resources and planning to implement effectively. This can include specialised equipment (like mannequins for healthcare simulations or software for business simulations), time for setting up and running the simulations, and trained facilitators to guide the simulation and provide feedback.

Relevant tool: Simulation can be assessed using a rubric as shown in Table 8 in the Appendix.

Advantages of Simulation as an Assessment Method

a) Real-world Application: Simulations allow learners to apply knowledge and skills in a realistic, yet controlled environment. This not only helps in assessing how they would handle real-world situations but also provides opportunities for experiential learning.
b) Safety: Simulations create a safe environment where learners can make mistakes without real-world consequences. This encourages them to take risks, experiment, and learn from their errors.
c) Immediate Feedback: Instructors can provide immediate feedback during or after the simulation. This allows learners to reflect on their performance, understand their mistakes, and improve their skills.
d) Engagement: Simulations can be highly engaging and interactive, promoting active learning and keeping learners motivated.
e) Interdisciplinary Learning: Simulations often involve multiple aspects of a profession or discipline, promoting interdisciplinary learning and collaboration.

Disadvantages of Simulation as an Assessment Method

a) Resource Intensive: Setting up simulations, especially those requiring specialised equipment or software, can be costly. They also require significant time and effort from instructors to prepare and implement.
b) Complexity in Assessment: Assessing performance in a simulation can be complex, particularly if the simulation involves multiple variables or outcomes. It can also be challenging to ensure that assessments are fair and consistent.
c) Learner Readiness: Not all learners may be ready or comfortable with simulation-based assessments. It requires a certain level of maturity and self-confidence to perform under simulated conditions.
d) Limited Scope: While simulations can mimic real-world scenarios, they cannot capture all aspects of real-life situations. Therefore, they may not fully prepare learners for all possible scenarios they might encounter in their profession.
e) Requires Skilled Facilitators: Effective simulations require skilled facilitators who can guide the simulation, manage unexpected events or issues, and provide constructive feedback. Finding and training such facilitators can be challenging.

5.1.6 Oral Questioning

This involves one-on-one discussions between the student and the assessor. The assessor asks a series of predetermined questions related to the competencies being evaluated. This kind of interaction can be a rich source of information to inform the assessor about how the student

understands concepts and use procedures they learned from the course, as well as provides valuable information and directions for the assessor in modifying the course for improvements.

Levels of questions during the interviews may vary according to the demands of a course assessment. Questions may range from remembering and understanding phenomena to applying, analysing, evaluating, and creating.

Advantages

a) Aids in developing oral communication skills.
b) Provides a more authentic experience, as students will need to defend their thinking even after graduation.
c) It is a powerful way to gauge student understanding and/or prolonged misconceptions.
d) It is resistant to plagiarism, as students must articulate their understanding in their own words.
e) Provides opportunities for clarification of ambiguous questions at the moment.

Disadvantages

a) Inexperience assessor can struggle to think on their feet to rephrase questions without distorting the meaning and stressing the candidate.
b) Potential for issues with reliability and fairness if students are asked different questions.
c) Potential for bias and subjective grading, as grading cannot be anonymous. Students' articulateness, shyness, speed of thought, gender, ethnicity, language skills, and accent can influence judgments about their knowledge and skills.
d) Potential for academic integrity issues as students can pass on questions to others who are taking the exam later.

Box 8: Tips on how to design and implement a good oral questioning assessment

Consider the following tips:

- ➔ Decide which learning outcomes should be assessed through this method.
- ➔ Design appropriate questions for each learning outcome. Focus on depth rather than breadth. Include potential follow-up questions and prompts based on different types of answers (example, asking students to clarify an unclear point or provide more detail).
- ➔ Standardise the number of questions, difficulty of questions, and the time allotted.

- ➔ Decide on the order of questions and any tasks students must perform (example, whiteboard drawing, screen sharing). Start with an easier question to ease students into the exam.
- ➔ Determine how and when you will vary the questions across students (example, use of different scenarios).
- ➔ Create a rubric or scoring guide with explicit criteria/standards, weighting, and model answers for each question.
- ➔ Provide clear information to students about the content to be covered, the process and structure of the oral assessment, the material they can have available, and the grading criteria. Give students opportunities to ask questions about the assessment.
- ➔ Decide whether to use multiple examiners, which can be helpful for managing time, taking notes, solving technical issues, and grading reliability.
- ➔ Consider recording the assessment in case of grade appeals and to share with students if they want to debrief or request feedback on their performance

Tools for oral questioning and interview assessment methods

Questionnaire: It is a traditional assessment tool. The questions in a questionnaire have to be answered either orally or written on a plain sheet of paper.

Checklist: Usually offer a yes/no format in relation to student demonstration of specific criteria.

Rubrics: A grading rubric constituting criteria on which to base the assessment and decisions as shown in Table 9 in the Appendix.

Scorecards: Are assessment tools that allow you to evaluate applicants consistently, creating sets of criteria that will be scored using stars.

Rating Scale: This is the scale with a set of opinions which describes varying degrees of dimensions of an attitude being observed. There are different types of scales such as graphical, descriptive, numerical rating and comparative rating scale.

5.1.7 Presentation

This is an assessment method whereby the content of a topic is shown and explained to an audience. In this method students can develop their ability to synthesise information and present to the audience. They can learn to use some presentation tools like powerpoint and posters as well as improve their ability to public speaking. This method is disadvantageous to non-native speakers for they perceive language as an additional barrier.

Advantages of presentations

a) Through presentation it is easy for the audience to remember action and behaviour more than words through listening and writing.
b) Students can learn from others' good work and avoid repeating others' mistakes during presentations.
c) It helps to give detailed summary of large work to assessors and they can have an immediate response
d) Assessors can have immediate responses to questions on details.

***Disadvantages of presentation*s**

a) This is not a suitable method if the skills of live presentation are not relevant to the learning outcome.
b) Students may overspend a presentation time on animations, software and other technical sound effects and not on the actual content.

Box 9: How to design a good presentation assessment

Consider the following tips:

- ➔ First ensure the primary objective of the presentation assessment is known to students.
- ➔ Plan how long the presentation will be, and let them know if there is time for questions and answers.
- ➔ Design the assessment criteria and marking scheme and let them be known to students,
- ➔ Prepare a structured marking sheet for all assessors.

Tools for presentation assessment:

Checklist: Usually offer a yes/no format in relation to student demonstration of specific criteria.

A rubric: In the form of a rating scale with a set of statements which describes varying degrees of dimensions of an attribute being observed. Consider Table 9 as an example of a marking rubric for presentation, which is the same as marking rubric for oral questioning.

5.1.8 Written Examinations

Written examination is a traditional method of assessment of student learned skills and knowledge which involves answering questions through pen and paper writing. There are various formats of

written examinations including closed book examinations, open book examinations, tests and quizzes.

Advantages of written examinations

a) They give educators reliable information on the learning curve and how successful their teaching methods are.
b) They offer learners invaluable insights into their current knowledge and ability to learn.
c) They provide a good source of motivation for learners to study hard.
d) Provides a chance for learners to acquire the knowledge during the preparation process of gathering suitable learning materials rather than simply recalling or rewriting it.
e) Enhances information retrieval skills of learners through finding the efficient ways to get the necessary information and data from books and various resources
f) Enhances the comprehension and synthesising skills of learners because they need to reduce the content of books and other study materials into simple and handy notes for examination.

Disadvantage of written examinations

a) Although exams provide solid information about learners' performance', it only shows the results of their work on a particular day.
b) Learners' performance might suffer as a result of their physical and emotional condition and therefore their grade might not reflect a person's real level of achievement.
c) Bad results can negatively affect learners' motivation and self-esteem.

Relevant Assessment Tool: Written examinations can be assessed systematically using a rubric depending on type of questions and learning outcomes measured. An example of a written examination grading rubric is shown in Table 10 in the Appendix

5.1.9 Report Writing

Reports are documents which present detailed interpretations, content and critical analysis of the results of an experiment, investigation and project on a particular topic. It presents and analyses specific information and evidence applied to a particular issue or a problem in order to provide findings or recommendations. A report usually contains different sections, such as introduction, methods, results, discussion and conclusion.

A report can be useful in assessing knowledge of processes and investigative procedures, analysis and interpretation of information or data. However, it is important to remember that a report does not directly assess practical skills, rather it measures knowledge of the skills and information generated by using the skills; it relies on students researching, recording and interpreting data or manipulating results.

Types of Reports

There are different types of reports depending on the types of subjects and intended learning outcomes: These include:

a) **Informational report** - presents detailed facts about a specific activity without any conclusions or suggestions of meaning or significance
b) **Analytical report** - contains facts along with analytical explanations offered by the author/s
c) **Research report** - is based on the research work conducted by the author/s on a given question or problem
d) **Statutory report** - needs to be presented according to the requirements of a particular law or rule, and
e) **Practical report** - needs to clearly communicate the aims, methods, findings and conclusions of an experiment or investigations.

Within each of these broad categories you can then identify a wide range of authentic examples such as: progress report, write-up of practical work or field work, incident report, sales activity report, personnel evaluation, financial report, literature review, book report, engineering report, demographic report, inspection report, sales projection report, feasibility study/report, progress report and lab report.

Relevant tool: Assessment tool used for this method is mainly a rubric. An example of a grading rubric for assessing report writing is shown in Table 11 in the Appendix.

Advantages of Report Writing

a) Develop techniques in data collection, analysis and reporting
b) Develop judgments about experiment procedures, results and limitations
c) Enhance writing skills in presenting practical work, and
d) Report writing can assess different levels of cognitive knowledge

Box 10: Procedures for designing report writing assessment

Consider the following procedures:

l. Describe a specific report writing format. Different disciplines may have their own style of format.

2. Remind students to be aware of the use of technical terms and symbols. Students are required to provide definitions of the technical terms in order to help readers who are not from the discipline and who may not be familiar with those terms.

3. Specify clearly if English grammar and language are part of the marking criteria.

4. Provide some guidelines on reporting numbers, units of measurement and scientific diagrams.

5. Provide a report checklist with different sections and its content in a report format, a checklist would help students include all the essential content in each section.

6. Provide a description of assessment criteria. Students have to be aware on what aspects are going to be assessed, such as the writing style, analysis, diagrams and referencing

5.2 Assessment Methods and Application Contexts

Assessment methods can apply in various learning settings. Table 3 shows the categorisation of the assessment methods with respect to the context in which they can suitably be applied.

Table 3: A summary of assessment methods and the context in which they can be applied

Assessment Methods	**Context in which they can be applied**	
	Work-based	**Non-work based**
Observation	✔	✔
Portfolio assessment	✔	✔
Reflective journals	✔	✔
Case studies		✔
Simulation	✔	✔
Oral questioning	✔	✔
Presentations	✔	✔
Written exams/tests		✔
Report writing	✔	✔

PART SIX

MODERATION

6.1 The Concept of Moderation

For purposes of this handbook moderation can be understood as a process of ensuring consistency of standards and fairness across a range of assessment activities within a programme or individual course. It allows for assessors to discuss and reach an agreement in a transparent, valid and consistent manner. The main purpose of moderation is to ensure consistency, validity and evidence-based decisions. The moderator acts as reviewer of the assessment standards and consistency of marking against explicit assessment criteria.

6.2 Moderation in the Context of Competence-Based Assessment

The process of moderation is a crucial component of competence-based assessment in ensuring that assessment standards are applied consistently and fairly across all students and contexts. It involves checking and reviewing assessment decisions and processes to confirm that they meet the specified criteria and learning outcomes.

The importance of moderation lies in its ability to:

a) Confirm the validity and reliability of the assessment process;
b) Ensure that assessment tasks and criteria align with the intended learning outcomes;
c) Promote consistency in assessment decisions across different assessors, contexts, and students;
d) Encourage transparency in the assessment process, fostering trust and confidence among students and stakeholders; and
e) Encourage the development of teachers' self-review skills and informs professional development decision-making.

6.2.1 Implementation of Moderation in Competence-Based Assessment

Moderation in competence-based assessment should be a systematic process, involving multiple steps to ensure quality and consistency. In each step course lecturers/instructors and moderators play different roles as follows:

Step 1: Pre-assessment Moderation

*Role of lecturers and instructors***:** Plan and design the assessment tasks, criteria and rubrics ensuring that they align with the learning outcomes of the course.

Role of moderators: Moderation committees review and validate the proposed assessment tasks and criteria before they are administered to students. This involves checking that they are suitable for measuring the required competencies and that they adhere to the principles of fair and valid assessment.

Step 2: Assessment Moderation

Role of lecturers and instructors: Conduct the assessment (example, administer and mark examinations) and make initial judgments based on the predetermined criteria and rubrics.

Role of moderators: Observe the assessment process to ensure that it is conducted fairly and consistently. They should also review a sample of the initial assessment decisions to verify that they align with the assessment criteria.

Step 3: Post-assessment Moderation

Role of lecturers and instructors: Provide feedback to students based on their performance in the assessment.

Role of moderators: Review and validate the final assessment decisions, ensuring they align with the assessment criteria and standards. They should also check that feedback provided to students is constructive, fair, and aligned with the assessment outcomes.

It should be noted that, pre-assessment moderation aims to build agreement around what achievement of standards looks like, while post-assessment moderation aims to ensure consistency of assessors' judgement and alignment with standards.

Box 11: Example of activities involved in the moderation process

A typical moderation process will involve the following:

- All staff review criteria and standard descriptors
- Cross marking with follow up meetings for discussion and comparison
- One educator marks all responses of a section of an assessment
- Holding moderation meeting to confirm consistency in marking across teachers

6.2.2 Reasonable Adjustments in Assessment

As the University is committed to undertake assessment of students' learning in a manner that is efficient, fair, transparent and equitable, it is important to consider the concept and strategies for reasonable adjustment in assessment. Reasonable adjustment refers to modifications that are made to alleviate the implications of a disability/health condition, after due consideration is given to qualification requirements of a course and academic integrity. This is particularly important to ensure that all learners (especially those with disabilities) participate in learning and assessment; and reduce the impact of disability on achieving knowledge and potential skills that are deemed to be essential to success in careers. It should be noted that reasonable adjustment is not to give students with a disability an advantage over others, to change course standards or outcomes or guarantee success. Therefore, a reasonable adjustment in assessment activities needs to be justifiable and uphold the integrity of qualification. During the moderation process, both the moderator and the assessor should discuss and consider reasonable adjustments required in the assessment tasks, assessment criteria and grading rubrics to make fair and equitable assessment.

Some strategies for reasonable adjustment during the assessment process include: allocating students with disabilities to examination venues which are closer to amenities, adding the duration (time) of examination for students with disabilities, using large prints and use of braille or assistive/adaptive technologies such as installing a particular type of software on a computer for students with vision impairment. Generally, it is important to make reasonable adjustment during the assessment processes in order to ensure that students with a disability have the same opportunity to perform and complete assessments as those without a disability. More information about strategies for reasonable adjustment in teaching, learning and assessment can be found in the following link
https://harrisontraininggroup.com.au/wp-content/uploads/2017/02/reasonable-adjustment-in-VET.pdf

6.3 Quality Assurance Standards

Ensuring quality requires a comprehensive and involvement of various stakeholders in order to uphold the University of Dar es Salaam's commitment to excellence in teaching and learning. Each stakeholder plays a critical role in maintaining and enhancing the quality of assessments. The following 8 steps should be adhered to ensure quality in competence-based assessment.

Step 1. Designing of the Assessment

Role of Lecturers/Instructors

Design the assessment is mainly the lecturer's role. The design needs to align with the course's learning outcomes, ensuring that it accurately measures the competencies the course aims to develop. Consider developing rubrics, designing simulation tasks, or creating portfolio requirements.

Step 2. Validation of the Assessment

Role of Quality Assurance Unit (QAU)

Validation of the assessment is mainly a QAU role. The designed assessment should accurately measure the intended competencies. The QAU should review the tasks and criteria, assessing whether they are appropriate and sufficient for evaluating the necessary competencies. There should be a tool designed for this depending on the course and other factors including method of assessment.

Step 3. Training of the Assessors

Role of Faculty Development Team

Ensuring quality requires well trained assessors. This is the role of the capacity development team which should ensure that all assessors are adequately trained to provide consistency and fairness in the assessment process. They should understand the competencies being assessed, know how to use the rubrics, and provide constructive feedback.

Step 4. Administration of the Assessment

Role of lecturers/instructors and QAU

Lecturers and instructors should administer the assessment in a way that ensures fairness and consistency for all students. They should clearly communicate the assessment requirements and process, ensuring that all students have equal opportunities to demonstrate their competencies. The QAU will need to validate that this is implemented.

Step 5. Implementation of the Marking and Moderation

Role of lecturers/instructors and QAU

Lecturers and instructors should mark assessments according to the predetermined criteria and rubrics. A moderation process should be implemented, where a sample of assessments is reviewed by a second marker (external examiner could be in this case). The QAU should ensure that the discussion is conducted and any discrepancies are resolved.

Step 6. Feedback and Review

Role of lecturers/instructors

Lecturers and instructors should provide students with timely and constructive feedback. After the assessments have been marked and feedback has been provided, lecturers should conduct a review to evaluate the effectiveness of the assessment in measuring the intended competencies. The result of the review would be communicated to the QAU for lessons and improvements.

Step 7. External Verification

Role of QAU

Part of the Quality Assurance Unit's mandate is to facilitate external verification. This involves a review of the assessment design, marking, and moderation processes by an independent expert or agency. QAU should use feedback from the external verification process to make necessary improvements.

Step 8. Continuous Improvement

Role of lecturers and QAU

It is the role of the lecturers and QAU to ensure that quality assurance is an ongoing process. They both should adjust the assessment design and process based on feedback from students, assessors, and external verifiers. This ensures the assessment continues to accurately measure student competencies and aligns with best practices in assessment.

PART SEVEN

FEEDBACK

7.1 What is feedback for?

Feedback is an important learning and teaching activity that has a significant impact on student learning and achievement, and as such is a significant function of assessment. Feedback is used for providing comments to the students with regards to their performance against a fixed criteria or competencies; thereafter it identifies the deficiencies and gives valuable guidance for improvement. Since feedback is predicated on assessment (example, the formulated criteria and descriptors), so if assessment is flawed, so too will be the feedback. Therefore, the assessment should be designed to optimise and prevent inaccuracies in feedback.

The focus of feedback in CBA should not only be for evaluating/assigning grades or comparing with other students, but rather for enabling positive changes and professional development. Developmental feedback differs from evaluative feedback since it looks forward to actions for improvement. During the learning and teaching activity, the students will become competent at variable times rather than on a fixed schedule, thus feedback should be continual/routine, timely, non-threatening and specific.

7.2 Who should provide feedback?

Feedback can be provided by internal or external sources. Internal feedback is in the form of self-assessment, which is based on a comparison of one's (student's) own performance with one's understanding of performance standards. However, self-assessment can fail through inappropriately high or low internal standards for performance. These internal standards may be biased by one's experience, critical incidents of success or failure, and by role models because it cannot be assumed that everyone shares the same standards. On the other hand, External feedback is in the form of other people (example, academic staff, student's peers, and industry supervisor) who provide feedback about the quality of a learner's performance against the performance standards. External feedback is less subjective and has the potential for being more accurate than self-assessment.

The complexity of giving, receiving, and using feedback, whether internal or external, is not unique to CBE. However, the reliance of CBE is on an active learner who takes responsibility for her/his own learning and places greater importance on how she/he uses the feedback. Therefore,

‘Rather than something that teachers do to students, feedback can instead be understood as a dialogue or process whereby students seek, engage with and act on feedback from multiple sources’ (Boud, 2015; Boud & Molloy, 2013; Gibbs & Simpson, 2004).

7.3 Forms of giving feedback

One to one meeting – feedback to students is done in a form of oral or verbal explanations that are meaningful to students. During the one-to-one meeting, a student gets an opportunity to receive personal feedback, including a chance to ask questions and to receive feedback on areas of concern or interest to him/her.

Written Comments - feedback to students is done in a form of written explanations that are meaningful to students. Written comments can either address each performance criterion separately or an overall comment on the task overall. The comments should be written such that they start by highlighting what has been done well by the student and explaining why and how it was good. Thereafter write comments to the student on one (1) to three (3) important areas where improvements could be made and give specific examples as well as explanations on how those important areas could be improved. Finally end the written comments to the student with a note of encouragement which is truthful and sincere.

Audio or video Comments - feedback to students is done in a form of audio or video recorded comments. This is very time efficient when providing feedback to large student cohorts (Broadbent, Panadero & Boud, 2018). The audio or video recorded feedback comments could either be specific to each criterion or on the task overall. The audio or video comments should focus on identifying the strengths and errors in the task and directed towards improving performance of the students. Audio or video feedback can be provided specific, personalised to an individual student while generic audio or video feedback can be provided to the entire students’ cohort.

Box 12: Tips on giving effective feedback to students

According to Dawson et al., (2019), feedback that is generally considered most effective should:

- ➔ be constructive, indicates and positively reinforces what was done well and makes useful suggestions about specific ways students could improve their performance against performance standards/criterion
- ➔ be delivered frequently and timely and not delayed
- ➔ come when it still matters to students and when they can make the most of it
- ➔ be specific to the performance rather than general (example, "good job", 'read more')
- ➔ give time for student to reflect and respond to the feedback, students need time to reflect on the feedback received so they can interpret it and translate it into action
- ➔ balance the identification of deficiencies and strengths in performance; creates a context in which feedback is comfortable for student to seek it rather than avoiding it
- ➔ be formative, directed towards improving performance, not summative (that is, for determining grades or graduation decisions)

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List of Useful Links

1. https://resources.depaul.edu/teaching-commons/teaching-guides/feedback-grading/rubrics/Pages/types-of-rubrics.aspx
2. https://pressbooks.nebraska.edu/onlineteaching/chapter/analytic-rubrics/
3. http://www.ncpublicschools.org/curriculum/worldlanguages/resources/orallanguages/02assessment
4. http://www.nausetschools.org/files/763012/oral.pdf
5. http://www.ucd.ie/t4cms/ucdtla0035.pdf
6. https://ar.cetl.hku.hk/am_rj.htm

APPENDICES

Examples of rubrics for different assessment methods. These rubrics serve as exemplary guidelines. They can be customized and adapted to suit the unique requirements and context of specific training programs.

Table 4: An example of a marking rubric for observation of an experiment

CRITERIA	Standard Descriptors			
	Very good (4)	**Good (3)**	**Average (2)**	**Poor (1)**
Lab Work-Purpose: Defines goal of experiment	Use clear, accurate language to restate questions or problems in your own words. Provides examples of similar experiments.	Use proper vocabulary to state questions or problems.	State question or problem using incorrect vocabulary. Does not state the problem in their own words.	State a question or problem.
Lab Work-Materials and Equipment: Prepare a list of materials used	Make a complete list of materials used. Explains why materials were chosen.	Make a complete list of materials used. Shows information about size and units of measurement.	Does not list one or two items used. Does not show details about items used.	List of materials is missing or shows only a few of the materials used.
Lab Work-Methods: Describe the process and setup	Setup is documented completely. Method is also documented completely and accurately, making the experiment easy to reproduce.	Setup includes descriptive text and diagrams are provided if appropriate. Experiments can be reproduced using the steps provided.	Description is general or does not include diagrams. Procedure is missing multiple steps. Information provided is not sufficient to replicate the experiment.	Setup is not described or documented. Step-by-step procedure is missing or inadequate.

Table 5: An example of a marking rubric for portfolio assessment

CRITERIA	Standards Descriptors			
	Very good (4)	**Good (3)**	**Average (2)**	**Poor (1)**
Organisation and writing mechanics	No usage or writing mechanical errors. Easy to navigate. Clear and concise organisation.	Few mechanical errors. Navigation is good. Well organised.	Several mechanical errors. Few problems with organisation. May be difficult to read in parts.	Impossible to follow the organisation of the portfolio and have many mechanical errors.
Artefact selection	All artefacts clearly and directly related to course purpose.	Most artefacts are clearly and directly related to course purpose.	Few artefacts related to course purpose.	Did not submit any artefacts.
Reflections	All reflections demonstrate student's development and insight into the complexity of issues presented. Reflections state the "what, so what and now what" in relation to artefacts. Definite connections with self and others.	Most reflections demonstrate student's development and insight into the complexity of issues presented. Reflections state the "what, so what and now what" in relation to artefacts. Connections with self and others.	Some reflections demonstrate student's development and insight into the complexity of issues presented. Reflections may state the "what, so what or now what" in relation to artefacts. Some connections with self and others.	Did not show any reflective statements

Table 6: An example of a marking rubrics for reflective journal

CRITERIA	Standard descriptors			
	Excellent (4)	**Proficient (3)**	**Average (2)**	**Poor (1)**
Reflections: Ability to integrate learning into real-world experiences and analyse issues with a critical attitude	Ability to proficiently demonstrate reflection and deep thinking of acquired knowledge and concepts, and integrate them into different issues from wide range of perspectives (example., different contexts, cultures, disciplines etc.); creative solutions and critical thinking skills demonstrated in the writing	Showing satisfactory ability to relate acquired knowledge to previous experiences; demonstrating attempt to analyse the issues from a number of different perspectives	Includes description of events, and a little further consideration behind the events using a relatively descriptive style of language; no evidence of using multiple perspectives in analysing the issues	Only includes mere descriptions of theoretical knowledge; no reflection is demonstrated beyond the descriptions
Presentation: Articulation and organisation of ideas and perspectives	Writing is well-focused; arguments or perspectives are precisely defined and explained; coherent flow in developing an insightful idea demonstrated	Arguments or perspectives are clearly stated; organised flow in writing but not deep enough to be very insightful	Arguments or perspectives are vaguely mentioned; the writing lacked an organised flow and the ideas were hard to follow	Do not show any original thinking or perspectives; chaotic in organisation and presentation of ideas
Completeness: Incorporation of the journal entries into a whole, demonstration of the learning process	Concrete connections between journal entries into a whole; demonstrating clear steps in the developmental learning process	Journal entries can be generally connected; still able to observe how the student develops during the learning process	Weak connections between journal entries; development gained from the learning process is hardly observed	No connections between journal entries; The entries are mere descriptions of events rather than showing a sequence of learning steps

Table 7: An example of a marking rubric for case study

CRITERIA	Standard Descriptors			
	Excellent (4)	**Proficient (3)**	**Average (2)**	**Poor (1)**
Understand and apply the theory	Shows a thorough understanding of the theory; able to concisely assess the case to apply the theoretical concept at a deep level	Shows a working understanding of the theory; able to satisfactorily assess the case but applied the theoretical concept at a surface level	Shows basic understanding of the theory; attempts to assess the case and apply the theoretical concept in a very limited level	Shows little understanding of the theory; poorly assessed the case and applied the theoretical concept
Problem solving skills	Able to suggest and bring out appropriate solutions to the case; many solutions are provided; logical approach to seek for solutions is observed	Able to bring out some solutions; logical flow is still observed but there is a lack of relevance of the flow	Still able to bring out a few solutions on time; logical flow was hardly observed	Fails to bring out any solution to the case; logical flow was not observed
Creative opinions and solutions	Able to come up with some innovative opinions; solutions are not those mentioned on textbook and lesson	Attempted to look for a few innovative opinions, some solutions are those not mentioned on textbook and lesson	Attempted to look for any innovative opinions; solutions are those mentioned on textbook and lesson	Fails to show or does not attempt to give any innovative opinions; ideas are those on textbook

Table 8: An example of a marking rubric for simulation of a business situation

Criteria	Standard Descriptions			
	Exemplary (4)	**Proficient (3)**	**Developing (2)**	**Beginning (1)**
Understanding and Application of Concepts	Demonstrates excellent understanding and application of business concepts in the simulation.	Demonstrates good understanding and application of business concepts.	Shows some understanding and application of business concepts.	Shows little or no understanding and application of business concepts
Decision Making	Makes strategic, well-informed decisions that positively affect the business in the simulation.	Makes mostly strategic decisions with minor mistakes.	Makes some strategic decisions, but with several mistakes or missed opportunities.	Makes decisions that lack strategy or understanding of the business situation.
Reflection and Learning	Demonstrates excellent reflection on decisions made in the simulation, showing clear understanding of what worked, what didn't, and why.	Demonstrates good reflection on decisions made, with some understanding of outcomes.	Shows some reflection on decisions made, but with limited understanding of outcomes.	Shows little or no reflection on decisions made in the simulation.
Teamwork (if applicable)	Collaborates effectively with team members, contributing significantly to team decisions.	Collaborates with team members, contributing to team decisions.	Sometimes collaborates with team members, but contribution to team decisions is inconsistent.	Does not effectively collaborate with team members or contribute significantly to team decisions

Table 9: An example of a marking rubric for oral questioning

Criteria	Standard Descriptors			
	Excellent (4)	**Proficient (3)**	**Average (2)**	**Poor (1)**
Content: Relates to topic, detailed, and accurate	All content directly related to the topic. Opinions were always supported by fact if possible.	Content directly related to the topic. Almost all opinions were supported by facts.	Demonstrates Basic understanding of the topic. Many opinions are not supported by facts.	Few facts relate to the topic. Most Information is opinion.
Knowledge: Demonstrates knowledge of subject	Shows a thorough knowledge of the topic. Able to use assessor questions to further demonstrate understanding of the topic. Appeared to be an expert on the subject being presented	Shows a working knowledge of the topic. Able to satisfactorily answer assessor questions and provides additional information upon request.	Shows basic knowledge of the topic. Able to address assessor questions by repeating parts of the presentation - does not provide any additional information.	Shows little or no knowledge of the topic. Unable to answer assessor questions or comment further on any part of the presentation.
Posture/Eye Contact: Appropriate posture and effective eye contact	Stood upright and appeared confident throughout. Avoided rocking, shifting, and other nervous behaviour. Made eye contact throughout the assessors.	Posture was good for most of the presentation. Made eye contact numerous times during the presentation. Did not rely too heavily on notes or visual aids.	Sometimes rocked, shifted, or appeared uncomfortable. Made occasional eye contact with one or two audience members. Did not rely too heavily on notes or visual aids	Posture was poor. Slouched, shifted from foot to foot, and appeared very uncomfortable. Made almost no eye contact with the audience. Looked down at notes or visual aids.

Enthusiasm: Energetic, confident, not frenetic	Appeared enthusiastic and confident at all times. Moderate level of excitement to hold the audience's attention.	Appeared enthusiastic and confident at all times. May have appeared overly enthusiastic at times. Held audience interest for most of the time.	Showed some confidence and little excitement about the topic. Attempted to modify behaviour to engage the audience on one or more occasions. Lost the attention of some audience members.	Showed little or no enthusiasm about the topic. Nervous. Did not moderate the level of excitement in response to audience reaction. Lost audience interest.
Audience: Engage and interact with audience	Moderated speaking style based on audience feedback. Calmly and eloquently addressed audience questions and comments. Engage the audience for the duration of the presentation.	Adjusted volume, pace, and enthusiasm several times. Answer audience questions and address comments. Presenter adjusted enthusiasm or pace to hold audience attention.	Spoke more loudly when requested by audience members. Presenter is clearly uncomfortable. Presenters attempt to adjust enthusiasm or pace to hold audience attention.	Does not adjust speaking style based on audience reaction. Could not answer audience questions. Presenter makes no visible effort to hold audience interest.
Pace: Speaks at an appropriate pace	Speaker adjusts the pace to stay within allotted time. Speaker answers audience questions without overdo it or covers additional material if there are no questions	Speaker's pace is appropriate throughout	Speaks too quickly or too slowly.	Consistently speaks too fast or too slow.

Table 10: An example of a marking rubric for a written examination

Criteria	Standard Descriptors				
	0 - Unsatisfactory	**1 - Marginal**	**2 - Satisfactory**	**3 - Accomplished**	**Write the appropiate rating number**
Completeness of Answer	Response demonstrates little or no understanding of the question. Information is missing and substantial parts of the question are not answered fully.	Response demonstrates some basic understanding of the question, but is incomplete. Some information is missing and a few parts of the question are not answered fully.	Response demonstrates adequate understanding of the question. Factual information is provided and all parts of the question are answered.	Response demonstrates thorough understanding of the question. Response goes beyond factual information demonstrating nuanced understanding of the question. All parts of the question are thoroughly answered.	Question 1……. Question 2……. Question 3 ……. Question 4. …… Question 5……
Validity of Facts and Perspectives	The majority of the facts, conclusions, and statements are incorrect and/or invalid.	Some of the facts, conclusions, and statements are incorrect and/or invalid.	All the facts, conclusions, and statements are accurate and/or valid.	All facts, conclusions, and statements are accurate and/or valid. They also logically support the topic being discussed.	Question 1……. Question 2……. Question 3 ……. Question 4. …… Question 5……
Evidence of Background Knowledge and	No or very little integration of theory and practice is	Integration of theory and practice is present, yet	Integration of theory and practice is present. At least two	Integration of theory and practice is strong. Use of higher-order thinking skills such as	Question 1……. Question 2…….

Integration of Theory and Practice	present. No or very little evidence of higher-order thinking skills such as applying, analysing, evaluating, or creating.	sometimes weak. There is some evidence of higher-order thinking skills such as applying, analysing, evaluating, or creating.	different higher order thinking skills such as applying, analysing, evaluating, or creating are evident.	applying, analysing, evaluating, or creating demonstrates depth and breadth of knowledge.	Question 3 ……. Question 4. …… Question 5…….
Citations of Relevant Research (if required in question)	Citations are not relevant or present.	Citation information is vague or not clearly relevant to the topic. Several key issues or portions of the response are unsupported and/or incorrectly cited.	Citation information is evident and accurate for key issues or for portions of the response, but citation is not always complete.	Consistently cites references that support all key issues resulting in a scholarly, thoughtful voice throughout the response.	Question 1…….. Question 2…….. Question 3 ……. Question 4. …… Question 5…….
Quality of Writing	Response contains an abundance of errors in grammar, usage, and mechanics so that meaning is obscured. There is no or little organisation in the response.	Response contains noticeable errors in grammar, usage, and mechanics so that the reader is distracted from the content. There is limited organisation in the response.	Response is free of most errors in grammar, usage, and mechanics so that the reader is minimally distracted from the content. The response is well organised.	Response is free of errors in grammar, usage, and mechanics that would distract the reader from the content. Clear organisation is obvious.	Question 1…….. Question 2…….. Question 3 ……. Question 4. …… Question 5…….
Evaluation and Comments					

Table 11: An example of marking rubrics for report writing

CRITERIA	Standard Descriptors			
	Excellent (4)	**Proficient (3)**	**Average (2)**	**Poor (1)**
Introduction:	The purposes and aim of the study were clearly stated; an in-depth coverage of the background; showed the previous and recent knowledge of the topic to support the aims of the study; hypothesis was clearly stated in a testable form with detailed explanation	The purposes and aim of the study were clearly stated; some in-depth background was shown; Previous and recent knowledge was showed in a descriptive way with little support to the aims of the study; hypothesis was clearly stated with basic explanation	The purposes and aim of the study were briefly stated; only covered the background at a basic level; only described the previous and recent knowledge; hypothesis was only described without explanation	The purpose and aim were not stated; briefly mentioned the background information and knowledge of the study; hypothesis was stated without explanation
Materials and Methods:	Precisely and clearly outlined the method; reported the detailed procedures of the study/experiment; specified the use of particular materials and equipment in details; diagram was clear, simple, accurate, titled and labelled	Clearly outlined the method; reported the procedures of the study/experiment but a few points were not detailed enough; mentioned most of the materials and equipment; diagram was simple and clear but some labels were missed	Briefly outlined the method; briefly described the procedures; only mentioned some materials and equipment; diagram was not labelled in details	Briefly outlined the method; procedures of the study/experiment were described ambiguously; materials and equipment were briefly mentioned and some were missed
Results:	Data were illustrated in a concise, clear and systematic way; clearly showed the formula and details of the calculations; tables and graphs were presented appropriately (including title, headings and units)	Data were showed in a clear way; showed most of the key steps of the calculations but a few steps missed; tables and graphs were presented with mirror errors	Data were shown in an ambiguous way with some non-significant findings included; calculations were not clear and detailed; tables and graphs were poorly presented	Data, calculations and tables were hard to follow; poor presentation of the results
Discussion:	A detailed interpretation and evaluation of the data; identified and discussed the significance and relationship among data and the aim of the study; recognized and	An basic interpretation and evaluation of the data; identified and discussed some of the relationship among data and the aim of the study; identified a few limitations of the	Only described the data with a little explanation and evaluation; the relationship among data and the aim of the study was discussed at a general level; limitations and	Only described the data without explanation

	discussed the limitations of the data and methods; provided practical suggestions for future studies	data and method; attempted to make a few suggestions but not practical enough	suggestions for future studies were not stated	
Reference:	Referencing and citation style was correct and consistent between the list and the text; reference list was completely concise without errors	Referencing citation style was consistent between the text and the list; reference list with only a few mirror mistakes	Some references were inconsistent between text and list; reference list with some mistakes	Many references were inconsistent between the text and the list; a number of mistakes in the reference list
Presentation:	Writing was well organised and followed the specific report format; clear and concise explanations of the technical terms; number, specific symbols and units of measurements were accurately presented	Writing was organised and mostly followed the specific report format with a few mirror mistakes; clear explanations of the technical terms; specific symbols, number and units of measurements were presented with a few mirror mistakes	Writing lacked of an organised flow and not followed the specific report format; only described the technical terms without explanations; number and units measurements were not accurately presented	Chaotic in organisation and presentation of technical terms, numbers and units of measurements

Table 12: An example of practical training assessment rubric

Competence	*Criteria*	*Standard Descriptors*			
Knowledge and Skills	***Mastery of Content*** Demonstrates a deep understanding of the subject matter and applies it effectively during practical exercises	**Unsatisfactory (1)** Shows limited understanding of the content and struggles to apply it appropriately.	**Developing (2)** Demonstrates some understanding of the content but lacks consistency in applying it effectively.	**Proficient (3)** Displays a solid understanding of the content and applies it consistently and accurately.	**Advanced (4)** Exhibits an exceptional understanding of the content and consistently applies it in complex scenarios.
	Technical Skills Demonstrates proficiency in the technical skills required for the practical training.	Struggles to perform basic technical skills and requires frequent guidance.	Performs some technical skills adequately but requires occasional guidance.	Executes technical skills effectively and independently.	Demonstrates exceptional mastery of technical skills and exhibits innovation in their application.
Attitude and Professionalism	***Punctuality and Preparedness*** Arrives on time and well-prepared for the practical training sessions.	**Unsatisfactory (1)** Frequently arrives late or unprepared for the training sessions.	**Developing (2)** Occasionally arrives late or unprepared for the training sessions	**Proficient (3)** Consistently arrives on time and adequately prepared for the training sessions.	**Advanced (3)** Always punctual and well-prepared, setting a positive example for others.
	Collaboration and Teamwork Demonstrates the ability to work effectively with others and contributes positively to team dynamics.	Frequently disrupts team dynamics and fails to collaborate effectively.	Occasionally exhibits difficulty working with others and may hinder team progress.	Works well with others, actively contributes to team goals, and fosters a positive team environment.	Proactively supports and encourages team members, promotes collaboration, and consistently contributes to team success.

	Initiative and Growth Mindset Displays a proactive approach to learning, seeks opportunities for improvement, and demonstrates a growth mindset.	Shows a lack of initiative, resists feedback, and fails to embrace challenges.	Occasionally demonstrates initiative, seeks feedback, and embraces challenges.	Exhibits a consistent level of initiative, actively seeks feedback, and willingly takes on challenges.	Consistently goes above and beyond expectations, actively seeks opportunities for growth, and embraces challenges with enthusiasm.
	Professional Conduct Upholds professional standards, maintains a positive attitude, and demonstrates ethical behaviour throughout the training.	Displays unprofessional conduct, negative attitude, or ethical violations.	Occasionally exhibits unprofessional conduct, a negative attitude, or minor ethical lapses.	Demonstrates professional conduct, maintains a positive attitude, and adheres to ethical standards.	Consistently exemplifies professionalism, maintains a positive attitude even in challenging situations, and upholds the highest ethical standards.
Overall Performance**	**General Performance** Provides an overall assessment of the trainee's performance, taking into account all criteria and their respective performance levels.	Fails to meet the minimum expectations across multiple criteria, indicating a significant gap in knowledge, skills, attitude, or professionalism.	Demonstrates progress in some areas but falls short in others, indicating a need for further improvement and growth.	Meets the expected standards in most criteria, demonstrating competence in knowledge, skills, attitude, and professionalism.	Excels in all criteria, consistently displaying exceptional knowledge, skills, positive attitude, and professionalism.

****** The overall performance assessment provides a holistic view of the trainee's performance and serves as a summary evaluation of all criteria. It helps to identify areas of strength and areas that require further development.