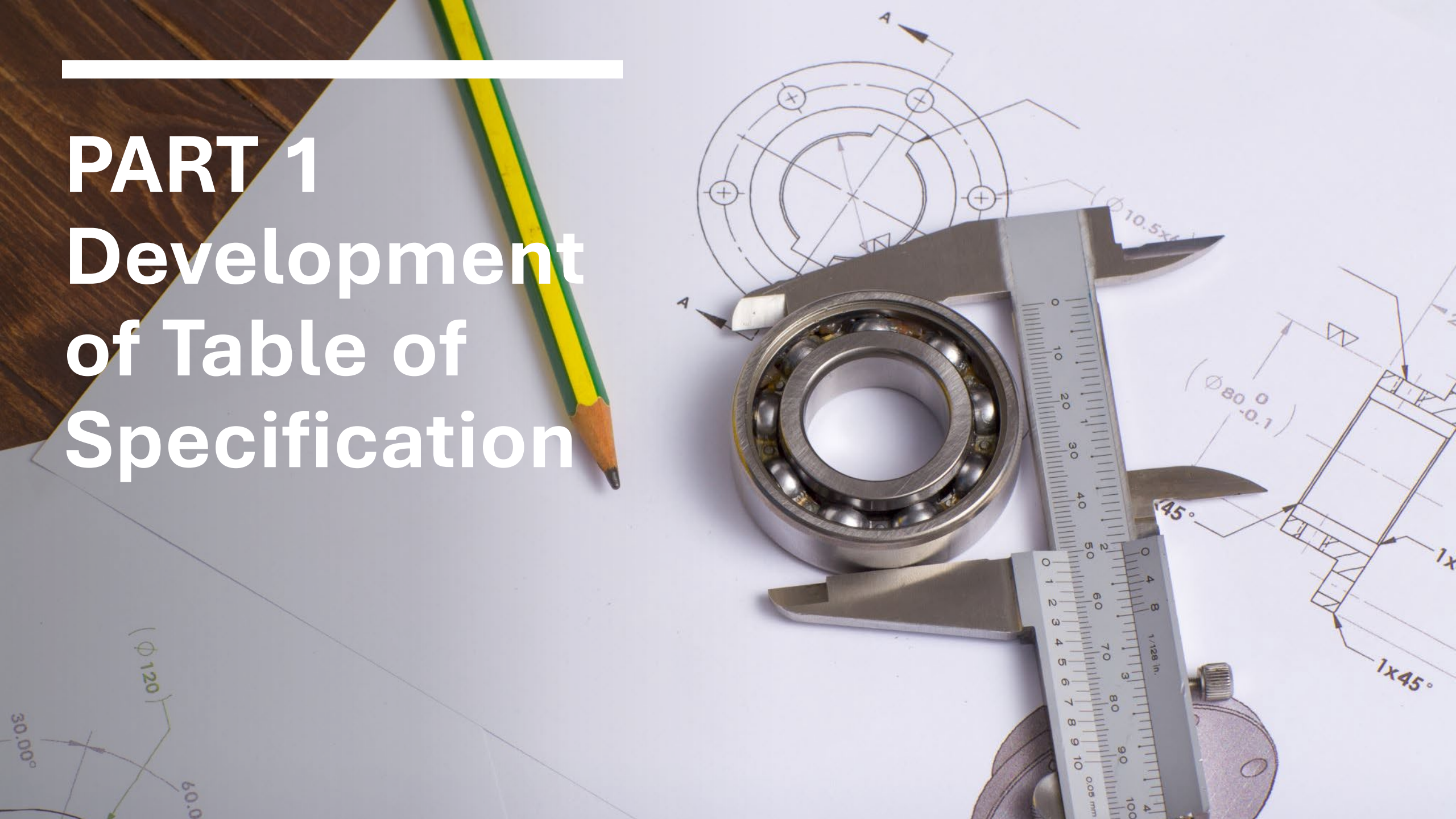
Development of Table of Specification and Assessment Question

By:

Prof Madya Ts Rozita Husain

PART 1
Development of Table of Specification



Session 1: Understanding Tables of Specification

DEFINITION AND PURPOSE OF A TABLE OF SPECIFICATION

Definition of Table of Specification

It is a two-way chart outlining both content areas and cognitive skills for assessment.

Purpose in Education

Helps educators align assessments with instructional goals accurately and effectively.

IMPORTANCE IN EDUCATIONAL ASSESSMENT

Maintaining Test Validity

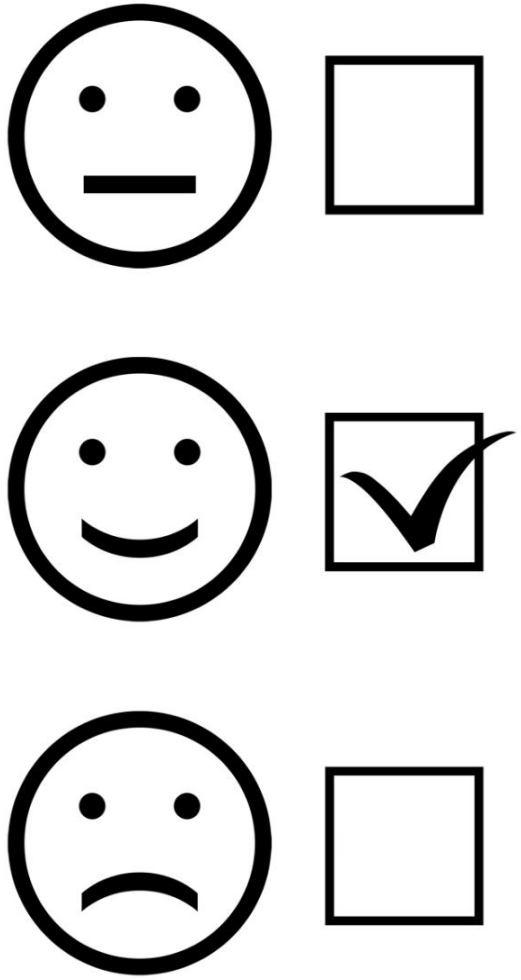
Tables of Specification ensure tests measure they are intended to, supporting test validity.

Ensuring Test Reliability

These tables help create consistent, reliable assessments across different test administrat

Fair Content Representation

They ensure proportional representation of c and cognitive domains for fairer, balanced assessments.



HISTORICAL DEVELOPMENT AND USAGE

Evolution of Tables of Specification

Tables of Specification evolved since the mid-20th century as essential tools for educational assessment development.

Standardized Test Creation

They assist in designing standardized tests that accurately measure student knowledge and skills.

Improvement in Educational Measurement

Tables of Specification contribute to improving the reliability an validity of educational measurements.

Components of a Table of Specification

CONTENT AREAS AND LEARNING OBJECTIVES

Content Areas Defined

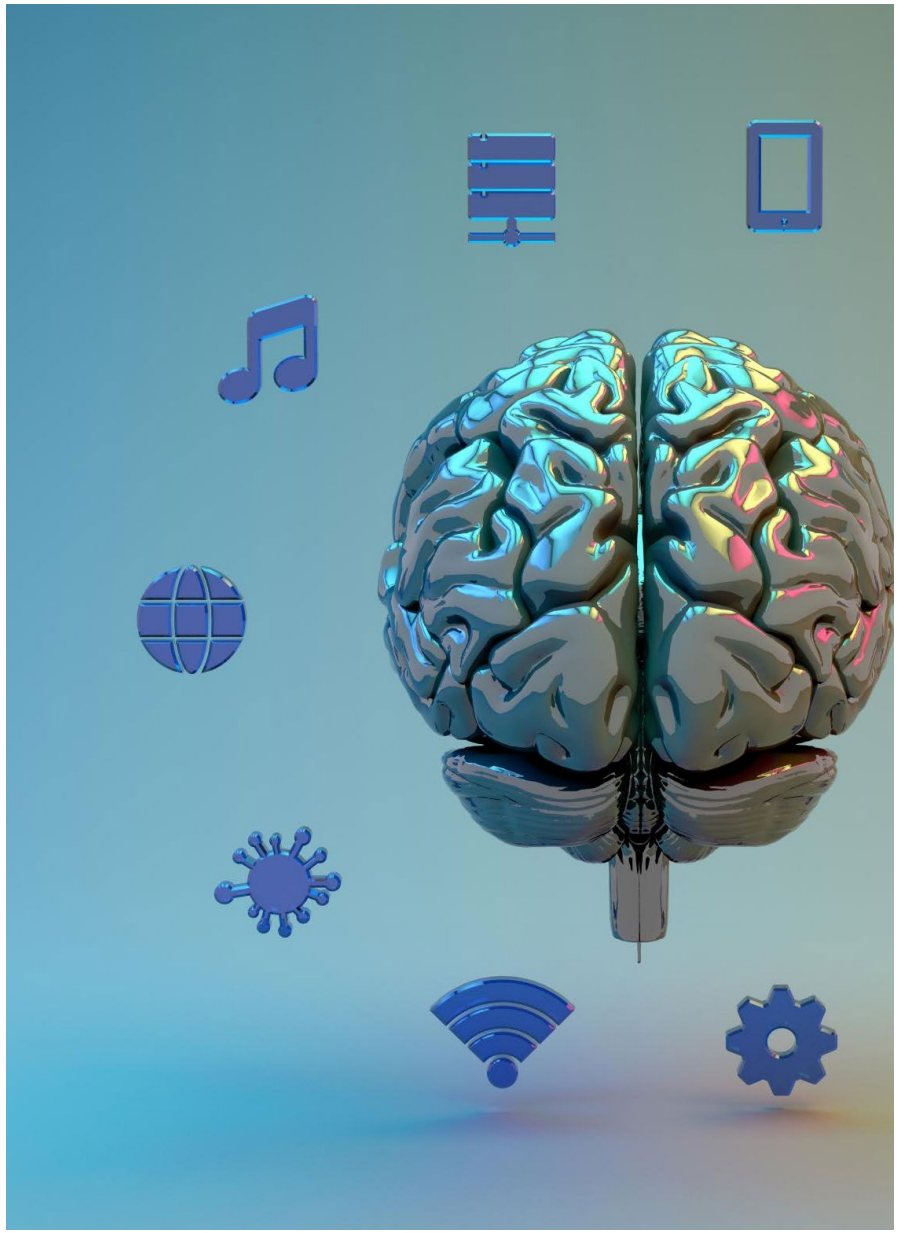
Content areas represent the various subject topics covered in a curriculum or course structure.

Role of Learning Objectives

Learning objectives specify the skills and knowledge students should gain after instruction.

Importance in Organization

Both content areas and learning objectives are critical for effectively organizing educational materials and tables.



COGNITIVE LEVELS (E.G., KNOWLEDGE, APPLICATION, ANALYSIS)

Classification of Learning Tasks

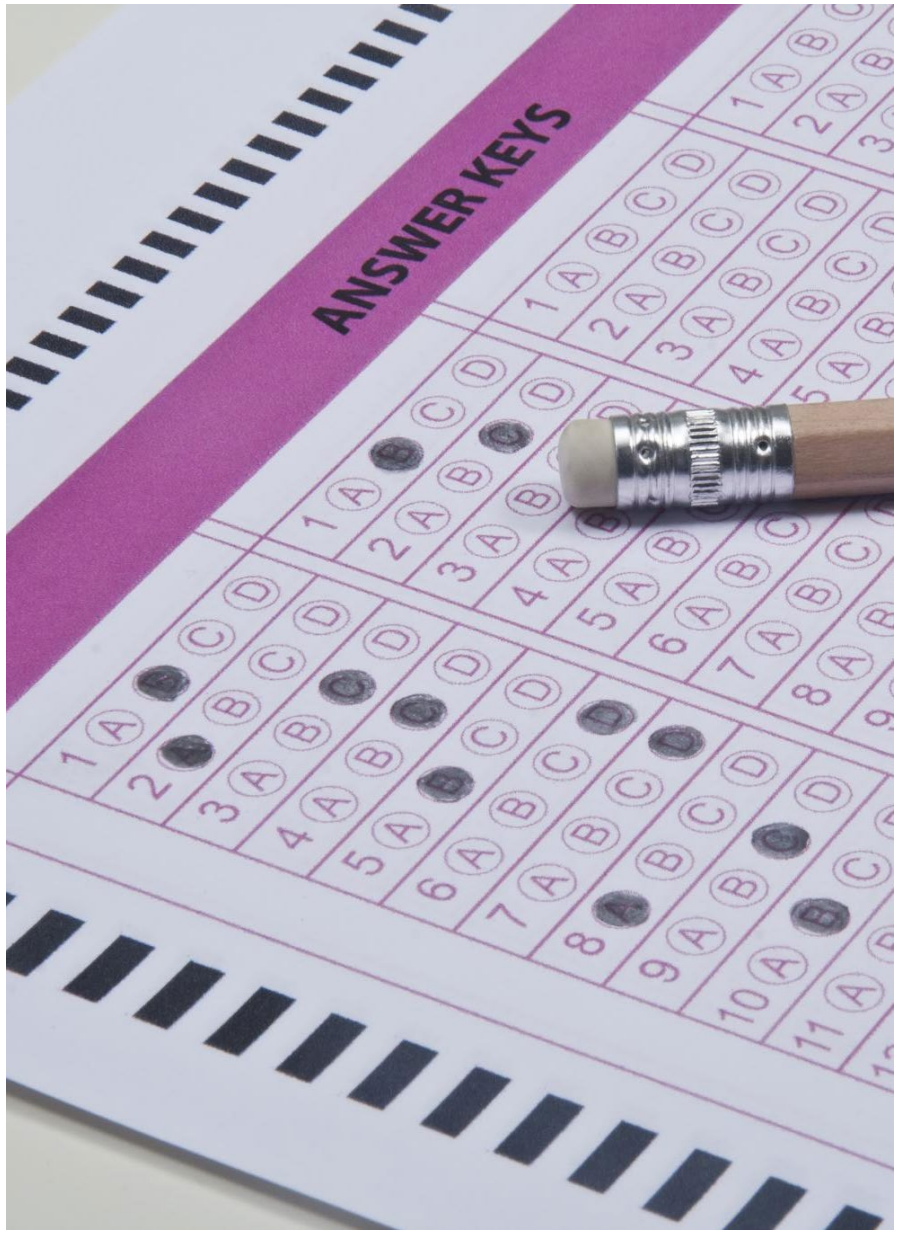
Cognitive levels categorize learning tasks based on their complexity from simple recall to advanced thinking.

Range of Cognitive Skills

They encompass basic knowledge recall, practical application, and critical analysis skills in assessments.

Purpose in Assessments

Using cognitive levels ensures assessments measure a diverse range of skills and thinking processes.



WEIGHTING AND DISTRIBUTION OF TEST ITEMS

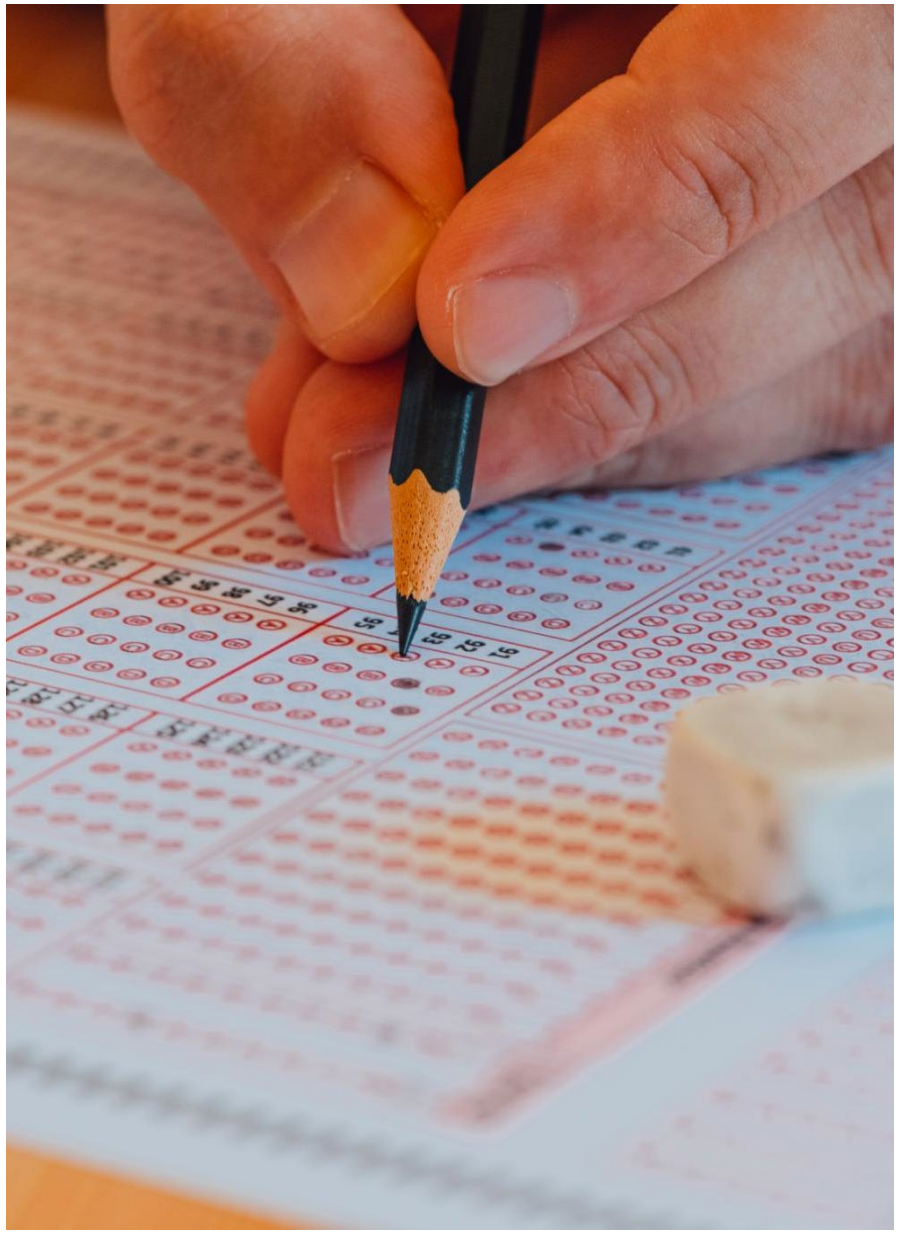
Definition of Weighting

Weighting assigns value to questions based on content areas and cognitive levels to balance a test.

Balancing Curriculum Emphasis

Weighting ensures tests reflect curriculum priorities by adjusting question distribution accordingly.

Steps in Constructing a Table of Specification



IDENTIFYING LEARNING OUTCOMES

Clear Definition of Outcomes

Learning outcomes must be precisely defined to guide effective teaching and assessment.

Alignment with Curriculum Standards

Outcomes should align with established curriculum standards to ensure consistency and quality education.

Instructional Goal Setting

Identified outcomes help set instructional goals that drive lesson planning and student learning.

MAPPING OUTCOMES TO ASSESSMENT ITEMS

Linking Outcomes to Tests

Educators align each learning outcome with specific test items to accurately measure understanding.

Cognitive Demand Variation

Test items are designed to reflect various cognitive demands, from recall to critical thinking.

ENSURING CONTENT VALIDITY AND BALANCE

Content Area Representation

Ensure that all relevant content areas are fairly covered in the assessment to maintain validity.

Cognitive Level Balance

Review cognitive levels to confirm fair representation across different thinking skills.

Assessment Validity

A valid assessment accurately measures what it intends through balanced and comprehensive content.

Benefits and Challenges of Using Tables of Specification

ADVANTAGES FOR TEACHERS AND STUDENTS

Improved Assessment Organization

Teachers can better organize their assessments using structured tables, enhancing clarity and efficiency.

Clear Communication of Expectations

Clear expectations help students understand assessment criteria, leading to better preparedness and confidence.

Fair and Aligned Testing

Students benefit from fair tests that are closely aligned with instruction, ensuring relevant evaluation.

COMMON CHALLENGES AND PITFALLS

Time-Consuming Table Construction

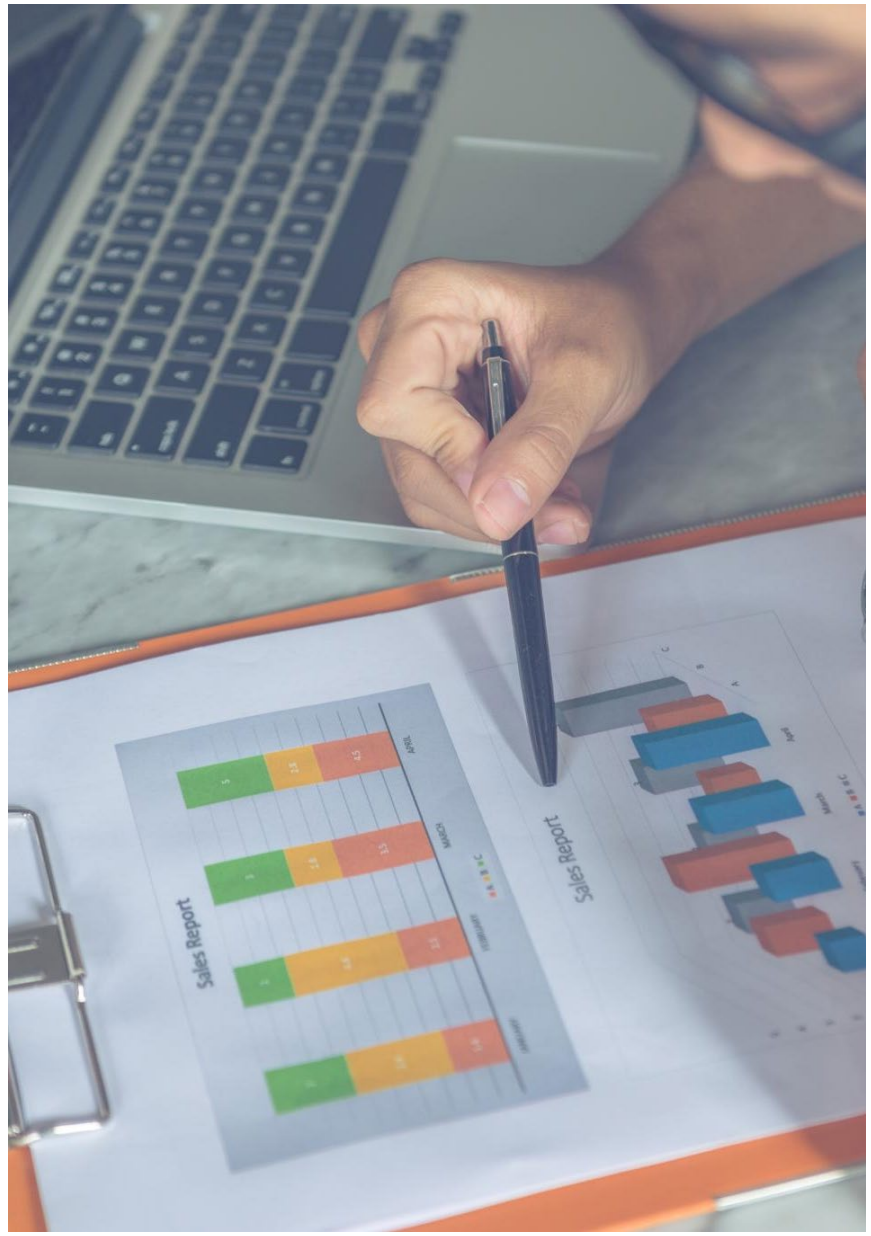
Constructing detailed tables requires significant time and effort, slowing down the overall process.

Content Oversights

Overlooking important content areas can lead to incomplete or inaccurate analysis.

Bias in Weighting

Assigning accurate weights is difficult and may introduce bias, affecting results reliability.



BEST PRACTICES FOR EFFECTIVE IMPLEMENTATION

Collaborative Table Construction

Educators working together to build instructional tables enhances shared understanding and resource pooling.

Continuous Table Review

Regularly reviewing and updating tables ensures course plans remain relevant and effective.

Living Tools in Planning

Using tables as dynamic, living tools supports ongoing course planning and adaptation.

Conclusion

Importance of Tables of Specification

Tables of Specification help in creating focused and balanced assessments that reflect learning objectives accurately.

Components and Construction

Understanding the components and proper construction of Tables of Specification ensures validity and reliability in assessments.

Enhancing Teaching and Learning

Effective use of Tables of Specification improves teaching strategies and learning outcomes for students.


Session 2: Designing a Table of Specification

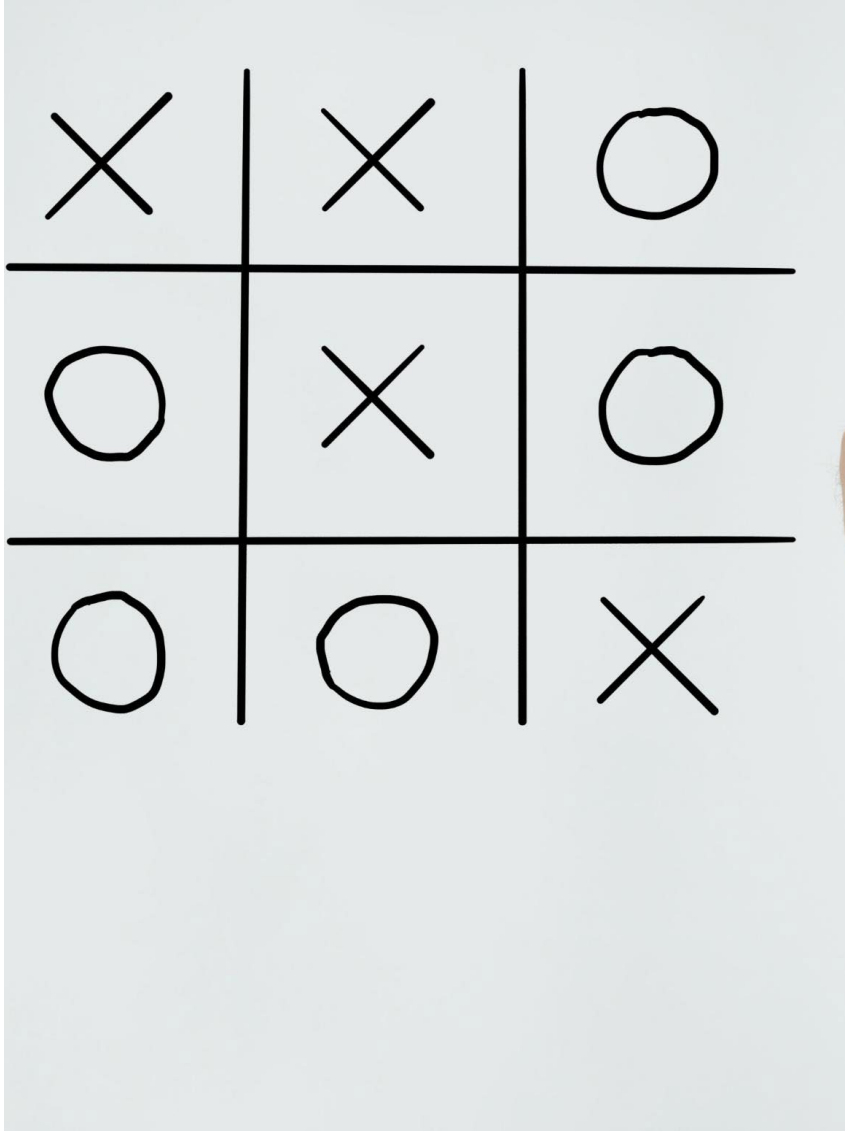
Definition and Purpose of a Table of Specification

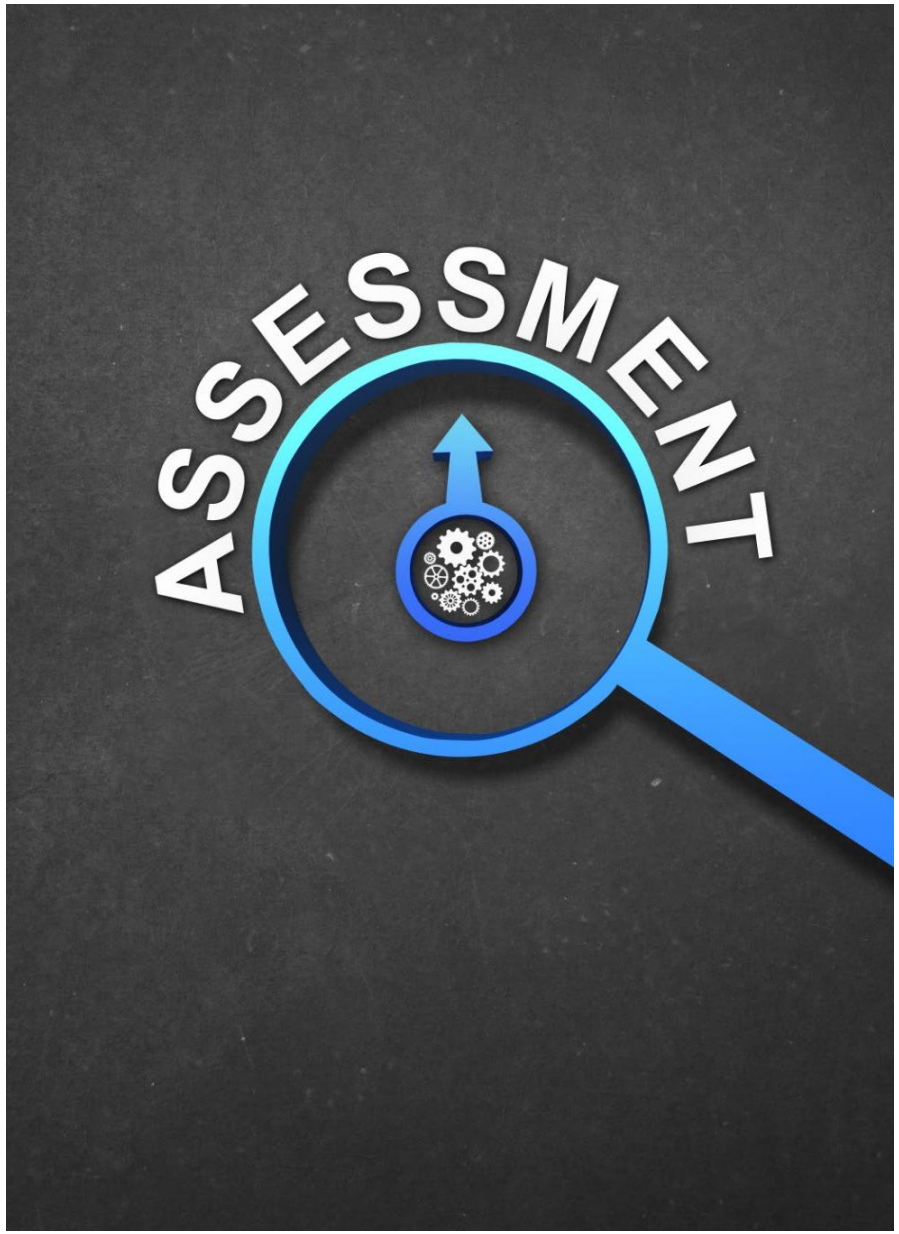
Definition of Table of Specification

A Table of Specification is a matrix aligning learning objectives with assessment items for balanced coverage.

Purpose of the Table

It ensures comprehensive assessment and guides educators to reflect curriculum priorities.





Historical Development and Educational Context

Evolution of Table of Specification

The concept developed to improve fairness and validity in educational assessments systematically.

Systematic Test Construction

It promotes organized and methodical creation of tests suited for diverse educational contexts.

Fairness and Validity in Assessments

Ensuring assessments are unbiased and accurately measure learning objectives across settings.

Key Components of a Table of Specification

Content Areas and Learning Objectives

Content Areas Defined

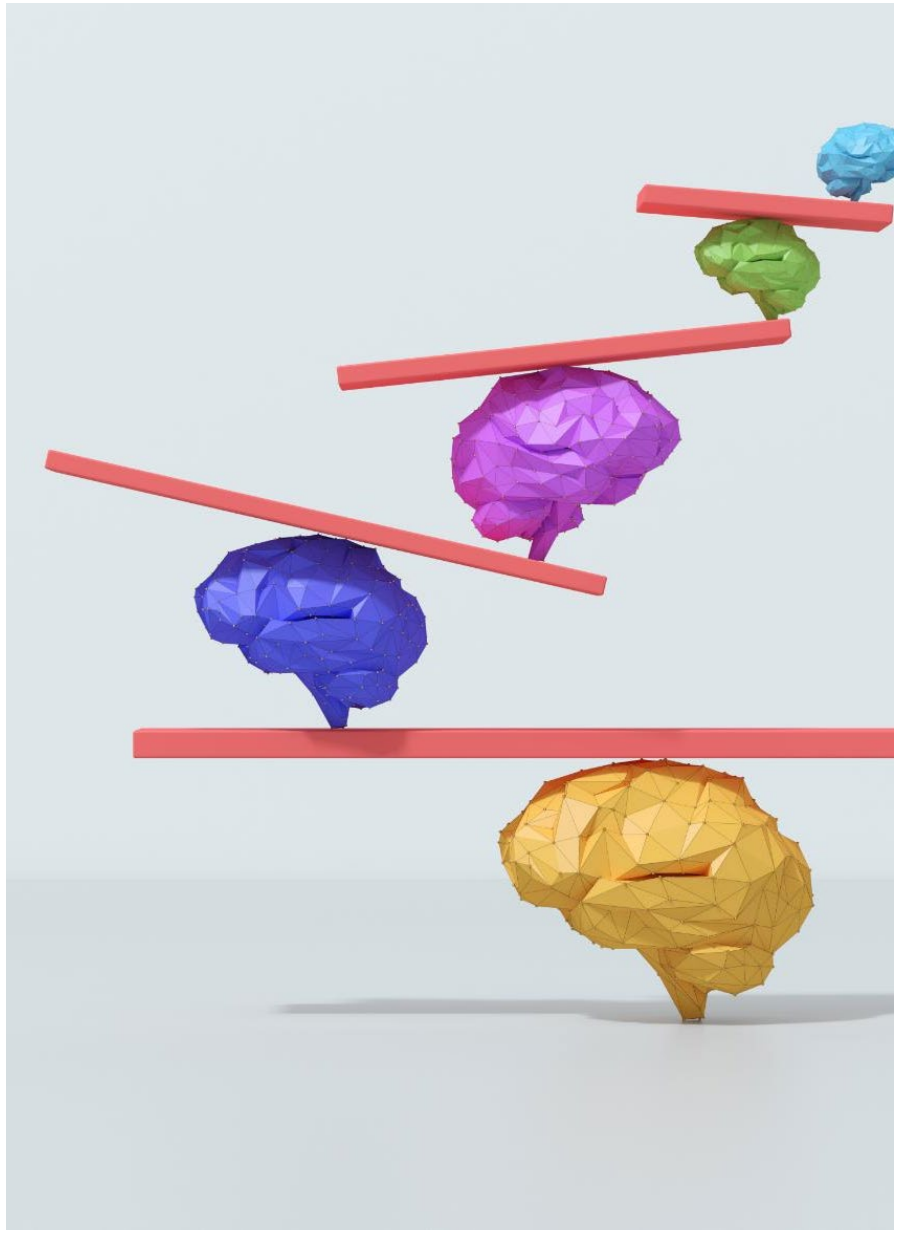
Content areas cover the core subject matter topics taught to students in a curriculum.

Learning Objectives Purpose

Learning objectives specify what students should know or be able to do after instruction.

Role of ToS

A Table of Specifications ensures content areas and objectives are fairly represented in assessments.



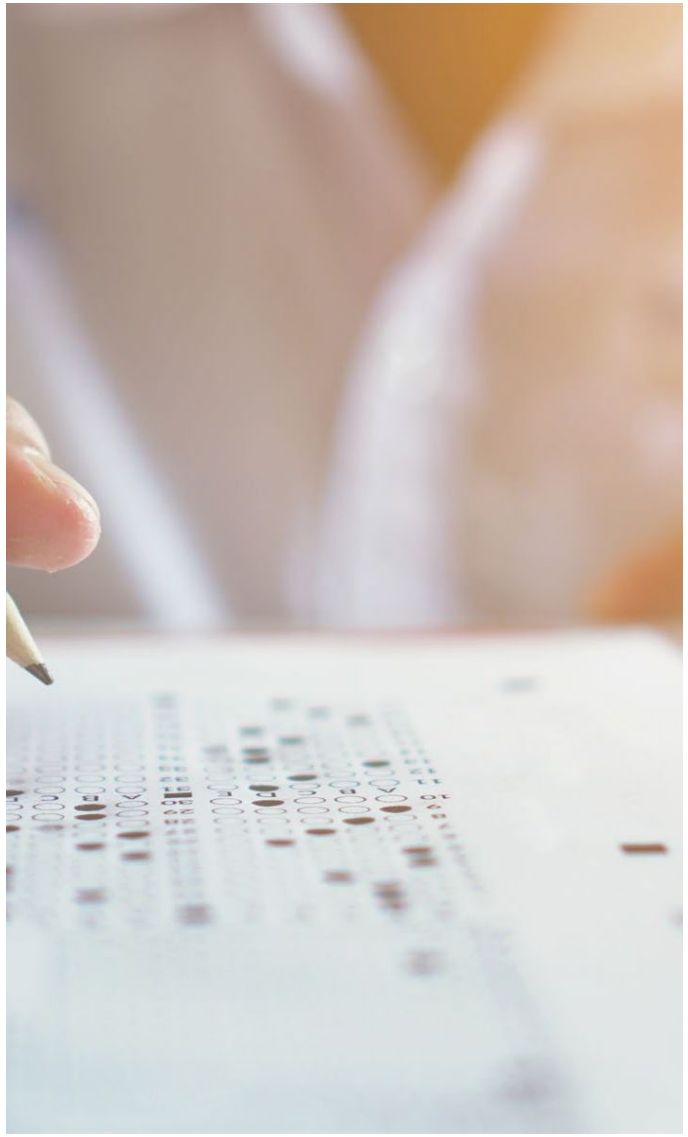
Cognitive Levels and Bloom’s Taxonomy

Bloom’s Taxonomy Overview

Bloom’s Taxonomy organizes cognitive skills from simple recall to complex analysis and creation.

Assessment Design

Using Bloom’s levels in assessment design ensures evaluation of a broad range of cognitive abilities.



Types of Assessment Items

Multiple-Choice Questions

Multiple-choice questions assess recognition and recall efficiently with preset answer options.

Short Answer Questions

Short answer items require concise, specific responses to evaluate understanding more deeply.

Essay Questions

Essay questions allow for extended, critical thinking and expression of complex ideas.

Balanced Assessment Design

A balanced mix of item types accurately measures diverse learning outcomes and cognitive skills.

Steps in Designing a Table of Specification

Identifying Curriculum Goals and Standards

Review Curriculum Documents

Begin by carefully examining curriculum documents to understand the framework for assessments.

Determine Essential Goals

Identify the key educational goals that the assessment must address to align with standards.

Mapping Topics to Cognitive Levels

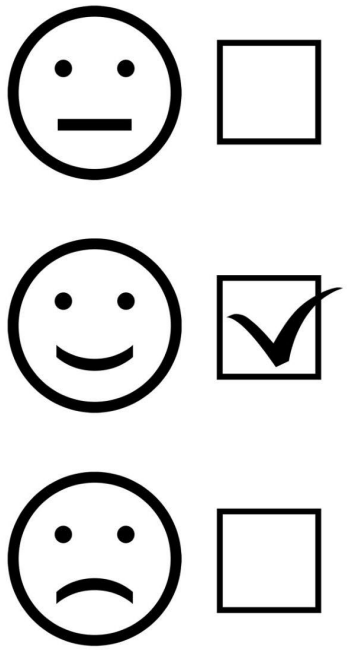
Categorizing Topics

Each topic needs to be classified by cognitive level to align with learning objectives effectively.

Ensuring Skill Variety

Mapping topics ensures assessments cover a broad range of thinking skills from recall to evaluation.

Allocating Test Items and Ensuring Balance



Proportional Distribution

Test items are allocated in proportion to content areas t
ensure all topics are fairly represented.

Cognitive Level Balance

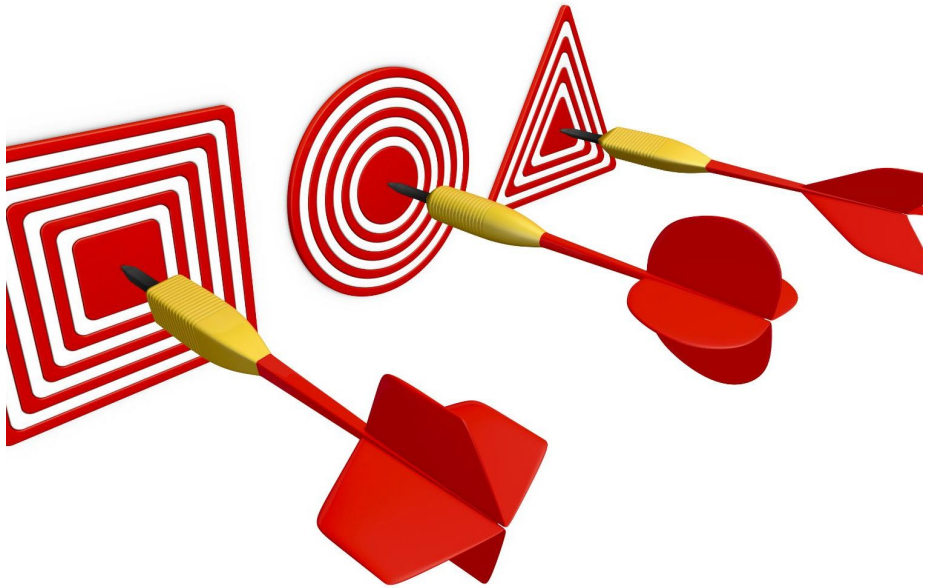
Test items cover varying cognitive levels to assess a range
thinking skills and knowledge depth.

Fair and Balanced Assessment

The balanced allocation creates an assessment that is fair,
reliable, and valid for all test takers.

Best Practices and Common Challenges

Ensuring Validity and Reliability



Understanding Validity
Validity confirms the assessment accurately measures the intended concept or skill.

Understanding Reliability
Reliability ensures the assessment produces consistent and repeatable results over time.

Role of ToS Design
A well-designed Table of Specifications aligns assessment items to support both validity and reliability.

Avoiding Bias and Maintaining Fairness

Removing Cultural and Linguistic Bias

Assessments must avoid cultural and linguistic bias to ensure fairness for all test takers.

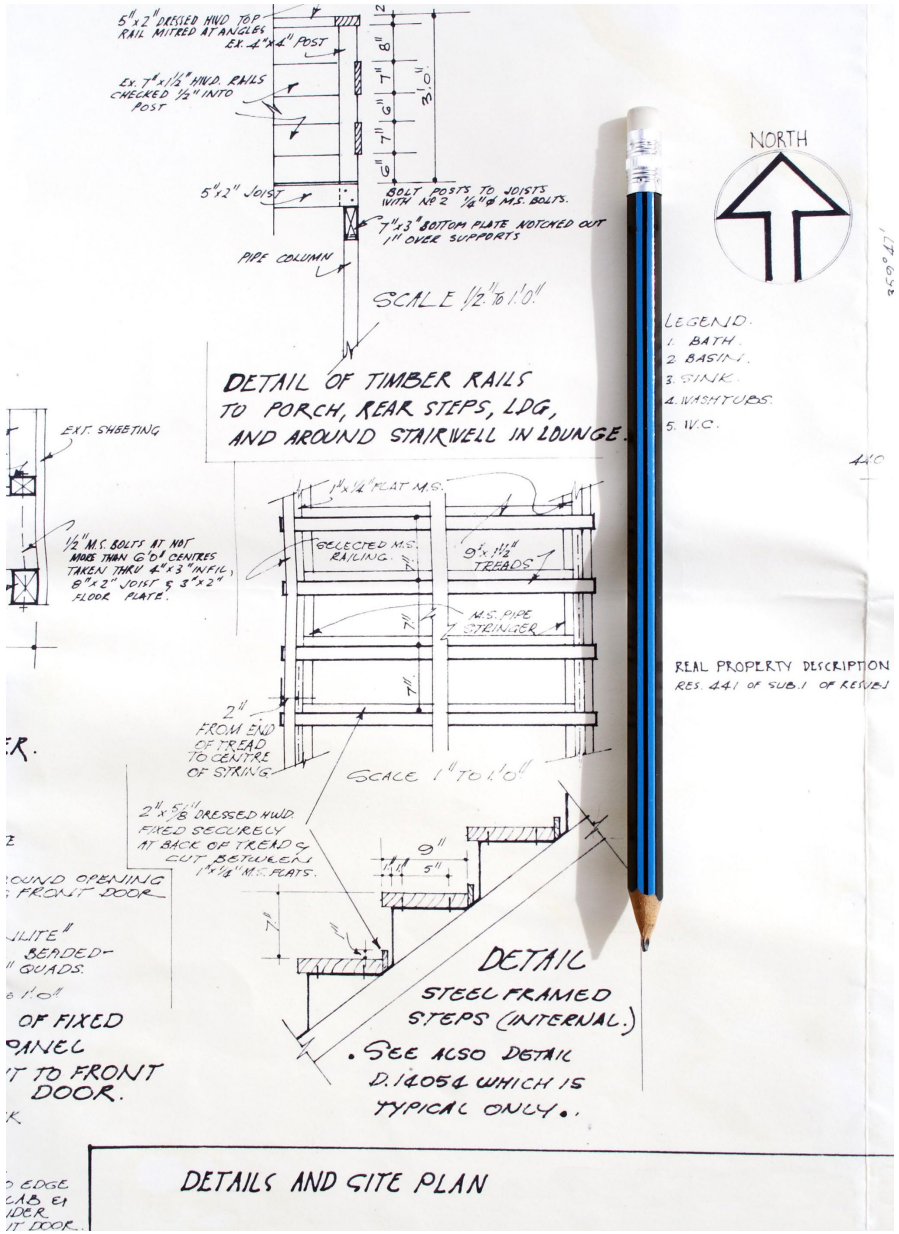
Gender Bias Prevention

Tests should be designed to prevent gender bias, promoting equal opportunity and fairness.

Role of Terms of Service (ToS)

The ToS aids in identifying and mitigating biases by reviewing item distribution and content.

Application and Interpretation



Using the Table of Specification in Test Construction

Blueprint for Testing

The Table of Specification serves as a blueprint guiding the development of test items aligned with instructional goals.

Cognitive Demand Alignment

It ensures test items reflect various cognitive levels to comprehensively assess learners' understanding.

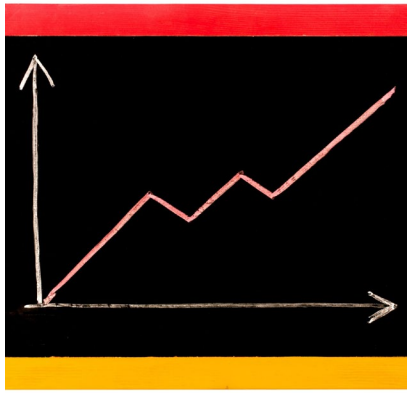
Comprehensive Coverage

Using the ToS guarantees thorough coverage of all instructional content areas in the test.

Interpreting Results for Instructional Improvement

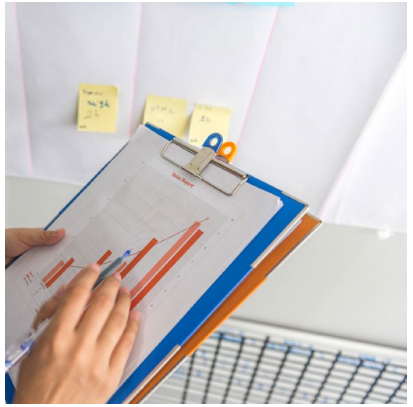
Test Outcome Analysis

Analyzing test results relative to the Table of Specifications reveals student performance trends and learning gaps.



Identifying Strengths and Weaknesses

Assessment data helps pinpoint areas where students excel and areas needing improvement for targeted support.



Targeted Instructional Adjustments

Insights from analysis guide teachers to make focused changes in instruction to enhance student learning outcomes.

Conclusion

Importance of Table of Specification

A Table of Specification ensures assessments are balanced, valid, and reliable for accurate evaluation.

Alignment with Curriculum

It helps align tests with curriculum goals, ensuring relevant content coverage.

Enhancing Student Outcomes

Supports improved student learning by providing clear and targeted evaluation methods.

Session 3: Practical Workshop on TOS Creation

Practical Workshop on Terms of Service (TOS) Creation: Step-by-Step Guidance for Effective Policy Drafting

Learn to craft clear and protective user agreements

Workshop Schedule Overview

- Understanding the Purpose and Importance of Terms of Service
- Key Components of an Effective TOS Document
- Hands-On Workshop: Drafting TOS Step by Step
- Implementation, Enforcement, and User Communication

Understanding the Purpose and Importance of Terms of Service

Defining Terms of Service and Their Role in Digital Platforms

Legal Agreement Basics

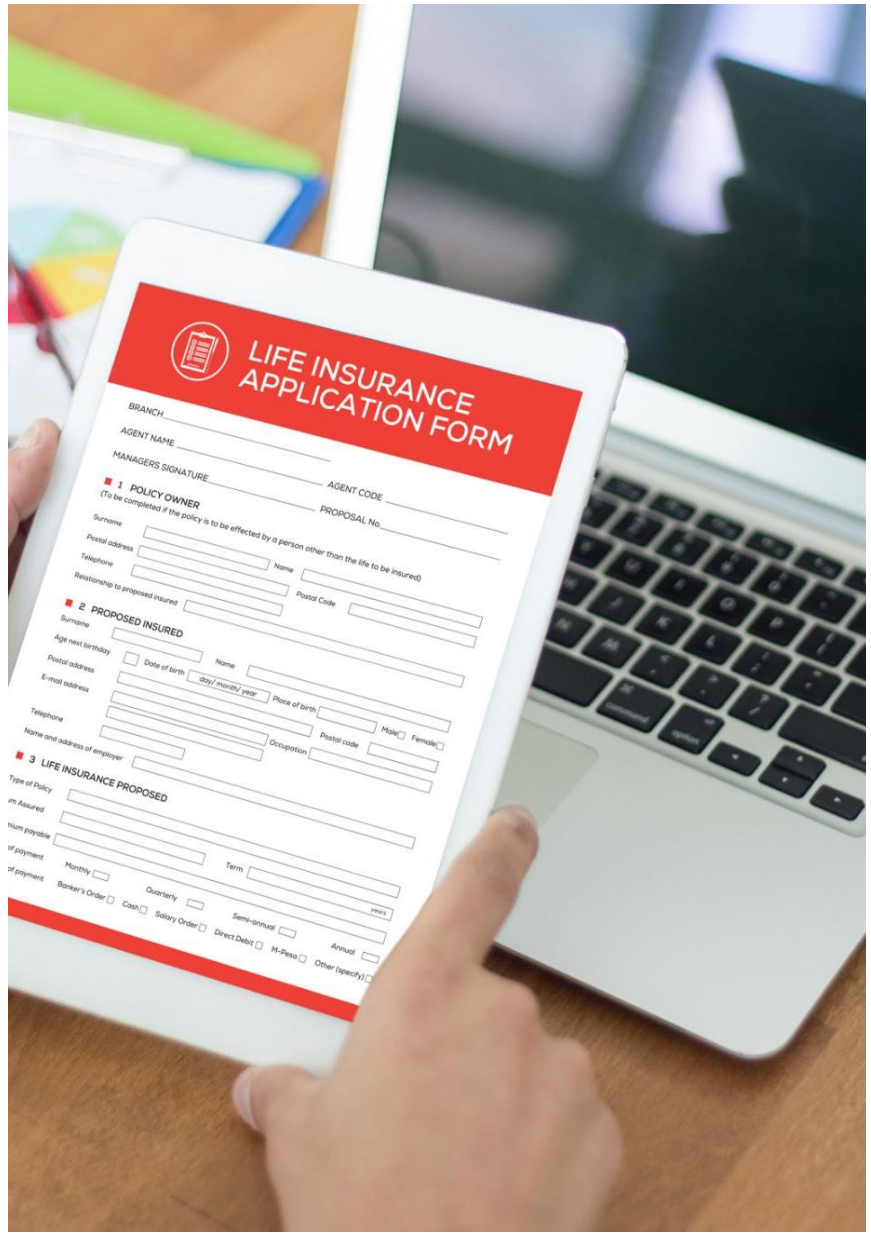
Terms of Service establish the legal framework users agree to when accessing digital platforms.

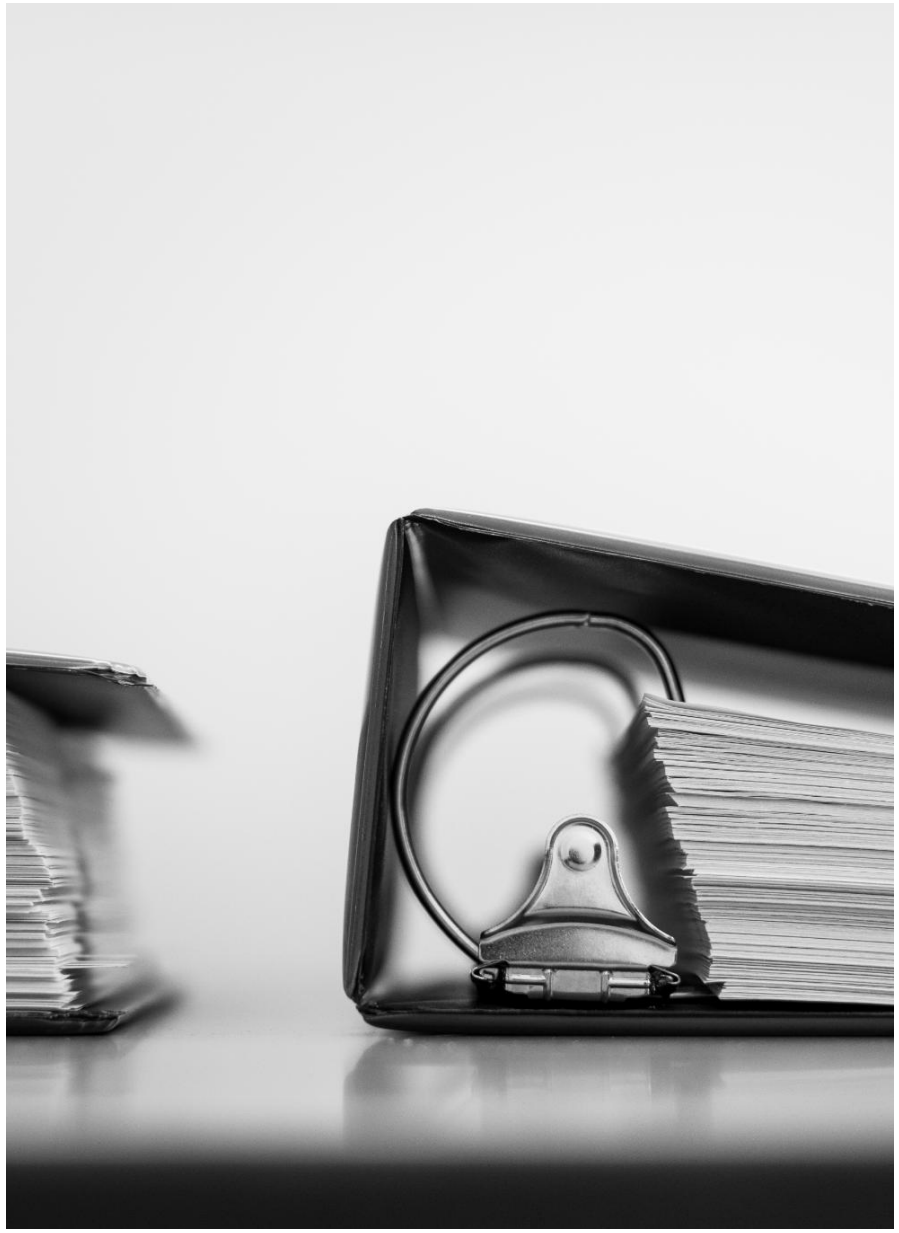
User Rights and Responsibilities

They specify the rights users have and the responsibilities they must follow during platform use.

Foundation of Trust

Terms of Service build trust by clearly defining platform policies and expected user behavior.





Legal Implications and Protection for Businesses

Limiting Business Liability

A clear Terms of Service document helps businesses limit their liability in legal disputes.

Intellectual Property Protection

TOS establishes protections for a company's intellectual property rights to prevent misuse.

Framework for Dispute Resolution

TOS sets the legal framework to resolve disputes effectively and avoid costly litigation.

Building User Trust and Clarifying Expectations

Transparency in Terms

Clear terms of service explain user rights and responsibilities, building confidence and clarity.

Preventing Misunderstandings

Transparent policies reduce confusion and avoid conflicts between users and platforms.

Fostering Positive Relationships

Open communication through TOS helps create trust and positive user-platform interactions.

Key Components of an Effective TOS Document

Essential Clauses and Standard Sections

User Obligations

Defines responsibilities and expected behaviors of users when accessing the service or website.

Disclaimers and Liability

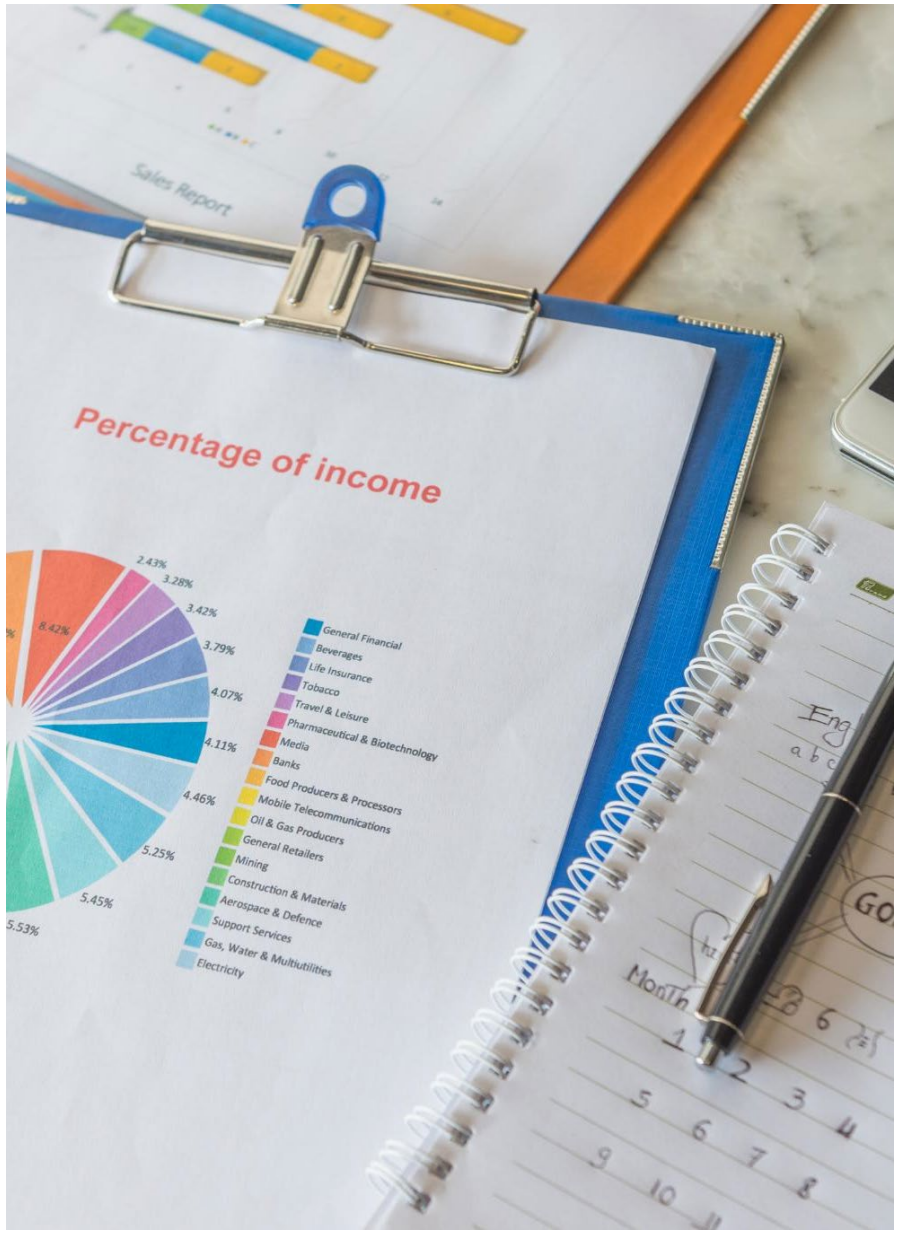
Clarifies limitations on company liability and disclaimers regarding service use or content accuracy.

Privacy Policies

Describes how user data is collected, used, and protected to ensure privacy compliance.

Termination Conditions

Outlines conditions where user access or services may be suspended or terminated.



Customization for Different Business Models

Industry-Specific Needs

Each industry has unique operational requirements that influence how terms of service should be tailored for effectiveness.

Service and Payment Models

Customization should reflect specific services offered and payment models used to ensure clarity and compliance.

Regulatory Compliance

Adapting terms to local regulatory environments enhances legal relevance and protects businesses from risks.

Common Pitfalls and How to Avoid Them

Avoid Vague Language

Use clear, precise wording to prevent misunderstandings and legal ambiguity in your terms of service.

Simplify Complex Terms

Replace overly complex legal jargon with straightforward language for easier user comprehension.

Regular Policy Review

Consistently review and update your policy to ensure clarity and compliance with changing laws.

Hands-On Workshop: Drafting TOS Step by Step

Gathering Requirements and Identifying Stakeholders

Collect Business Details

Gather comprehensive business information to understand project scope and objectives clearly.

Identify Regulatory Requirements

Ensure compliance by collecting and understanding all relevant laws and regulations.

Recognize Key Stakeholders

Include legal teams, product managers, and compliance officers to capture diverse perspectives.

Collaborative Writing and Using Templates

Using Templates as Frameworks

Templates provide a structured starting point that simplifies the writing process and ensures consistency.

Collaborative Teamwork

Working together with your team enhances creativity and improves the quality of the final document.

Customization and Adaptation

Templates can be tailored to fit specific contexts and legal requirements effectively.

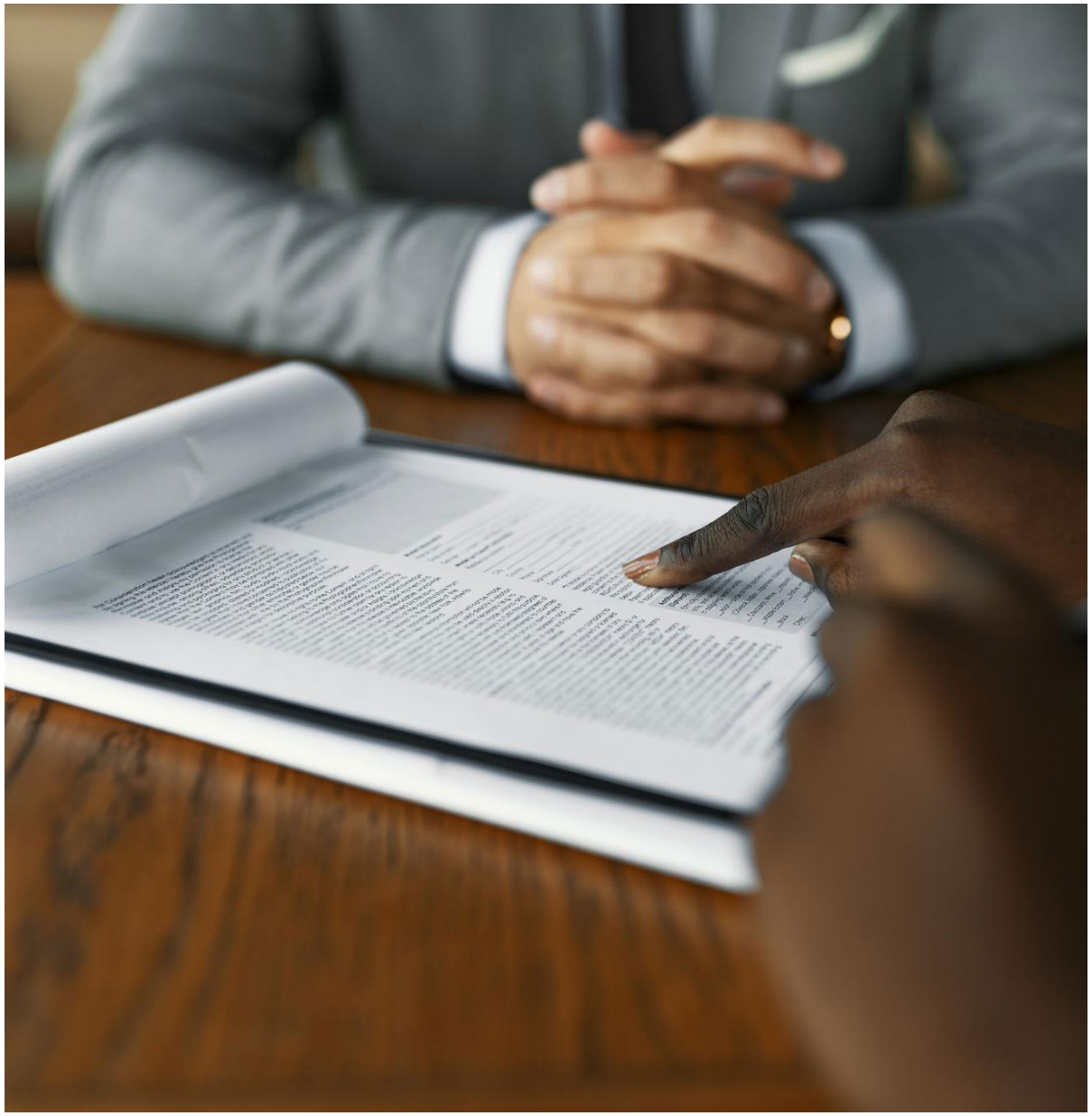
Reviewing, Revising, and Seeking Legal Input

Document Review

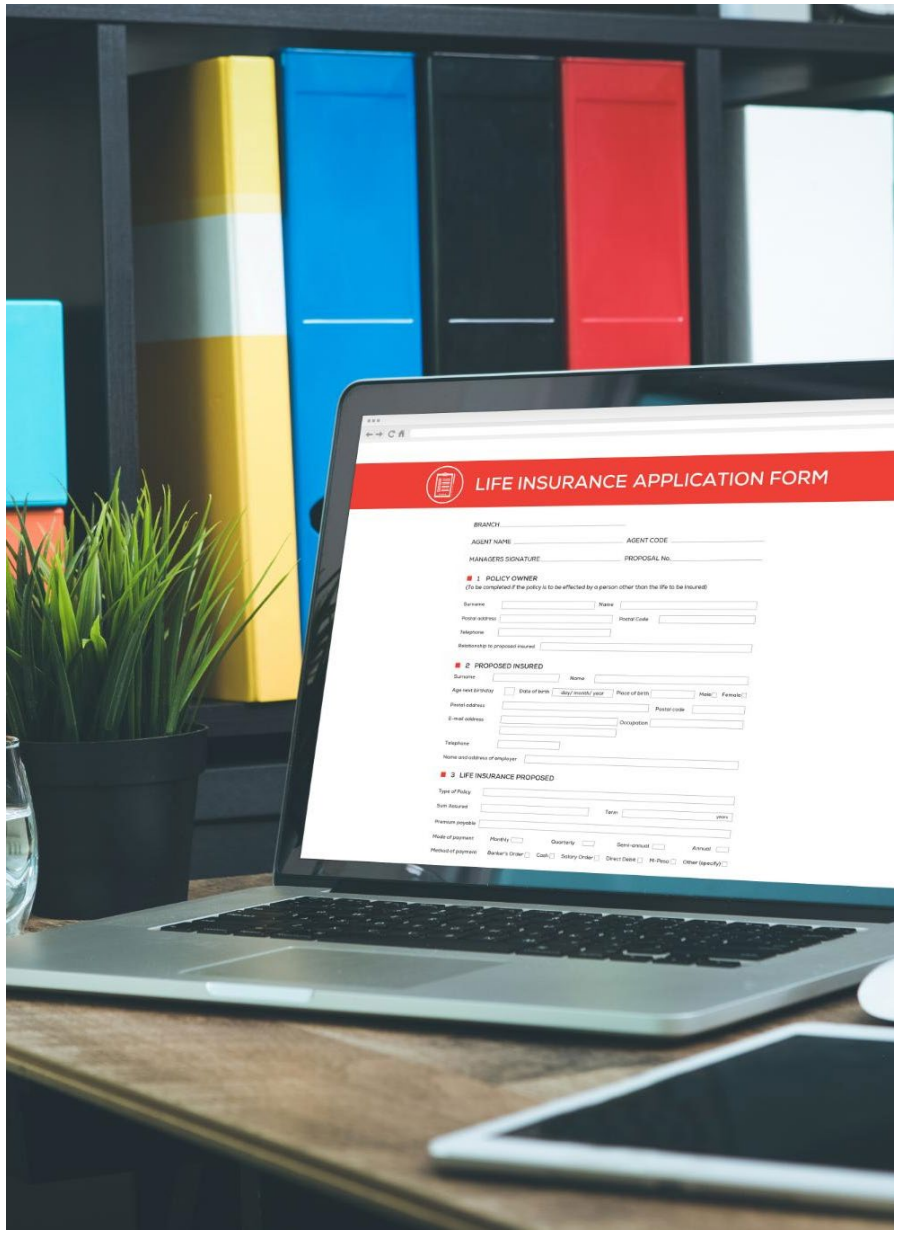
Carefully examine the draft for clarity and ensure all necessary information is included.

Legal Validation

Consult legal professionals to ensure compliance with applicable laws and protect your interests.



Implementation, Enforcement, and User Communication



Publishing and Updating Your TOS

Accessibility of TOS

Ensure your Terms of Service are clearly visible and easy to find on your platform for all users.

Regular Updates Process

Implement a routine schedule to review and update your TOS reflecting legal or business changes promptly.

User Notification

Inform users effectively about any revisions to the TOS to maintain transparency and trust.

Strategies for User Acceptance and Compliance

Clear Acceptance Mechanisms

Use explicit methods like clickwrap agreements to ensure users actively review and accept terms of service.

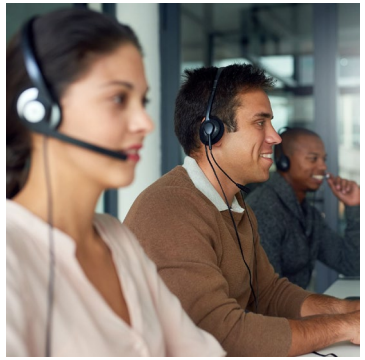
Proactive Communication

Maintain ongoing communication to raise user awareness and encourage compliance with policies.

Responding to User Concerns and Dispute Resolution

Efficient Dispute Procedures

Establish clear processes to address user questions and disputes promptly and effectively.



Clear Communication Channels

Maintain open and accessible channels for users to raise concerns and receive support quickly.

Transparency in Policies

Implement transparent policies to build trust and foster amicable conflict resolution.

Conclusion

Legal Protection Importance

Terms of Service provide essential legal protection for businesses in digital environments.

Building User Trust

Clear and transparent terms help foster trust and confidence among users and customers.

Communication and Clarity

Maintaining open communication and clear policies ensures smooth navigation of digital challenges.

Session 4: Evaluating and Revising a Table of Specification

Comprehensive Guide to Evaluating and Revising a Table of Specification for Assessment Quality

IMPROVING ASSESSMENTS THROUGH EFFECTIVE EVALUATION TECHNIQUES

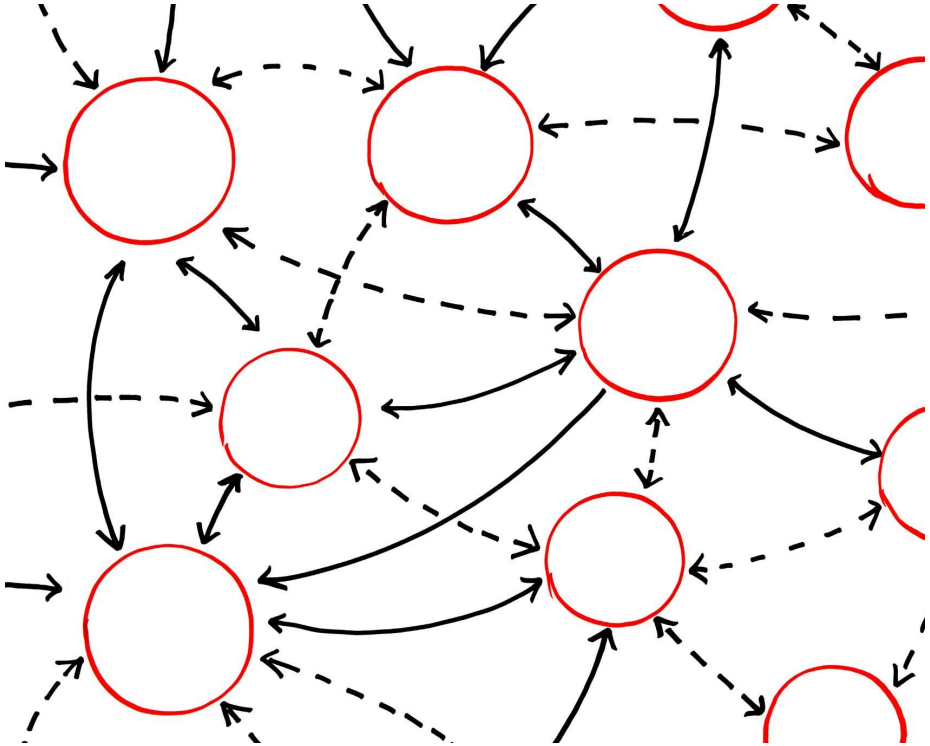
Definition and Purpose of a Table of Specification

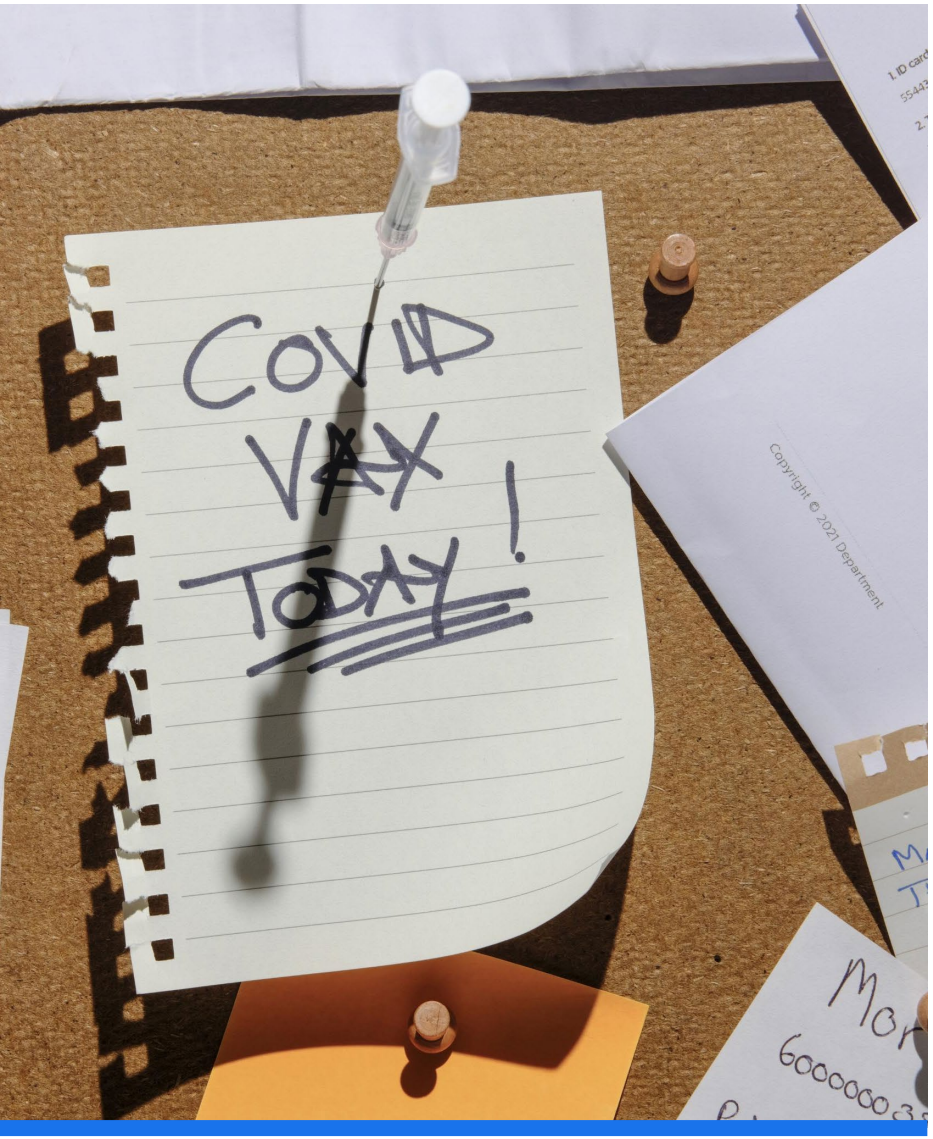
Concept of Table of Specification

It is a two-way chart linking content areas and cognitive levels for structured test design.

Purpose in Assessment

Ensures tests reflect curriculum objectives and provide balanced coverage of material.





Key Components and Structure

Content Topics Included

The table outlines various content topics covered in the assessment to ensure relevant subject matter is addressed.

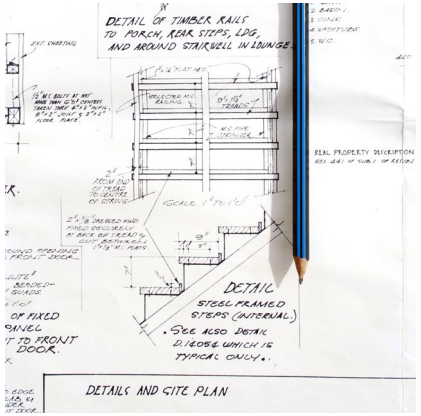
Cognitive Levels Defined

Cognitive levels such as knowledge, comprehension, and application categorize items to measure different understanding depths.

Item Weighting and Balance

The number or weight of items per category balances the assessment, ensuring comprehensive coverage across topics and skills.

Role in Assessment Development

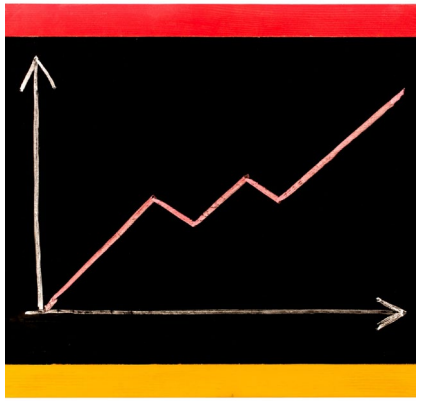


Blueprint for Test Items

The Table acts as a foundational blueprint guiding effective and structured test item creation.

Promotes Validity

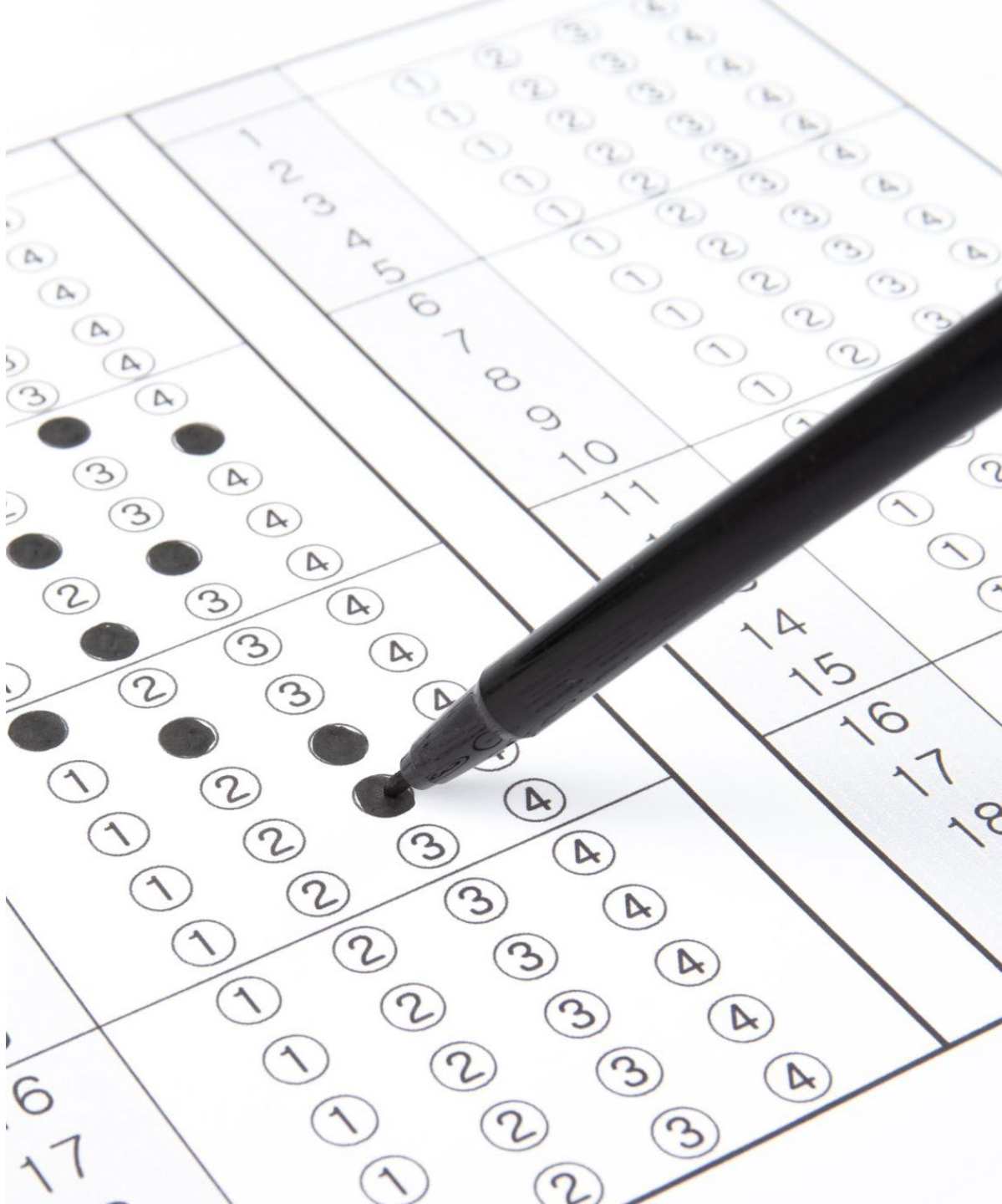
Aligning test content with instructional goals ensures the assessment measures what it intends to measure.



Ensures Reliability

Consistent alignment with cognitive demands supports reliable and fair assessment outcomes.

Criteria for Evaluating a Table of Specification



Alignment with Curriculum Objectives

Reflect Curriculum Goals

The assessment table should accurately represent the curriculum's learning goals to ensure comprehensive coverage.

Ensure Adequate Assessment

All important objectives must be sufficiently assessed to validate the effectiveness of the evaluation process.

Avoid Misalignment Risks

Misalignment between curriculum and assessment can result in invalid and unreliable assessment outcomes.

Coverage of Content Areas and Cognitive Levels

Balanced Content Coverage

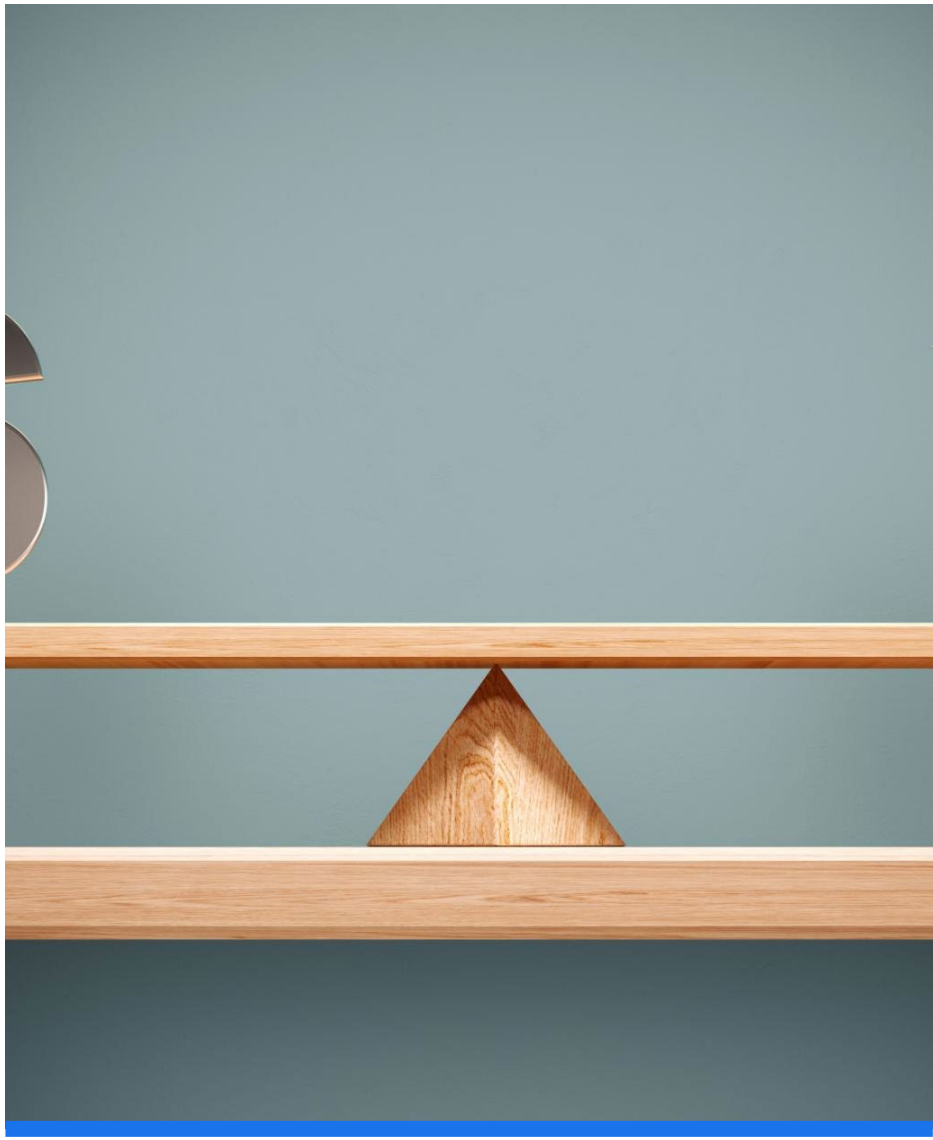
Ensures all relevant content areas receive proportional attention to maintain curriculum balance.

Cognitive Level Distribution

Incorporates various cognitive levels to develop diverse skills, avoiding focus on any single level.

Prevents Topic Neglect

Avoids overemphasis or neglect by proportionately covering all topics and skills.



Fairness, Clarity, and Validity Considerations

Ensuring Fairness

Create assessment tools that eliminate bias and promote equitable evaluation for all participants.

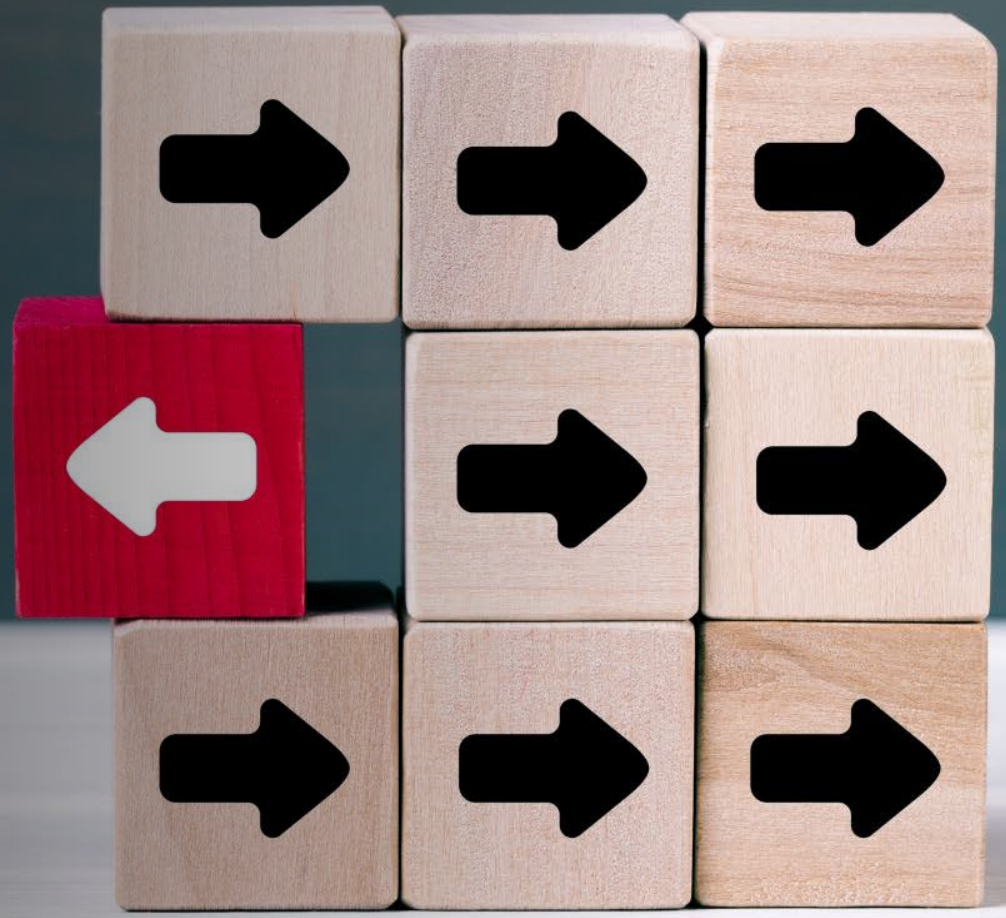
Maintaining Clarity

Design clear and unambiguous criteria to avoid confusion during the evaluation process.

Enhancing Validity

Support evaluations with valid and reliable measures that accurately reflect the intended outcomes.

Common Issues and Challenges in Evaluation



Identifying Gaps and Overlaps in Content

Content Gaps

Gaps represent missing important topics that reduce the completeness of content. Detecting gaps ensures full coverage.

Content Overlaps

Overlaps indicate redundancy where topics repeat unnecessarily, causing inefficiency and confusion in content.

Impact on Assessment Quality

Both gaps and overlaps distort assessment quality by affecting clarity and coverage, requiring detection and resolution.

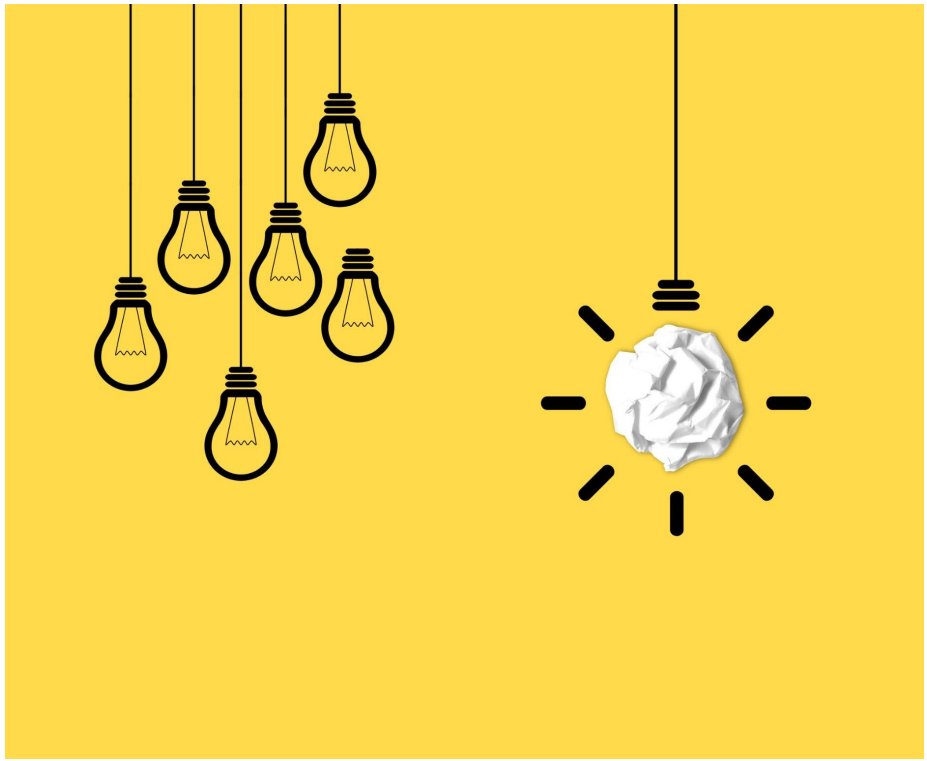
Addressing Ambiguity and Bias

Impact of Ambiguity and Bias

Ambiguity and bias in items can lead to unfair disadvantages for specific groups and impact outcomes negatively.

Role of the Table

The Table aids in preventing ambiguity and bias by encouraging clear, neutral, and equitable item development.



Ensuring Reliability and Consistency

Consistent Measurement

Reliability depends on consistent measurement across all items to maintain accuracy and trustworthiness.

Effective Table Design

A clear table design defines content and cognitive levels for reliable data interpretation.

Steps and Best Practices for Revising a Table of Specification

Analyzing Feedback and Assessment Results

Reviewing Performance Data

Analysis of item performance data reveals patterns and areas needing improvement.

Incorporating Stakeholder Feedback

Gathering feedback from stakeholders provides valuable insights for improvement.

Identifying Weaknesses

Combining data and feedback helps pinpoint weaknesses in current assessments.

Guiding Revisions

Insights gained support targeted revisions to improve assessment quality.

Updating Content and Cognitive Level Distributions

Curriculum Priorities Alignment

Adjust content distribution to align with curriculum goals for improved learning outcomes.

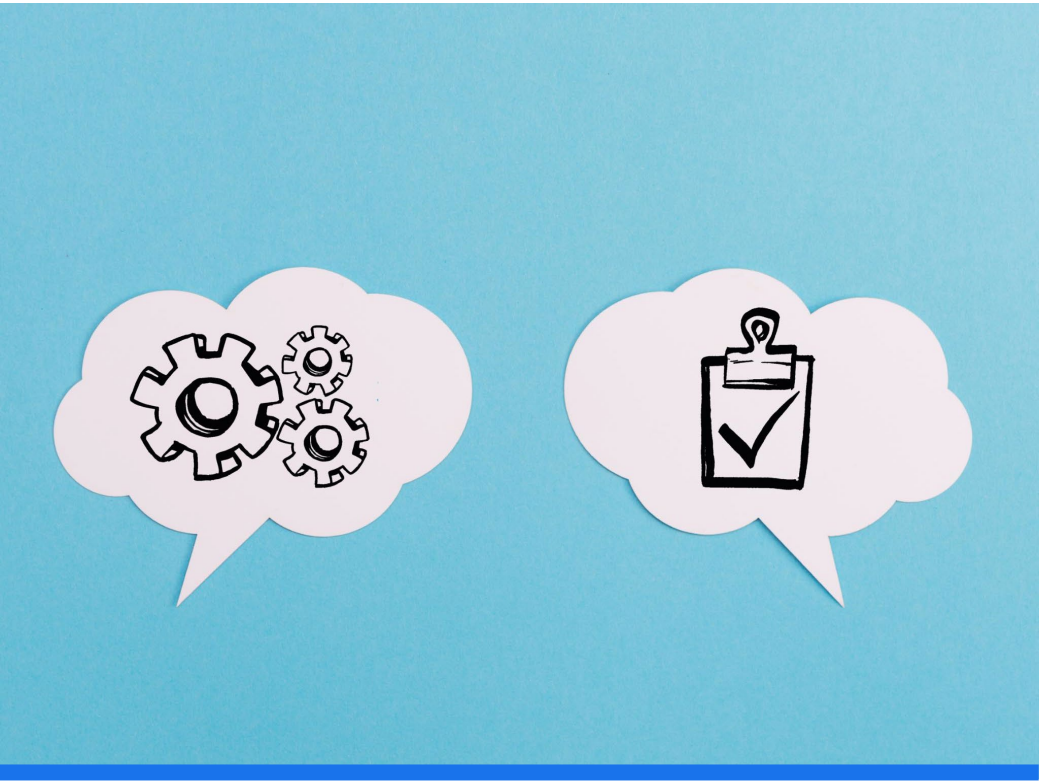
Balancing Cognitive Demands

Distribute cognitive levels evenly to ensure fair and comprehensive assessments across topics.

Comprehensive Assessment Coverage

Ensure assessments cover a broad range of cognitive levels reflecting varied student abilities.

Documenting and Validating Revisions



Detailed Record Keeping

Maintain comprehensive documentation of all changes made to ensure traceability and clarity in revisions.

Peer Review Process

Use peer review to validate revisions, ensuring accuracy and quality through expert feedback.

Pilot Testing

Conduct pilot testing to verify the effectiveness of revisions before full implementation.

Conclusion

Importance of Table of Specification

A well-evaluated Table of Specification ensures assessments align with curriculum objectives and learning goals.

Ensuring Validity and Reliability

Careful revision of assessment tools helps produce valid and reliable measurements of student learning.

Supporting Effective Learning Measurement

Fair assessments foster accurate measurement of student progress and support instructional decisions.

PART 2
Development of Assessment Questions

Session 1: Introduction to Assessment Design

1. Importance of assessment in OBE & MQF 2.0
2. Types of assessment: formative, summative, authentic
3. Aligning CLOs/PLOs with assessment methods (constructive alignment)

- **Activity:** Quick poll & group sharing on current practices

Understanding Assessment Design

Alignment with Objectives

Effective assessments are closely aligned with educational goals, ensuring measurement of intended learning outcomes and skills.

Choosing Assessment Formats

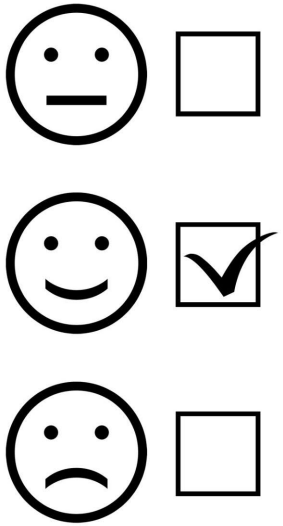
Selecting formats such as quizzes, projects, or presentations ensures assessments suit diverse skills and learning contexts.

Ensuring Reliability and Fairness

Reliable and fair assessments provide accurate results and equal opportunities for all students to demonstrate knowledge.

Enhancing Engagement and Feedback

Thoughtful design supports student engagement and meaningful feedback, helping drive instructional improvement and learner success.



Definition and Purpose of Assessment

Systematic Information Gathering

Assessment systematically collects data about learners' knowledge, skills, and attitudes to understand their learning status.

Guiding Instruction

Assessment results help educators tailor their instruction to meet learning needs effectively.

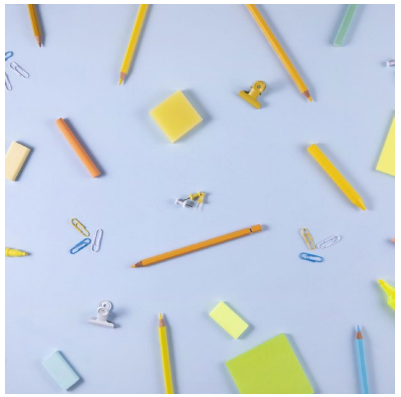
Providing Feedback

Assessment provides meaningful feedback to students to support their learning and growth.

Informing Decision-Making

Assessment informs decisions regarding student progress, promotion, and instructional strategies.

Alignment with Learning Objectives and Outcomes

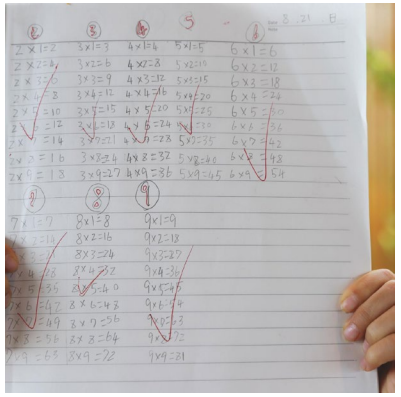


Direct Reflection of Objectives

Assessments must directly measure the specific learning objectives and outcomes intended for students.

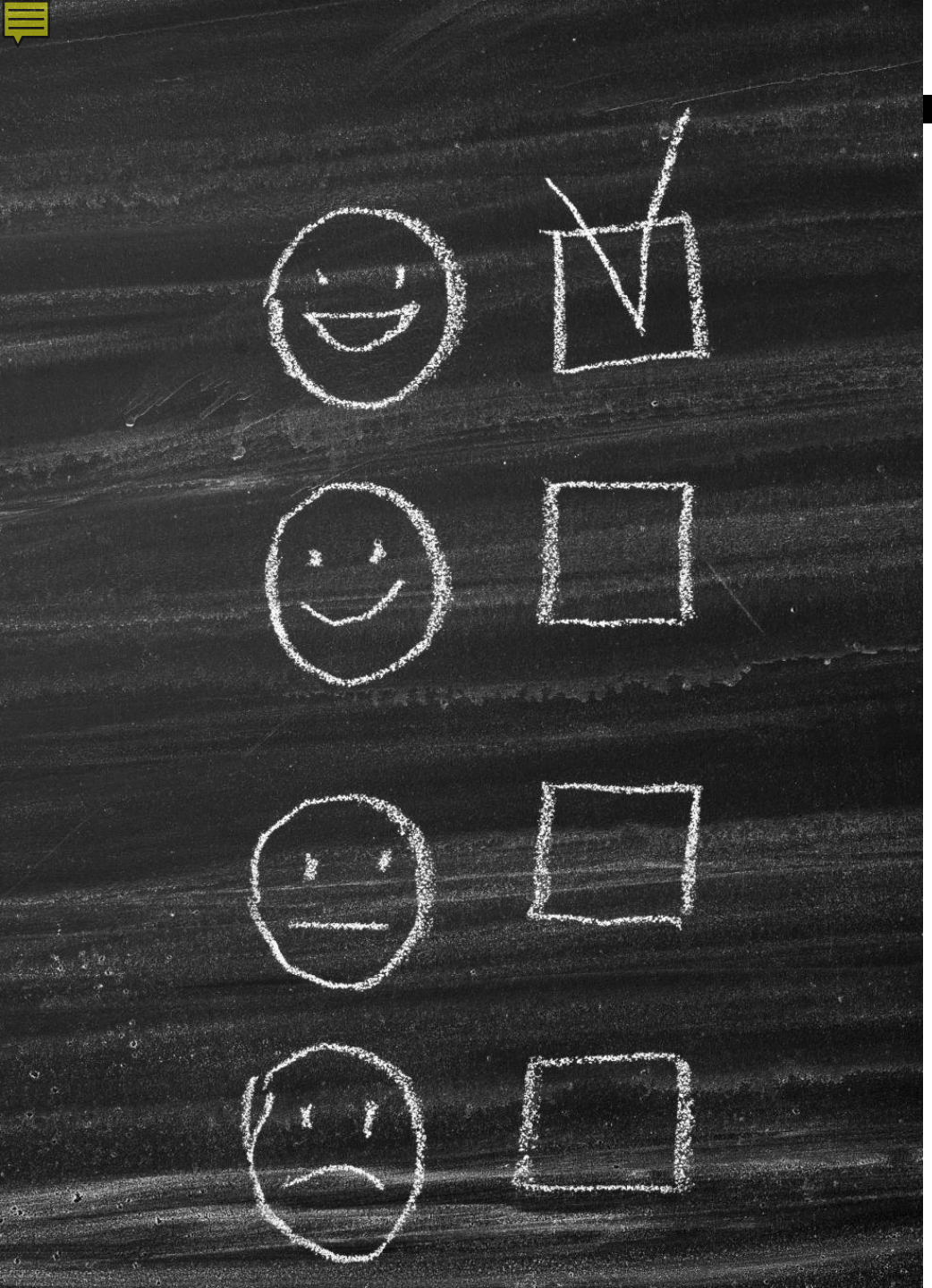
Ensuring Relevance

Proper alignment guarantees that assessments are relevant and meaningful to the intended learning goals.



Evaluating Student Progress

Aligned assessments provide accurate evaluation of student progress toward meeting learning outcomes.



Validity, Reliability, and Fairness

Validity Definition

Validity ensures assessments accurately measure intended knowledge or skills.

Reliability Meaning

Reliability produces consistent results under varying testing conditions.

Fairness Principle

Fairness guarantees no bias and equal chances for all learners.

Transparency and Clarity in Assessment Criteria

Clear Expectations

Transparent criteria allow students to clearly understand what is expected in their work and evaluations.

Supports Learning

Clear criteria provide a roadmap that helps students focus their learning and improve performance effectively.

Reduces Anxiety

Knowing how their work will be evaluated reduces student stress and builds confidence.

Steps in Designing an Assessment

Identifying Assessment Goals and Objectives

Define Assessment Focus

Identify the specific knowledge, skills, or attitudes that the assessment will evaluate to ensure clarity.

Set Clear Goals

Establish clear goals to guide the selection of appropriate assessment methods and evaluation criteria.

Choosing Appropriate Assessment Methods and Formats

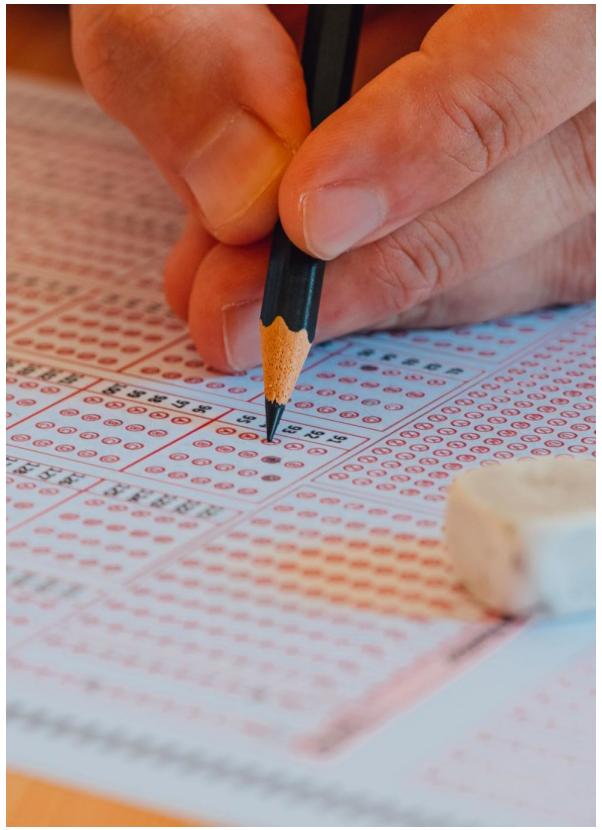
Assessment Methods Variety

Choose from tests, projects, presentations, or portfolios to best capture targeted learning outcomes.

Alignment with Objectives

Select assessment formats that align closely with learning objectives and meet learner needs effectively.

Developing Rubrics and Scoring Guides



Purpose of Rubrics

Rubrics provide clear, detailed descriptions of performance criteria to guide evaluation.

Consistent Evaluation

Rubrics help promote consistent and objective evaluation across different learners and tasks.

Learner Feedback

Rubrics provide feedback to learners on their strengths and areas for improvement.

Best Practices and Common Challenges

Creating Inclusive and Accessible Assessments

Universal Design Principles

Incorporate universal design principles to make assessments accessible for all learners regardless of background or ability.

Providing Necessary Accommodations

Offer necessary accommodations to support learners with disabilities or unique needs during assessments.

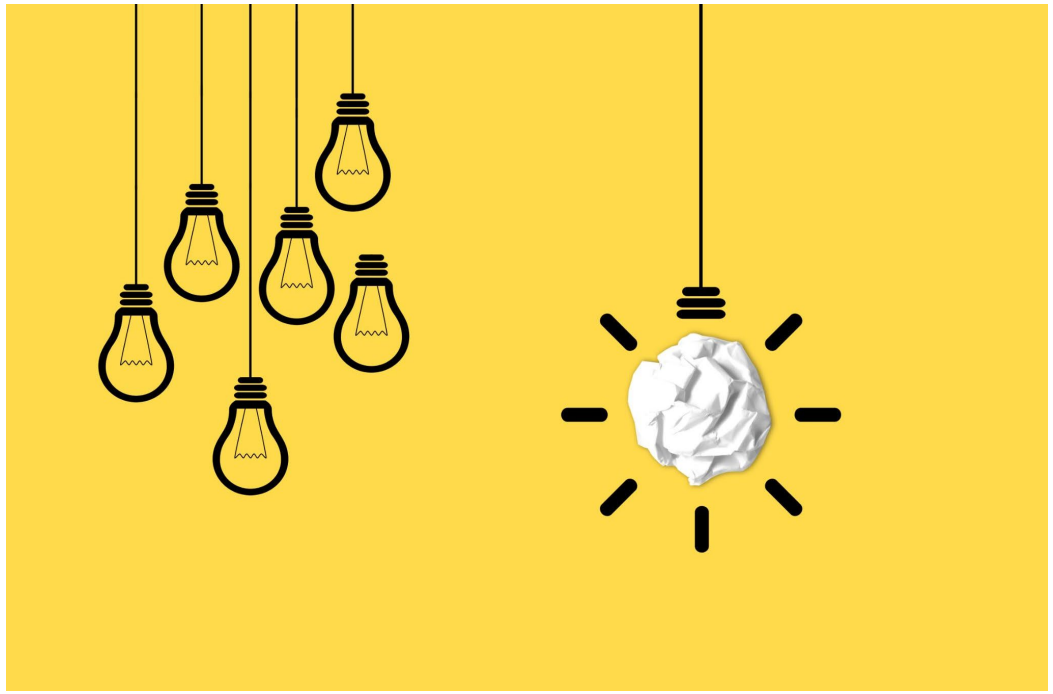
Providing Meaningful Feedback

Timely Feedback

Providing feedback promptly helps learners understand their progress while it is still relevant.

Constructive Guidance

Constructive feedback highlights strengths and suggests specific areas for improvement.



Addressing Common Pitfalls and Misconceptions

Avoid Overemphasizing Grades

Focus on holistic evaluation rather than just grades to support meaningful learning and growth.

Clarify Evaluation Criteria

Define clear, transparent assessment criteria to ensure fairness and understanding among evaluators and learners.

Align Assessments Properly

Ensure assessments align with learning objectives to improve the relevance and accuracy of evaluations.

Correct Misconceptions

Identify and address misconceptions promptly to enhance learner understanding and evaluation effectiveness.

Conclusion

Importance of Assessment Design

Effective assessment design is crucial for maintaining and improving the quality of education.

Core Concepts Understanding

Understanding key assessment concepts helps educators align evaluation with learning goals.

Structured Design Process

Following a structured approach ensures assessments are purposeful and effective.

Best Practices Implementation

Implementing best practices enhances the support assessments provide for student learning.

Session 2: Principles of Question Development

Principles of Question Development: Crafting Effective and Insightful Questions

Foundations for creating clear and purposeful inquiries

Understanding the Purpose of Question Development

Defining the Objectives and Outcomes

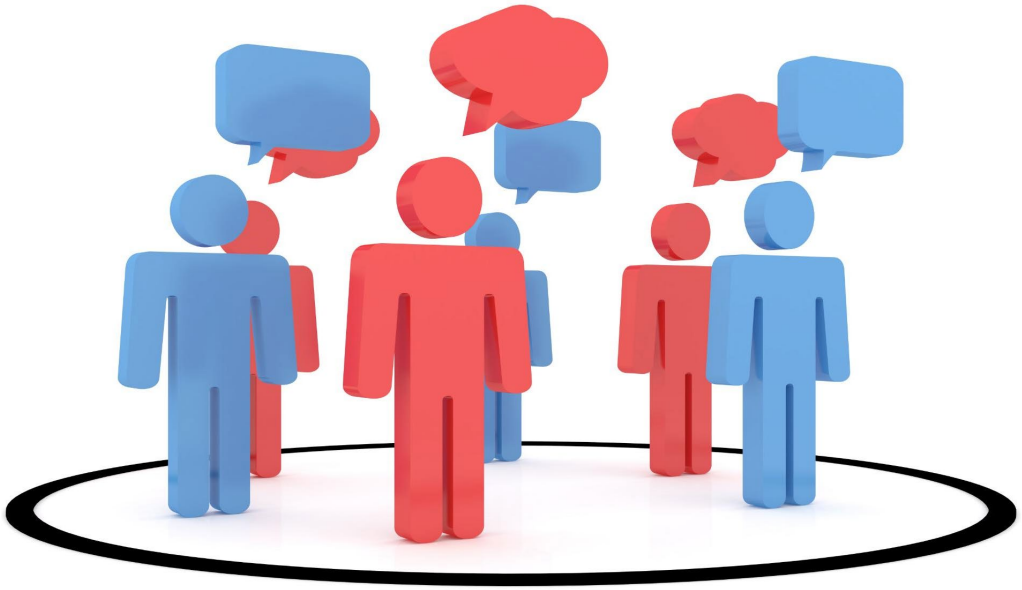
Purposeful Questions

Clearly defined objectives help create questions that are focused and relevant to the discussion goals.

Alignment with Goals

Defining expected outcomes ensures all inquiries align with the overall goals and assessment criteria.

Identifying the Audience and Context



Know Your Audience

Identifying the audience ensures questions are relevant and meaningful to their needs and background.

Understand Context

Considering the setting of the questions improves appropriateness and accessibility in communication.

Distinguishing Between Different Types of Questions

Open-ended Questions

Open-ended questions encourage detailed responses and promote discussion and exploration of ideas.

Closed-ended Questions

Closed-ended questions yield specific, concise answers, often yes/no or multiple choice.

Factual vs Analytical Questions

Factual questions seek objective information; analytical questions require deeper reasoning and explanation.

Evaluative Questions

Evaluative questions prompt judgment and critical assessment based on criteria or evidence.

Key Components of Well-Constructed Questions

Clarity and Specificity of Language

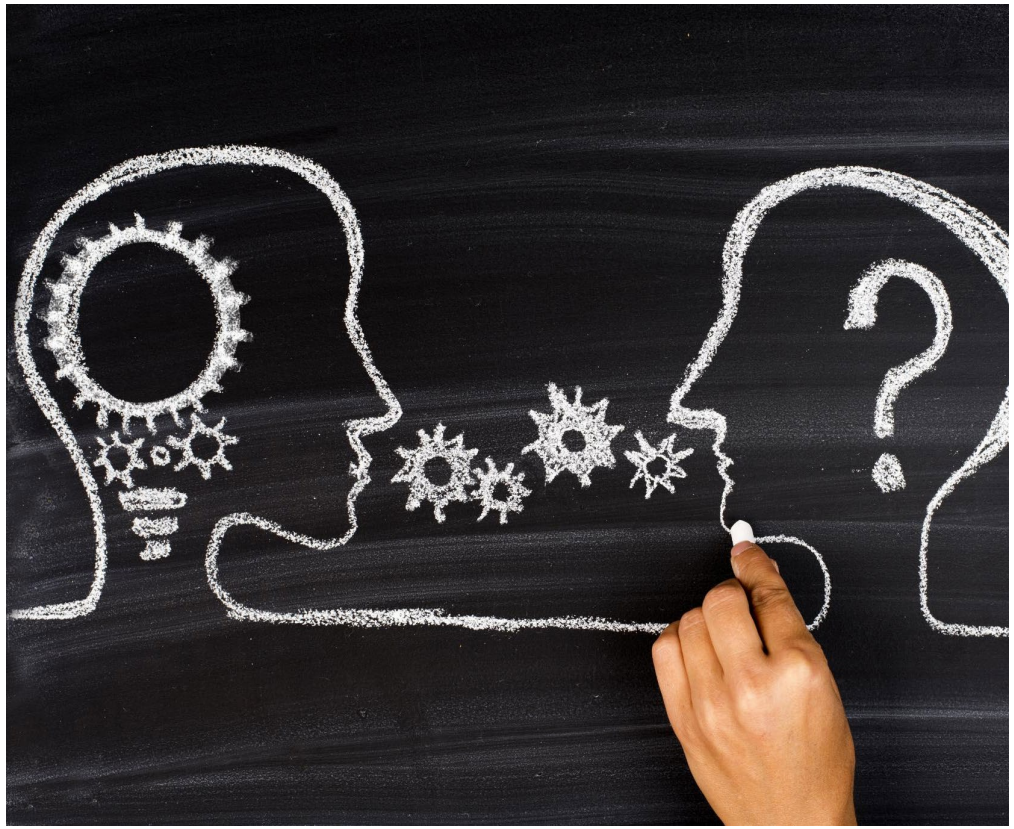
Use Clear Language

Questions should be framed using clear language to prevent misunderstandings.

Ensure Specificity

Specific wording helps respondents grasp the exact meaning of questions.

Relevance to the Topic or Objective



Direct Relevance

Questions must align closely with the subject matter to ensure clarity and purpose in discussions.

Maintaining Focus

Relevant questions help maintain focus, keeping engagement meaningful and on-topic.

Alignment with Desired Cognitive Levels

Recall Level

Recall questions test memory by asking respondents to remember facts or information.

Analysis Level

Analysis questions require breaking down information to examine relationships and patterns.

Evaluation Level

Evaluation questions challenge respondents to judge or make decisions based on criteria.

Types of Questions and Their Applications

Open-Ended vs Closed-Ended Questions

Open-Ended Questions

Encourage detailed responses and deeper insight, promoting discussion and exploration of ideas.

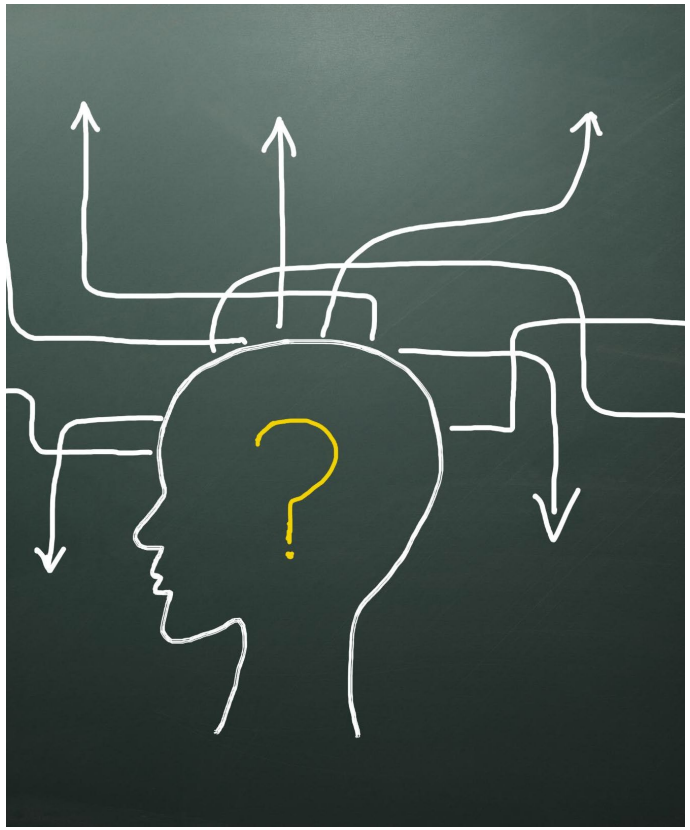
Closed-Ended Questions

Lead to brief, specific answers useful for obtaining clear, concise information quickly.

Contextual Advantages

Each question type serves different purposes depending on the situation and information needed.

Factual, Analytical, and Evaluative Questions



Factual Questions

Factual questions test recall of specific information and straightforward facts.

Analytical Questions

Analytical questions evaluate understanding through reasoning and connecting ideas.

Evaluative Questions

Evaluative questions require judgment, critical thinking, and decision making.

Choosing the Appropriate Format for Assessment or Inquiry

Multiple-Choice Format

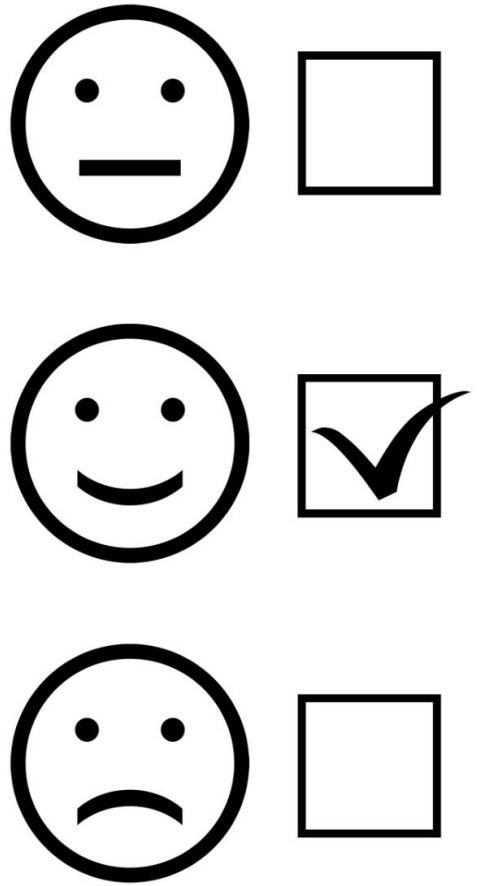
Multiple-choice questions provide clear options and are effici for assessing factual knowledge.

Essay Format

Essay questions allow respondents to express detailed understanding and critical thinking.

Alignment with Purpose

Choosing formats that align with assessment goals improves accuracy and respondent engagement.



Common Pitfalls and How to Avoid Them

Ambiguity and Leading Questions

Impact of Ambiguity

Ambiguous questions often confuse respondents, leading to inaccurate or unreliable answers.

Effect of Leading Questions

Leading questions can bias responses by suggesting a preferred answer, compromising data integrity.

Importance of Clarity

Using clear, neutral wording in questions helps collect accurate and unbiased information.

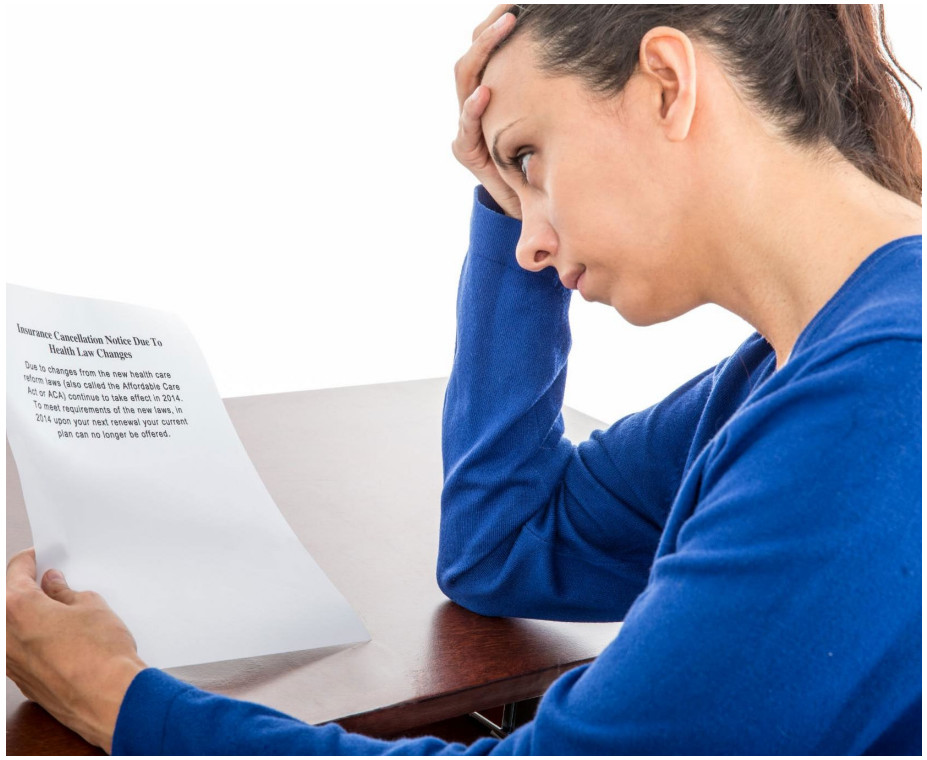
Overly Complex or Confusing Phrasing

Impact of Complex Questions

Overly complex questions can confuse and overwhelm respondents, reducing the accuracy of their answers.

Benefits of Simplicity

Using simple and straightforward phrasing enhances respondents' understanding and improves data quality.



Cultural and Contextual Insensitivity

Cultural Sensitivity Importance

Designing questions with cultural awareness promotes fairness and respects diverse backgrounds.

Contextual Appropriateness

Tailoring questions to the audience context ensures they are relevant and inclusive.

Ensuring Fairness

Culturally sensitive questions help create fair and unbiased environments for all participants.

Best Practices and Strategies for Effective Question Development

Iterative Review and Refinement

Continuous Improvement

Regularly revisiting questions enhances clarity and ensures continuous improvement in understanding.

Issue Identification

Repeated reviews help detect problems and ambiguities in questions early in the process.

Alignment and Relevance

Refinement ensures questions remain aligned with goals and relevant to the intended audience.

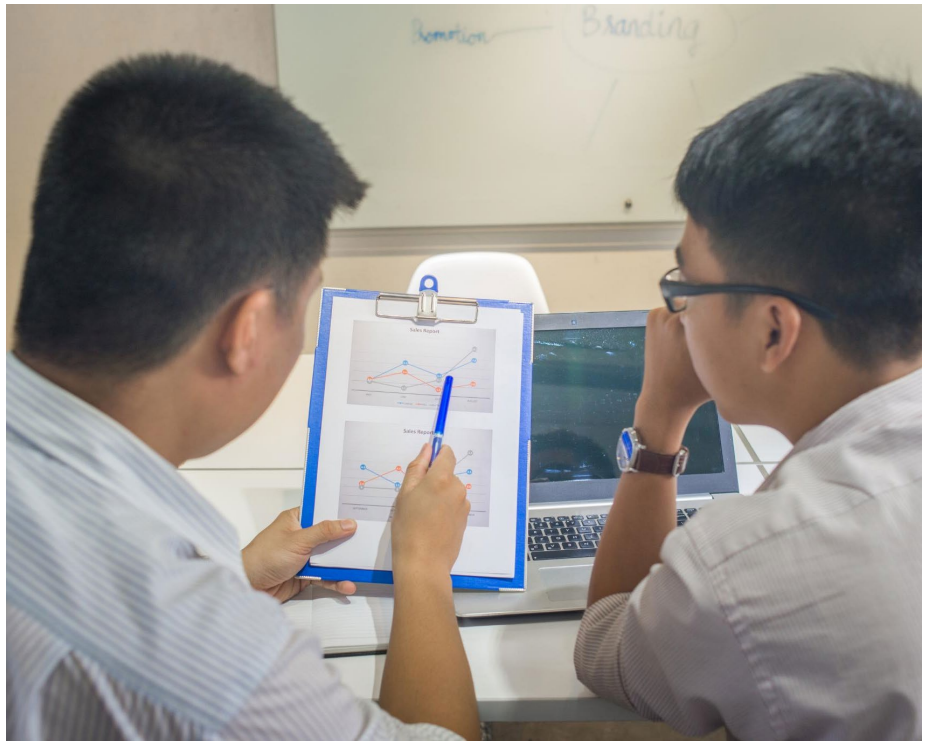
Pilot Testing and Feedback Incorporation

Pilot Testing Importance

Testing questions helps identify issues before full deployment, ensuring clarity and effectiveness.

Feedback Integration

Incorporating feedback enhances question relevance and respondent engagement.



Ensuring Fairness and Inclusivity

Accessibility in Question Design

Questions should be designed to be understandable and usable by all respondents regardless of abilities.

Avoiding Bias

Questions must avoid language or assumptions that could cause bias or unfairness in responses.

Promoting Inclusive Participation

Ensuring all groups feel represented and encouraged to participate fosters fairness.

Conclusion

Purpose Understanding

Effective questions start with a clear understanding of their purpose to guide communication and assessment.

Clarity and Relevance

Questions should be clear and relevant to maintain engagement and ensure accurate responses.

Best Practices

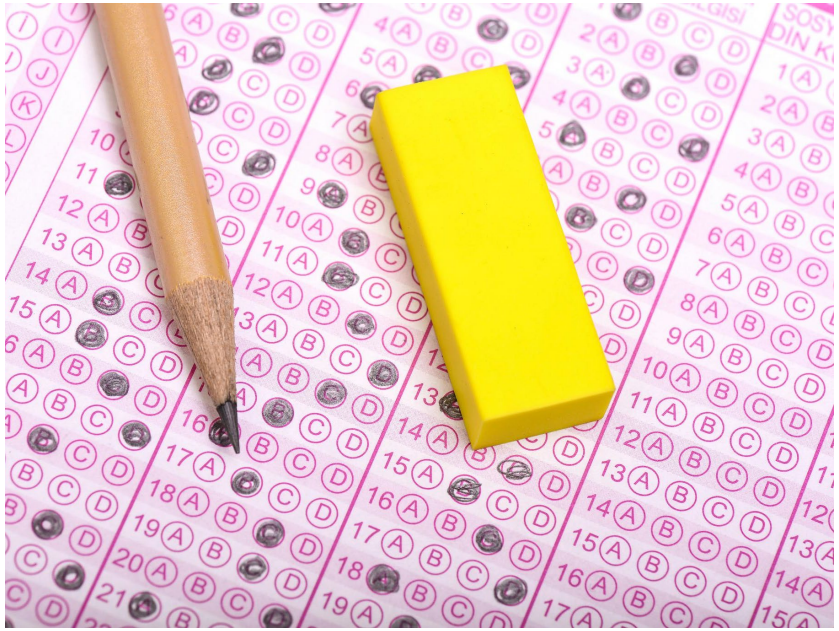
Applying best practices and avoiding common pitfalls improves inquiry outcomes.

Session 3: Constructing Different Types of Assessment Questions

CONSTRUCTING DIFFERENT TYPES OF ASSESSMENT QUESTIONS: STRATEGIES FOR EFFECTIVE EVALUATION

Techniques to create meaningful and aligned evaluations

AGENDA OVERVIEW



- Overview of Assessment Question Types
- Objective Question Formats
- Constructed-Response Question Types
- Performance-Based and Alternative Assessment Questions
- Best Practices for Writing Assessment Questions

OVERVIEW OF ASSESSMENT QUESTION TYPES

PURPOSE AND SIGNIFICANCE OF ASSESSMENT QUESTIONS

Measuring Knowledge and Skills

Assessment questions effectively measure learners' knowledge, skills, and competencies in various subjects and contexts.

Providing Feedback

Assessments provide valuable feedback that helps learners understand their strengths and areas for improvement.

Guiding Future Instruction

Assessment results guide instructors in tailoring future lessons to better meet learners' needs and improve outcomes.

Ensuring Accurate Evaluation

Well-crafted assessment questions ensure that learning outcomes are evaluated accurately and fairly.

FORMATIVE VS. SUMMATIVE ASSESSMENT

Formative Assessment

Ongoing assessments guide teaching and help adjust instruction during learning.

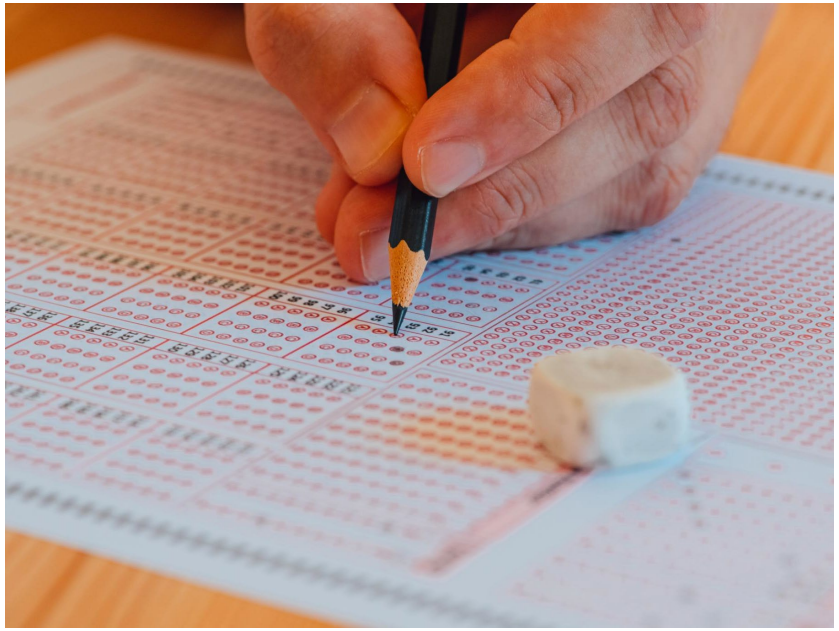
Summative Assessment

Evaluates overall student learning at the end of a course or instructional period.

Assessment Purpose

Question types are chosen based on whether assessment is formative or summative.

CRITERIA FOR EFFECTIVE ASSESSMENT QUESTIONS



Clarity and Precision

Questions must be clear and unambiguous to avoid confusion and ensure accurate measurement of knowledge.

Alignment with Objectives

Effective questions align directly with learning objectives to measure intended skills or knowledge accurately.

Fairness and Bias Avoidance

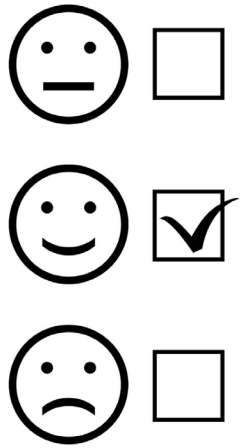
Questions should be unbiased and fair to provide an equal opportunity for all learners to demonstrate their understanding.

Appropriate Challenge Level

Questions must be suitably challenging to effectively assess the depth of learners' knowledge and skills.

OBJECTIVE QUESTION FORMATS

MULTIPLE-CHOICE QUESTIONS: STRUCTURE AND DESIGN



Components of MCQs

Multiple-choice questions include a stem, one correct answer, and several distractors to challenge the learner.

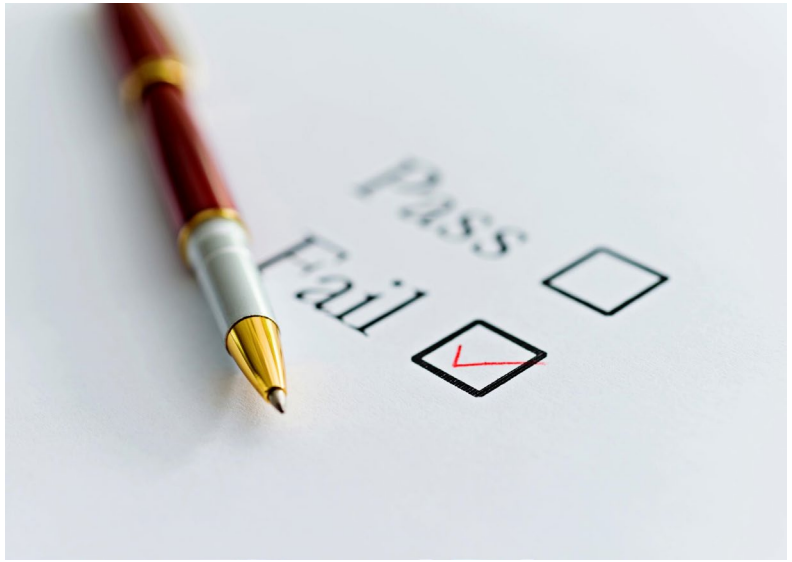
Plausible Distractors

Distractors should be believable to effectively test knowledge and avoid guesswork.

Clear Wording and Alignment

Questions must use clear language and align with learning goals for accurate assessment.

TRUE/FALSE AND MATCHING FORMATS



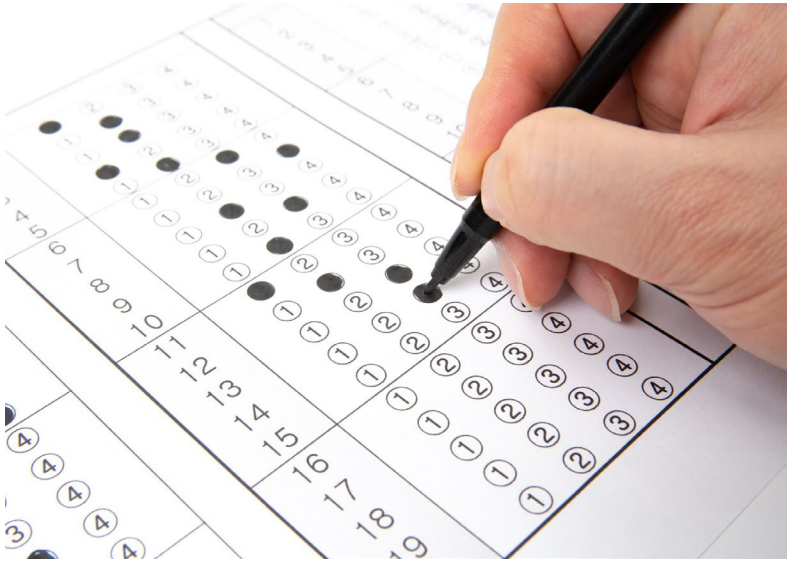
True/False Question Format

True/False questions are quick to answer and simple, but they may encourage guessing among respondents.

Matching Question Format

Matching questions test recognition by linking related concepts, needing careful design to avoid confusion.

ADVANTAGES AND LIMITATIONS OF OBJECTIVE QUESTIONS



Efficient Grading and Coverage

Objective questions enable quick grading and cover a wide range of content efficiently in assessments.

Limited Higher-Order Assessment

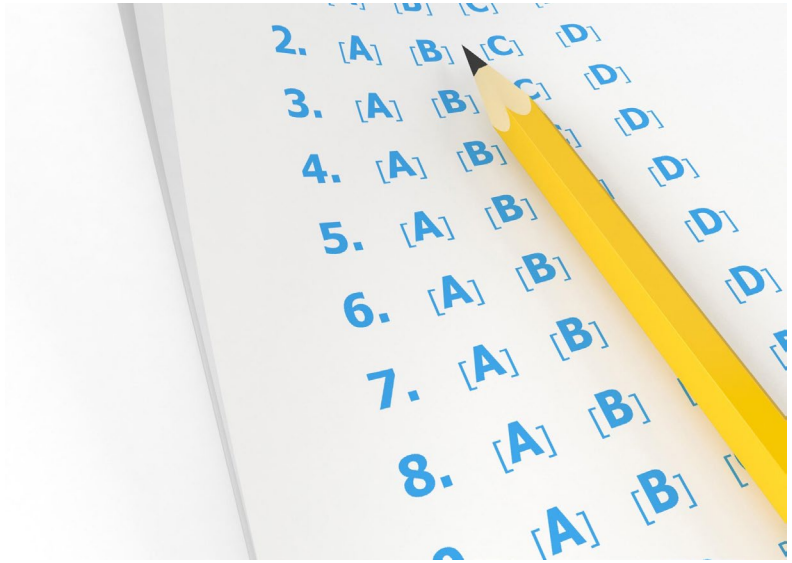
These questions may fail to evaluate complex reasoning and higher-order thinking skills effectively.

Guessing Encouragement

Objective questions may encourage guessing, potentially affecting the accuracy of assessment results.

CONSTRUCTED-RESPONSE QUESTION TYPES

SHORT ANSWER AND FILL-IN-THE-BLANK QUESTIONS



Concise Response Requirement

These question types require short, precise answers that demonstrate recall or basic understanding.

Clarity and Precision

Precise wording is essential to prevent ambiguity and ensure students understand the expected answer.

Objective Scoring

These questions allow easier objective grading by using exact answers where possible.

ESSAY AND EXTENDED RESPONSE QUESTIONS

Critical Thinking Demonstration

Essay questions allow students to showcase critical thinking and synthesis skills through detailed responses.

Subjective Scoring Challenges

Scoring essays can be subjective, requiring clear guidelines to ensure fair evaluation across responses.

Use of Rubrics for Consistency

Well-developed scoring rubrics help maintain consistency and clarity in essay evaluations.

SCORING AND RUBRIC DEVELOPMENT

Purpose of Rubrics

Rubrics establish clear criteria for scoring responses to maintain transparency and fairness in evaluation.

Alignment with Learning Objectives

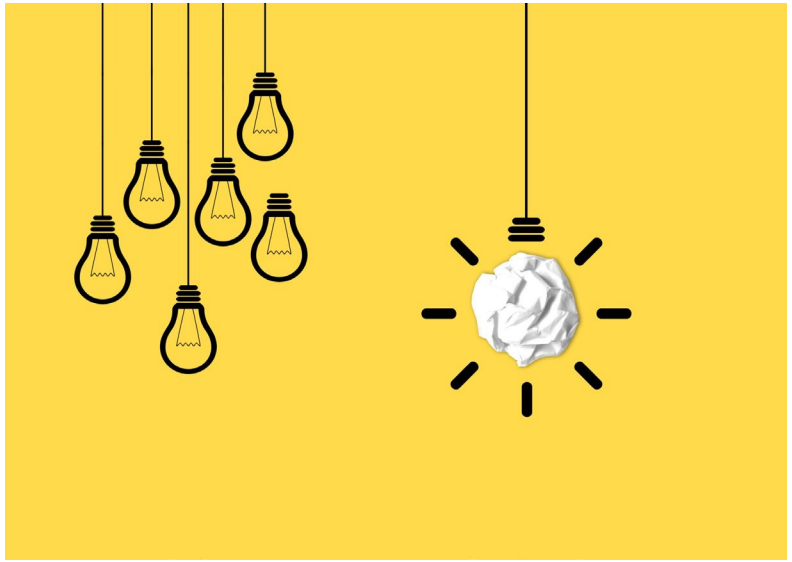
Effective rubrics are aligned with learning objectives to ensure accurate measurement of student performance.

Clear Performance Levels

Rubrics describe distinct levels of performance, helping assessors differentiate quality in responses.

PERFORMANCE-BASED AND ALTERNATIVE ASSESSMENT QUESTIONS

SCENARIO-BASED AND PROBLEM-SOLVING QUESTIONS



Realistic Situations

Scenario-based questions immerse learners in real-life contexts to apply their knowledge effectively.

Higher-Order Thinking

These questions evaluate learners' abilities to analyze, evaluate, and create solutions beyond basic recall.

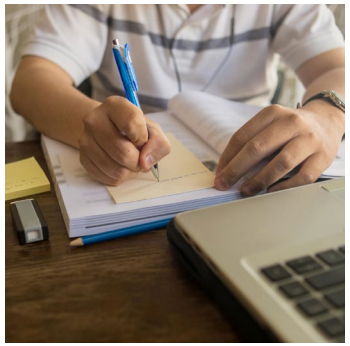
Decision-Making Abilities

Problem-solving questions assess learners’ skills in making informed decisions based on knowledge application.

PORTFOLIO AND PROJECT-BASED ASSESSMENTS

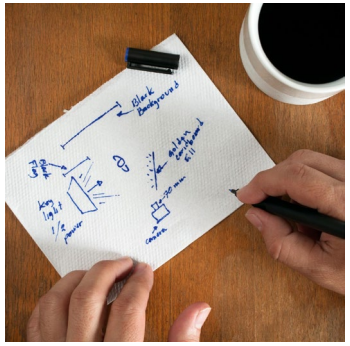
Cumulative Learning Showcase

Portfolios compile diverse work samples showing learners' progress and accumulated knowledge over time.



Creativity and Reflection

Projects encourage creativity and include reflective components to deepen understanding and insight.



Skill Demonstration

Assessments highlight the demonstration of complex skills and practical application in real-world contexts.

ORAL AND PRACTICAL EXAMINATIONS

Oral Examination Purpose

Oral exams evaluate verbal communication skills and reasoning abilities of students in a structured format.

Practical Examination Role

Practical exams test hands-on skills through tasks or demonstrations relevant to the subject matter.

Use of Standardized Checklists

Standardized checklists enhance fairness and clarity by providing clear evaluation criteria for both exam types.

BEST PRACTICES FOR WRITING ASSESSMENT QUESTIONS

ALIGNING QUESTIONS WITH LEARNING OBJECTIVES

Direct Measurement

Questions should directly evaluate the specific learning outcomes intended by the curriculum.

Ensuring Validity

Alignment ensures assessments are meaningful and valid indicators of student understanding.

Guiding Content and Format

Aligned questions guide the selection of appropriate content and assessment formats for learners.

AVOIDING BIAS AND ENSURING CLARITY

Impact of Bias

Bias distorts assessment results and undermines fairness in evaluations.

Inclusive Language

Using inclusive language ensures questions are respectful and accessible to all.

Clear and Neutral Content

Clear wording and culturally neutral content help create equitable questions for learners.

REVIEWING AND REVISING ASSESSMENT ITEMS

Improving Question Quality

Regular review and revision enhance the clarity and effectiveness of assessment questions.

Role of Peer Feedback

Feedback from peers helps identify issues in question clarity, difficulty, and alignment.

Pilot Testing Benefits

Pilot testing enables early detection of problems, improving assessment reliability and validity.

CONCLUSION

Importance of Effective Questions

Effective assessment questions are essential for accurately evaluating student learning outcomes.

Understanding Question Formats

Knowing various question formats helps educators design assessments that suit different learning objectives.

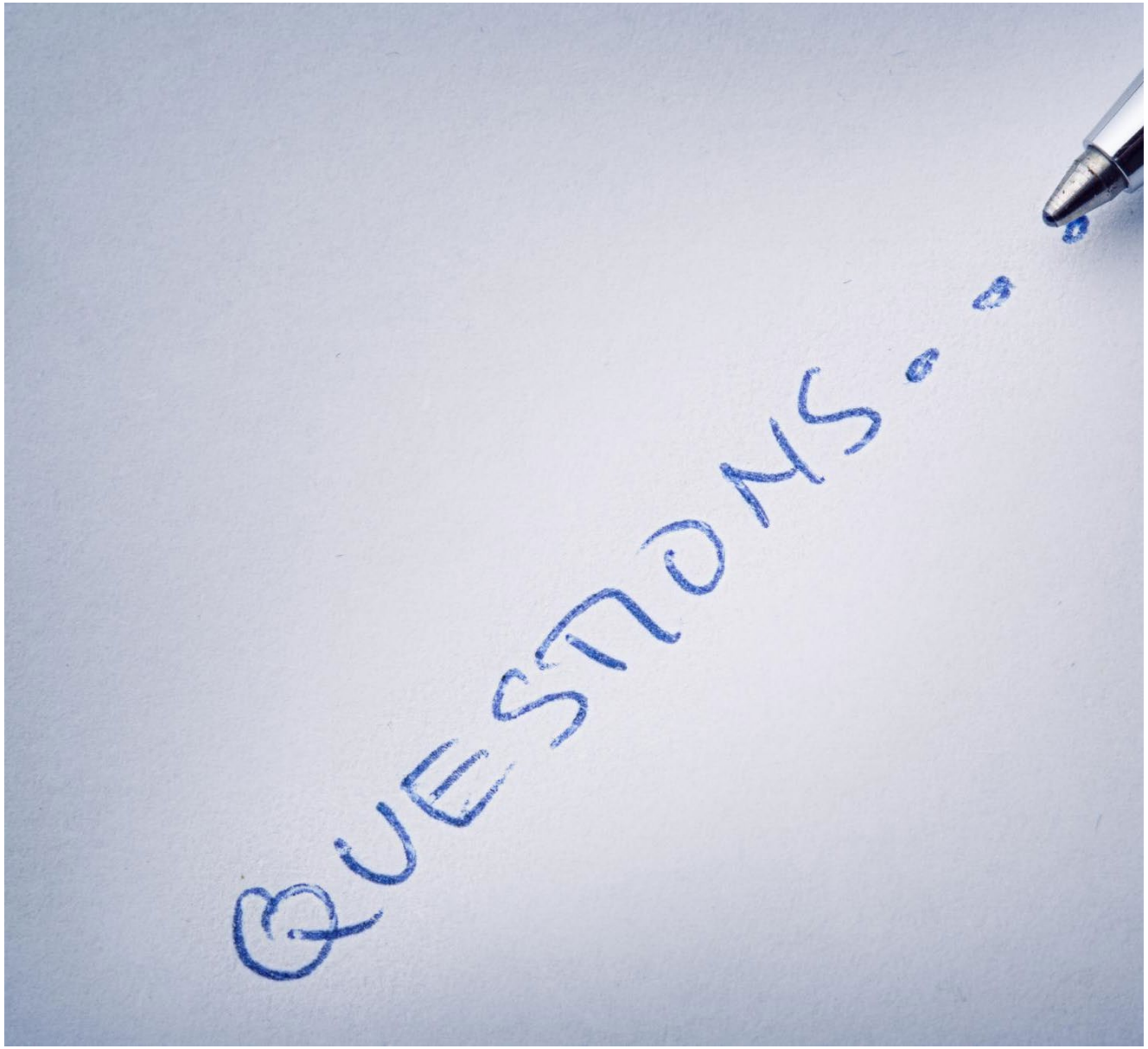
Applying Best Practices

Implementing best practices in question design ensures fairness, reliability, and meaningfulness in assessments.

Session 4: Reviewing, Vetting & Improving Questions

Reviewing, Vetting, and Improving Questions: Best Practices for Effective Inquiry

Techniques to enhance question quality and understanding



Key Steps for Effective Questioning

- Understanding the Importance of Quali Questions
- Reviewing Questions: Techniques and Criteria
- Vetting Questions: Ensuring Suitability a Accuracy
- Improving Questions: Strategies for Enhancement

Understanding the Importance of Quality Questions

Role of Questions in Knowledge Acquisition

Driving Information Gathering

Questions initiate the search for information, enabling effective knowledge acquisition and learning processes.

Stimulating Critical Thinking

Asking questions encourages analysis and evaluation, enhancing deeper understanding and problem-solving skills.

Identifying Knowledge Gaps

Questions reveal missing information, guiding learners to areas that require further exploration and study.

Impact of Well-Formed Questions on Outcomes

Accurate Responses

Well-formed questions help generate precise and relevant answers that address the core issues effectively.

Improved Problem Solving

Clear questions guide thinking towards solutions, enhancing the problem-solving process significantly.

Enhanced Engagement

Thoughtful questions increase participation and engagement by directing attention to relevant topics.

Focused Communication

Well-crafted questions improve clarity and focus in communication, reducing misunderstandings.

Common Issues with Poorly Constructed Questions

Vague Questions

Vague questions confuse respondents by lacking clear meaning, leading to inconsistent or incomplete answers.

Leading Questions

Leading questions bias respondents by suggesting a particula answer, compromising data reliability.

Overly Complex Questions

Complex questions overwhelm respondents with difficult wording, reducing the quality of responses.

Reviewing Questions: Techniques and Criteria

Assessing Clarity and Relevance

Clear and Concise Questions

Questions must be straightforward and brief to enhance comprehension and focus on the main topic.

Direct Topic Relevance

Ensure questions directly relate to the intended topic or goal for maximum effectiveness and clarity.

Logical Structure

Organize questions logically to facilitate understanding and remove unnecessary jargon.

Identifying Ambiguity and Bias

Detecting Vague Wording

Reviewers identify ambiguous or unclear terms that may cause varied interpretations in responses.

Avoiding Assumptions

Assumptions that influence responses unfairly must be recognized and eliminated from questions.

Ensuring Neutrality

Questions should be neutral and straightforward to prevent bias and maintain fairness.

Evaluating Alignment with Objectives

Purposeful Questioning

Questions must align with the main goals to ensure relevance and clarity in inquiry or assessment.

Goal Alignment

Alignment with objectives guarantees that answers are useful and support decision-making processes.

Vetting Questions: Ensuring Suitability and Accuracy

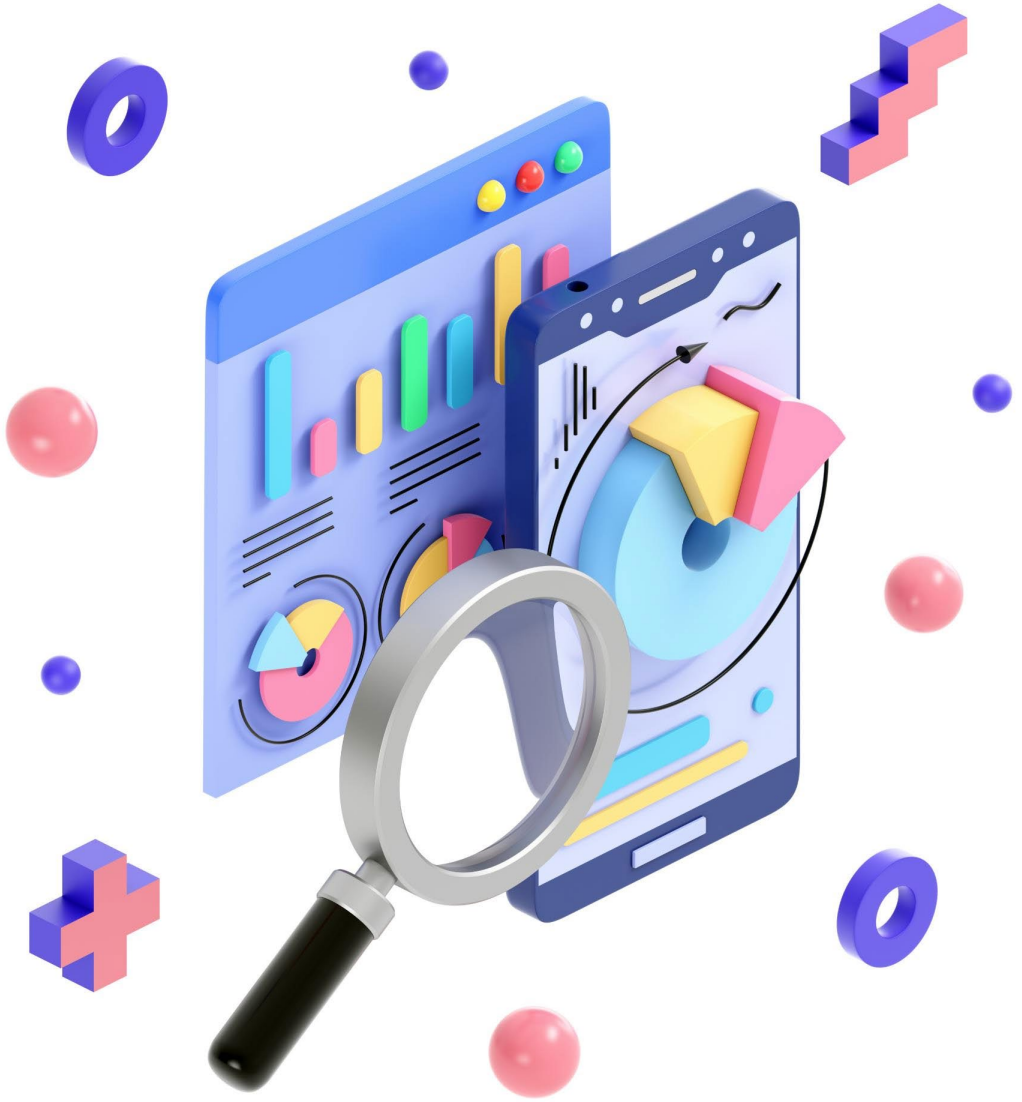
Fact-Checking and Verifying Information

Importance of Verification

Verifying information ensures accuracy and prevents the spread of misinformation in research and inquiries.

Maintaining Credibility

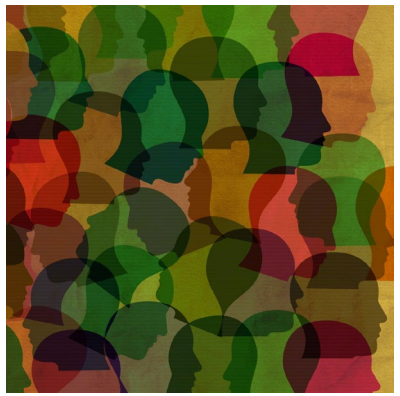
Accurate information maintains credibilit and trustworthiness in any research or inquiry context.



Ensuring Appropriateness for the Audience

Tailor to Knowledge Level

Adjust questions to match the audience's expertise to enhance understanding and engagement.



Respect Cultural Background

Consider cultural differences to ensure questions are respectful and inclusive.

Be Sensitive to Audience

Avoid topics or language that may offend to maintain a respectful communication environment.

Adhering to Ethical and Legal Standards

Respecting Privacy

Ensure questions protect individual privacy by avoiding sensitive or personal information disclosure.

Avoiding Discrimination

Formulate questions that are inclusive and free from bias related to race, gender, or other characteristics.

Compliance with Regulations

Follow relevant ethical guidelines and legal regulations to maintain integrity and protect participants.

Improving Questions: Strategies for Enhancement

Rewriting for Clarity and Precision

Simplify Language

Use straightforward language to make questions easier to understand and reduce confusion.

Eliminate Ambiguity

Remove vague terms and unclear phrasing to ensure precise meaning and avoid misinterpretation.

Specify Response Type

Clearly define the expected answer format to improve respons accuracy and relevance.

Incorporating Feedback From Stakeholders

Collaborative Review Process

Engaging colleagues fosters diverse perspectives and uncovers potential improvements in questions.

Expert Validation

Subject matter experts ensure questions are accurate and relevant to the field.

User-Centered Feedback

Involving target users helps tailor questions to meet diverse audience needs effectively.

Using Frameworks and Templates for Consistency

Ensures Uniform Quality

Using frameworks standardizes question quality, making assessments fair and reliable across different contexts.

Facilitates Comparison

Templates enable easy comparison of questions, aiding evaluation and selection during development.

Streamlines Development

Established frameworks speed up the design process by providing clear guidelines and reusable structures.

Conclusion: Mastering Effective Questioning

Importance of Quality Questions

Quality questions drive better inquiry outcomes and deeper understanding in communication.

Best Practices in Reviewing

Reviewing and vetting questions ensures clarity and relevance for effective communication.

Supporting Informed Decisions

Effective questioning fosters informed decision-making and clearer communication outcomes.

Topic 1: Course Learning Outcomes, Bloom's Taxonomy And Assessment: How Are They Interrelated?

At the end of the presentation, the participants will be able to:

• Explain the important of CLO

• Discuss how Bloom's taxonomy guides the CLO development

• Describe how V-C-S principles are applied in CLO development

• Clarify how CLO and Bloom's taxonomy is applied in the assessment

Levels of Learning	***Action Verbs***
Level 6: Creating	*Create: generating, planning, producing, composing*
Level 5: Evaluating	*Evaluate: checking, critiquing, assessing, concluding*
Level 4: Analysing	*Analyse: differentiating, organizing, attributing, comparing, outlining*
Level 3: Applying	*Apply: executing, implementing, classifying, calculating, constructing*
Level 2: Understanding	*Understand: interpreting, exemplifying, classifying, summarizing, inferring, comparing, explaining*
Level 1: Remembering	*Remember: recognizing, recalling, describing, listing*

LEARNING OUTCOMES DEVELOPMENT

THE 3 DOMAINS OF EDUCATIONAL GOALS

- Cognitive -The Head
- Psychomotor -The Hand
- Affective -The Heart

LOW and HIGH.... WHICH ONE?

Cognitive

Evaluation

Synthesis

Analysis

Application

Comprehension

Knowledge

Affective

Internalizing

Organisation

Valuing

Responding

Receiving

Psychomotor / skills

Naturalization

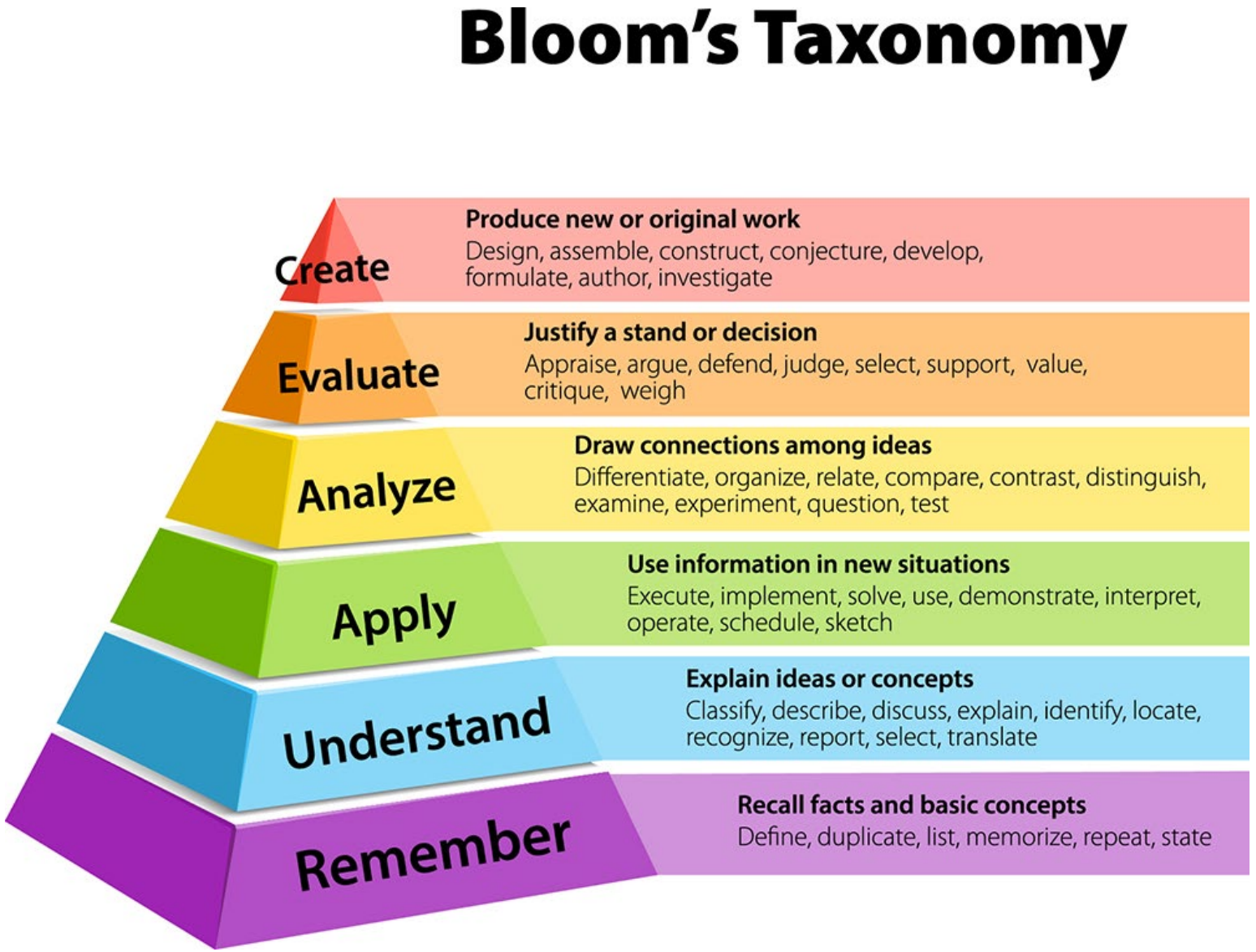
Articulation

Precision

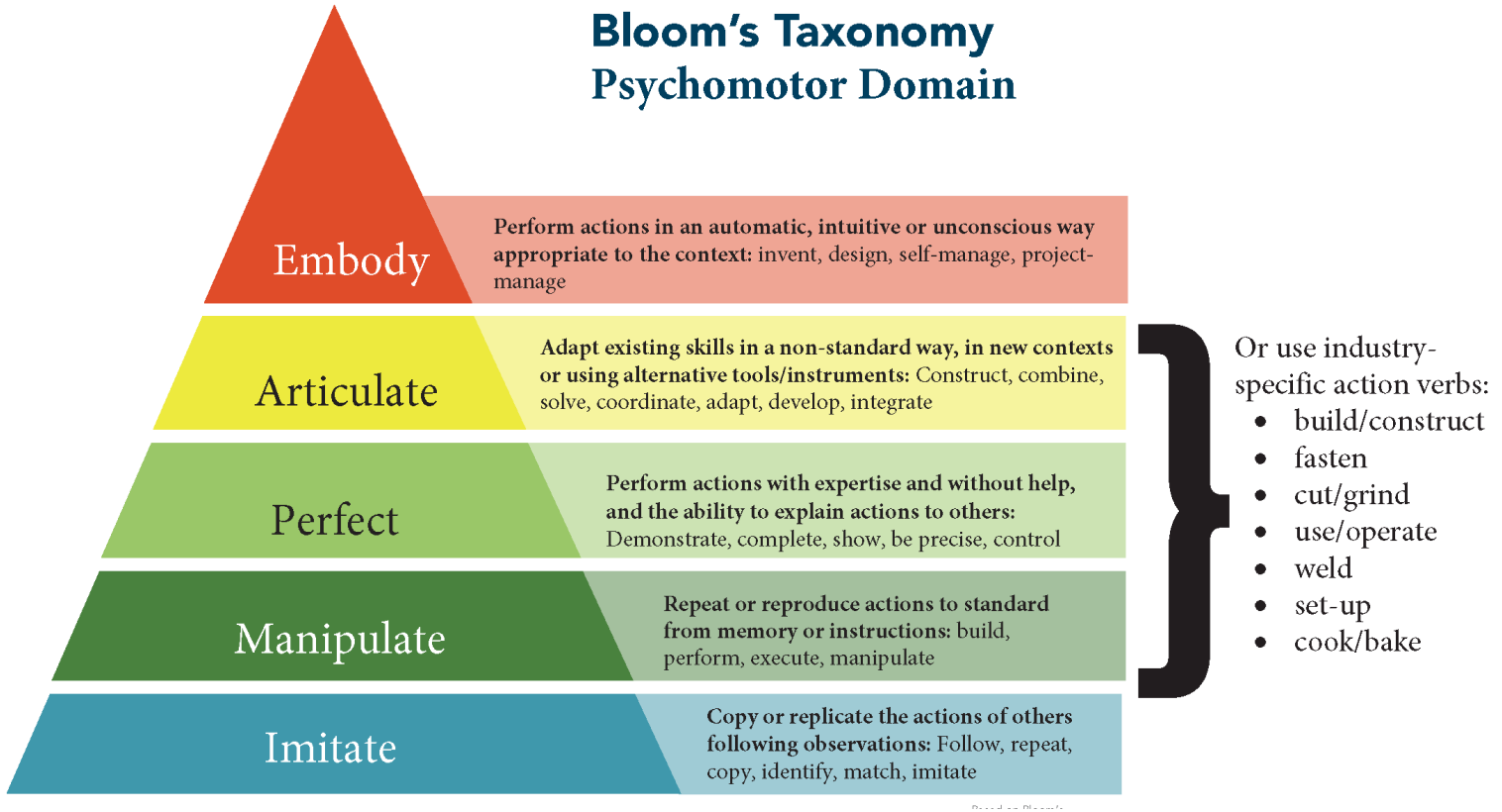
Manipulation

Imitation

The development of intellectual skills cognitive domain



PSYCHOMOTOR DOMAIN INCLUDES PHYSICAL MOVEMENT, COORDINATION & USE OF THE MOTOR SKILL AREAS



Bloom's Taxonomy - Affective

WRITING YOUR LEARNING OUTCOMES

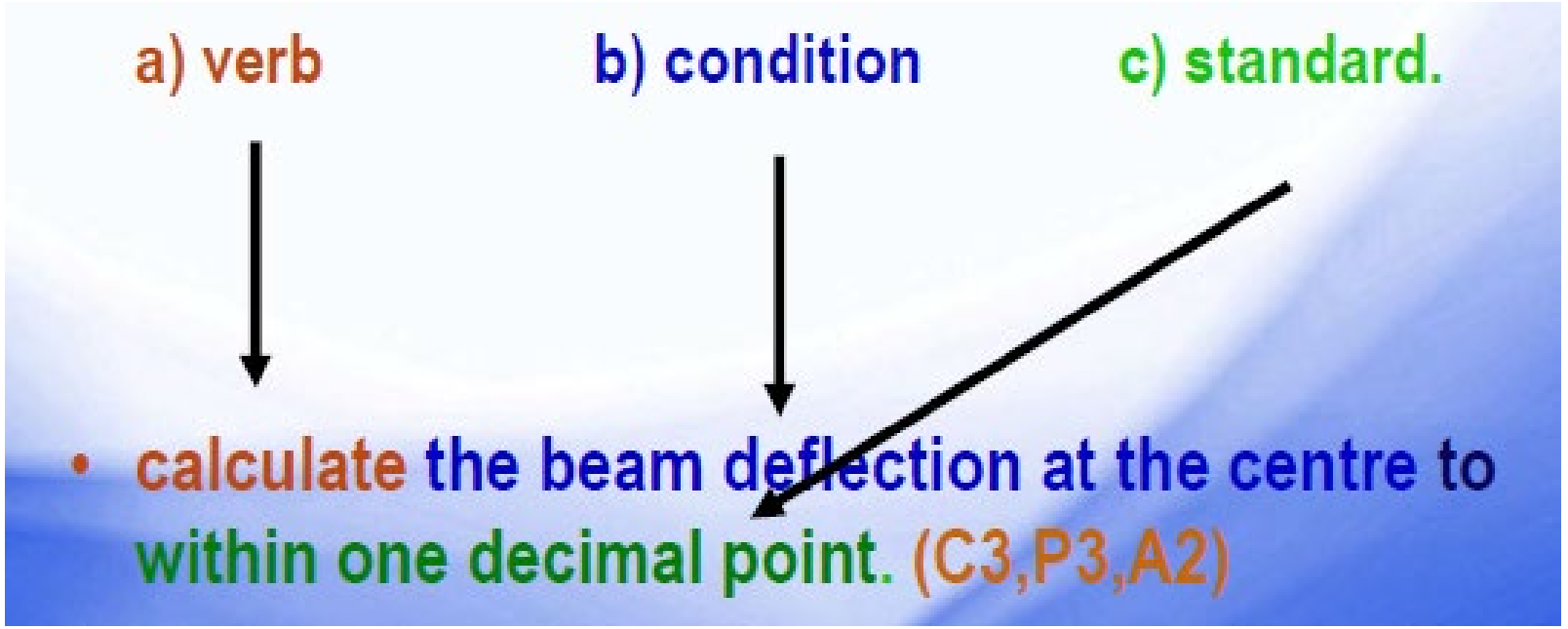
Well-written verbs must be

- Specific
- Measurable
- Achievable
- Realistic
- Time frame
- Observable

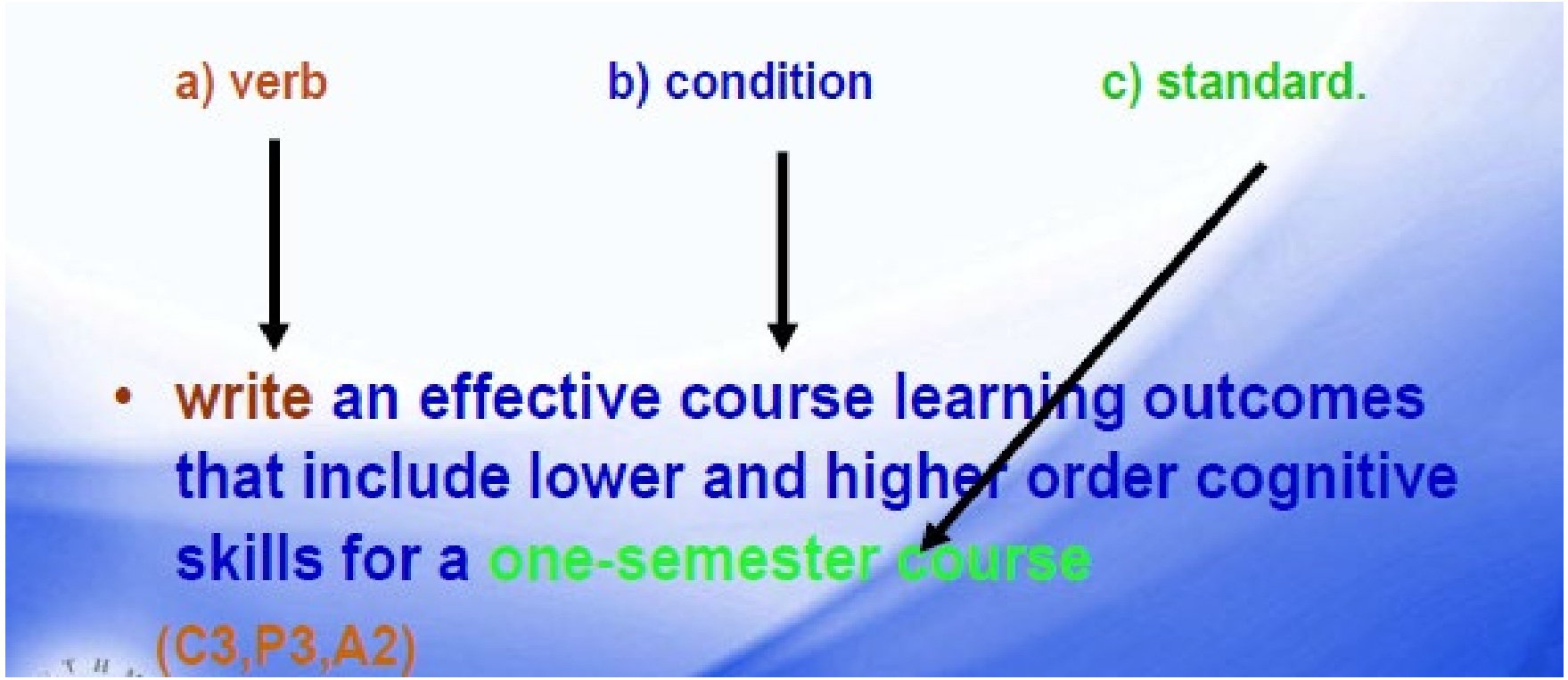
Avoid these words

- understand
- appreciate
- know
- learn
- aware
- familiar

LEARNING OUTCOMES: EXAMPLE 1



LEARNING OUTCOMES: EXAMPLE 2



Change in Functional Knowledge / Comprehension

Knowledge (Remember Information)	Comprehension ("Understand" or Organize Shared Information)
☐ Characterize ☐ Collect ☐ Define ☐ Describe ☐ Identify ☐ Indicate ☐ Label ☐ List ☐ Match ☐ Name ☐ Quote ☐ Read ☐ Recall ☐ Recognize ☐ Record ☐ Select ☐ State ☐ Tabulate ☐ Tell	☐ Associate ☐ Classify ☐ Compare ☐ Convert ☐ Describe ☐ Differentiate ☐ Discuss ☐ Distinguish ☐ Estimate ☐ Explain ☐ Express ☐ Generate ☐ Interpret ☐ Locate ☐ Paraphrase ☐ Summarize ☐ Translate

Explore Attitudes / Beliefs

Value (Attach Significance to Ideas)		Characterization (Develop Personal Approach)	
☐ Complete	☐ Initiate	☐ Act	☐ Listen
☐ Describe	☐ Justify	☐ Adhere	☐ Modify
☐ Differentiate	☐ Propose	☐ Convince	☐ Practice
☐ Explain	☐ Select	☐ Display	☐ Reflect
☐ Follow	☐ Share	☐ Exemplify	☐ Revise
☐ Form	☐ Start	☐ Influence	☐ Solve
		☐ Integrate	☐ Use

Skill Acquisition

Application Use Information to Solve Problems		Analysis Consider Evidence to Reach Conclusion	
☐ Apply	☐ Prepare	☐ Analyze	☐ Inventory
☐ Change	☐ Produce	☐ Conclude	☐ Outline
☐ Choose	☐ Report	☐ Determine	☐ Relate
☐ Complete	☐ Restate	☐ Distinguish	☐ Select
☐ Demonstrate	☐ Review	☐ Explain	☐ Separate
☐ Discover	☐ Select	☐ Identify	☐ Summarize
☐ Examine	☐ Solve		
☐ Locate	☐ Use		
☐ Modify	☐ Utilize		
☐ Practice			

Verbs to AVOID

- Appreciate
- Be acquainted with
- Be aware of
- Become familiar with
- Believe
- Explore
- Gain insight
- Improve
- Increase
- Know
- Learn
- Realize
- Think
- Understand

Hands-on exercise

- Write a good CLO for your course that covers KSA

Why

Assessment is used to determine:

- ✓ What students have learned (outcome)
- ✓ The way they learned the material (process)
- ✓ Their approach to learning before, during, or after the program or course

You can assess students before instruction to get a baseline of what students know (for example, by administering a pretest).

During instruction, assessment can be used to determine what students are learning so you can adjust your teaching, if needed.

When

After instruction, you can use assessment for two purposes:

(1) to determine if there has been a change in knowledge (final exams can be used for “summative assessment”); and

(2) to provide you with information to revise the class or program.

Evaluation

- Evaluation focuses on grades and may reflect classroom components other than course content and mastery level.
- These could include discussion, cooperation, attendance, and verbal ability.

Difference Between Assessment And Evaluation

Dimension of Difference	Assessment	Evaluation
Content: timing, primary purpose	Formative: ongoing, to improve learning	Summative: final, to gauge quality
Orientation: focus of measurement	Process-oriented: how learning is going	Product-oriented: what's been learned
Findings: uses thereof	Diagnostic: identify areas for improvement	Judgmental: arrive at an overall grade/score

The Purpose of...

assessment is to **INCREASE** quality.

evaluation is to **JUDGE** quality.

Assessment & Evaluation

Check & Coach to Excellence!

Check & Grade on Time!

Assessment Loop

How well do we achieve our program outcomes?

Gather evidence

Interpret evidence

Enhance teaching/learning; inform institution decision-making, budgeting

Assessment Tools

PEO

- -Alumni Survey
- -Tracer Study
- -Employer Survey
- -IAC / Stakeholders

PLO

- -Exit Survey
- -Programme Survey/Exam-
- IAC / Stakeholders

CLO

- -Knowledge Skills -Tests, Examination, etc
- -Technical Skills – Lab/field work, Workshop
- -Soft Skills –project planning, implementation and presentation (rubric)

Assessment Scheme -example

Quizzes: 5 %
Test 1: 15 %
Case analysis: 15 %
Assignment : 5 %
Project: 20 %
Final Examination: 40 %
TOTAL:100 %

Assessment Of CLO (Example)

Knowledge/Technical Skills	*Generic Skills (Soft Skills)*
Final examination, tests and quizzes.	Student reports for assignments, mini projects, laboratory, industrial visits, etc.
Industrial training written reports.	Survey reports on Problem Based Learning (PBL).
FYP Thesis.	Student projects under the Civil Engineering Club (CEC) –Bridge model competition, Malacca House Model competition, Floating tower competition,
Design reports.	Presentation
Student reports for assignments, mini projects, laboratory, industrial visits, etc.	
Survey reports on Problem Based Learning (PBL).	

Key Performance Indicator/Index (KPI)
Course Learning Outcomes (CLO)

Assessments

- Test, Quizzes, Final Exam (C)
- Lab/field work Reports (C, A),
- Lab/field work (P,C, A),
- Presentations (P, A),
- Assignments (C, A)
- Project, PBL, POPBL (P,C, A)

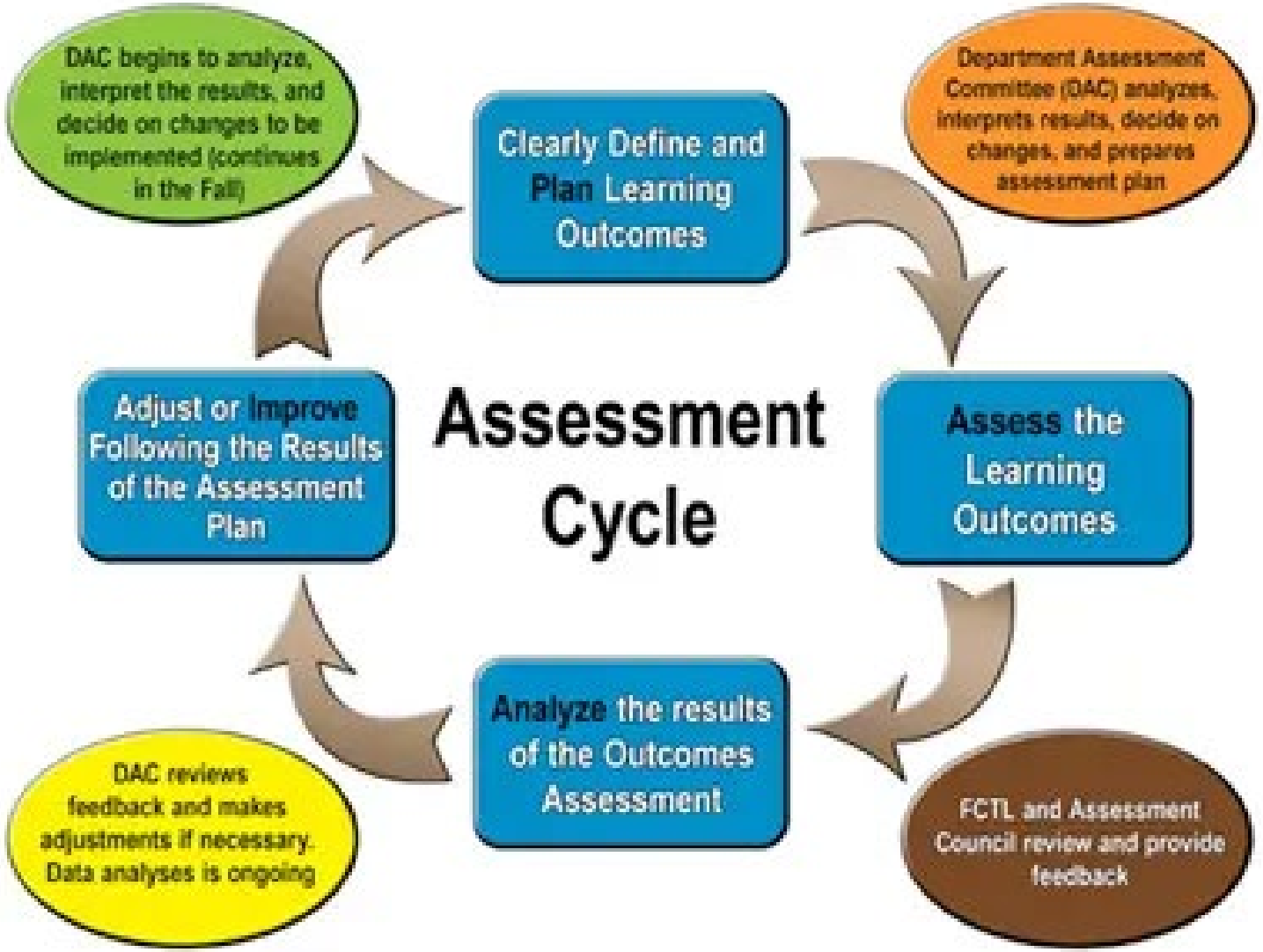
Examples

- x % -Grade C and above (C)
- 100 % -Submit assignment on time
- x % -Quality of presentation
- x % -Achievement in every domain

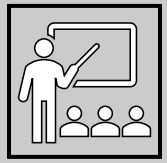
Steps in Assessment Process

At the end of the presentation, the participants will be able to:

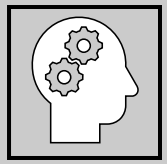
- *Explain the steps in the assessment process.*
- *Plan the assessment effectively.*
- *Develop the effective assessment methods.*
- *Calculate the assessment results.*
- *Analyse the assessment results.*
- *Propose for continuous improvement in the OBE process.*


Assessment Cycle
Clearly Define and Plan Learning Outcomes
Department Assessment Committee (DAC) analyzes, interprets results, decide on changes, and prepares assessment plan
Assess the Learning Outcomes
FCTL and Assessment Council review and provide feedback
Analyze the results of the Outcomes Assessment
DAC reviews feedback and makes adjustments if necessary. Data analyses is ongoing
Adjust or Improve Following the Results of the Assessment Plan
DAC begins to analyze, interpret the results, and decide on changes to be implemented (continues in the Fall)

Step 1: Clearly define and identify the learning outcomes



Each course should formulate between 2 and 4 learning outcomes that describe what students should be able to do (abilities), to know (knowledge), and appreciate (values and attitudes) following completion of the course.



The learning outcomes for each course shall include learning outcomes addressing cognitive, affective and psychomotor.

Step 2: Select appropriate assessment measures and assess the learning outcomes

- Multiple ways of assessing the learning outcomes are usually selected and used.
- Although direct and indirect measures of learning can be used, it is usually recommended to focus on direct measures of learning.
- Levels of student performance for each outcome is often described and assessed with the use of rubrics.
- It is important to determine how the data will be collected and who will be responsible for data collection.
- Results are always reported in aggregate format to protect the confidentiality of the students assessed.

Step 3: Analyze the results of the outcomes assessed

- It is important to analyze and report the results of the assessments in a meaningful way.
- A small subgroup of the faculty would ideally be responsible for this function.
- The assessment division of the faculty would support the efforts of the subgroup and would provide data analysis and interpretation workshops and training.

Step 4: Adjust or improve programs following the results of the learning outcomes assessed

- Assessment results are worthless if they are not used. This step is a critical step of the assessment process.
- The assessment process has failed if the results do not lead to adjustments or improvements in programs.
- The results of assessments should be disseminated widely to faculty in the department in order to seek their input on how to improve programs from the assessment results.
- In some instances, changes will be minor and easy to implement.
- In other instances, substantial changes will be necessary and recommended and may require several years to be fully implemented.

Assessment for Learning (Formative)

- Assessment

"Comes from the Latin verb ‘assidere’ meaning ‘to sit with’. In assessment, one should sit with the learner. This implies it is something we do with and for students and not to students (Green, 1998)“

Assessment for Learning is..

- The interaction & dialogue between teachers and pupils.
- Help students understand what they need to do next in order to improve.
- Thoughtful improvement rather than getting it right the first time

Purpose of Assessment for Learning

- “the primary purpose of assessment is to improve students’ learning and teachers’ teaching”
- “There is no better way of raising achievement standards than formative assessment.”
- Assessment for learning should
    - Alert students to their present position
    - Inform them of the desired goal
    - Give students some understanding of how to close any gap

Assessment of Learning (Summative)

- What is Assessment of learning?

  “ It is the process of gathering , interpreting , recording & using information about pupils' responses to an educational task ’’

Assessment of Learning

- Assess what students have learned.
- Students are not directly involved in the assessment process.
- Certify student's competence.
- Promote ranking or sorting of students.
- Reveal student's level of understanding.
- Teacher – assess student's learning.

Relative Merit & Demerits

.No	Assessment for Learning	Assessment of Learning
1.	Formative assessment	Summative assessment.
2.	Focuses on the process	Focuses on the outcome.
3.	Monitor student learning to provide on going feedbacks that can be used by instructors to improve their teaching & by the students to improve their learning.	Provide teachers & students with information about the attainment of knowledge.

Relative Merit & Demerits

No	Assessment for Learning	Assessment of Learning
4.	Helps to identify students strengths & weaknesses & target	The goal is to evaluate student learning at the end of an instructional unit by comparing it against some sort of standard some or bench mark.
5.	Help faculties recognize where students are struggling & address problems immediately.	Asses whether the results of the object being evaluated met the stated of goals.
6.	Low – stakes – low or no point value.	High stakes or high point value

Assessment As Learning

- Assess student’s cognition about their learning.
- Students are actively involved in monitoring & assessing
- their learning.
- Teacher guide students in setting learning goals.
- Students assess their own learning.
- Improves student’s learning & motivation.

Traditional Assessment

- Traditional assessments usually produce a written document, such as a paper , test, or quiz.
- Take place at the end of a chapter , unit, or course of study.
- Use the following types of questions
  * True / False
  * Short- Answer.
  * Multiple Choice.
  * Fill in the blanks.
  * Matching.
  - Essay.
- Students are usually tested individually.
- Students receive a numerical score or grade, which often contributes to a student's final grade.
- Subject areas are usually tested in isolation.
- Also known as standardized assessment or summative assessment.

Assessment of different types of content

1. Achievement Assessment.
2. Performance Assessment.
3. Values Assessment.
4. Attitude Assessment.
5. Aptitude Assessment.

Achievement Assessment

An achievement test is a test of developed skill & knowledge.
Teacher to measure whether the students have acquired the components concepts as on achievement.
Function: Achievement has two main function.
1. Prognosis function.
2. Diagnosis function.

1. **Prognosis Function**
   How much students acquire component of concepts?

2. **Diagnosis function:**
   What are the causes of not acquiring components of concepts?

Learning outcomes:
Achievement tests measure the learning outcomes or educational outcomes classified in two forms.
1. The cognitive outcome of education.
2. The non- cognitive outcomes of education.

Performance Assessment.

- Measures students' skill based on authentic tasks such as activities, exercise or problems that require students to show what they can do.
- Students demonstrate their understanding of a concept or topic by applying their knowledge to a particular situation.

Example:

Students might be given a current political map of India showing the names & locations of places & a similar map from 1945 & be asked to identify & explain difference & similarities.

Values Assessment.

- A high – stakes testing process known as value assessment.
- The analysis involves an examination of student scores over time, to provide an index of growth.
- Each students scores are compared to his or her previous scores.
- Knowledge of a student's rate of growth is important in evaluating the achievement of individual students, as well as in summarizing the effectiveness of the instruction being delivered at the classroom, school building, district or state level.

Uses
Value assessment can be used to evaluate the effectiveness of instruction & high effective teachers.
Values assessment provide a more sensitive & descriptive picture of how schools or districts perform from year to year.
Provide the new dimension to the analysis of student test scores.

Attitude Assessment.

- Attitudes are internal systems; individual's external behaviour is generated by inner tendencies.
- Measurement of attitudes it is necessary that the immediate circumstance be controlled.

Methods Of Measuring Attitudes
The social psychology has evolved methods for the measurement of attitude.
1. Opinion scales.
2. Rating scales.
3. Indirect scales.

Aptitude Assessment.

- What is aptitude?

  A natural disability to do something.

- Aptitude Test:

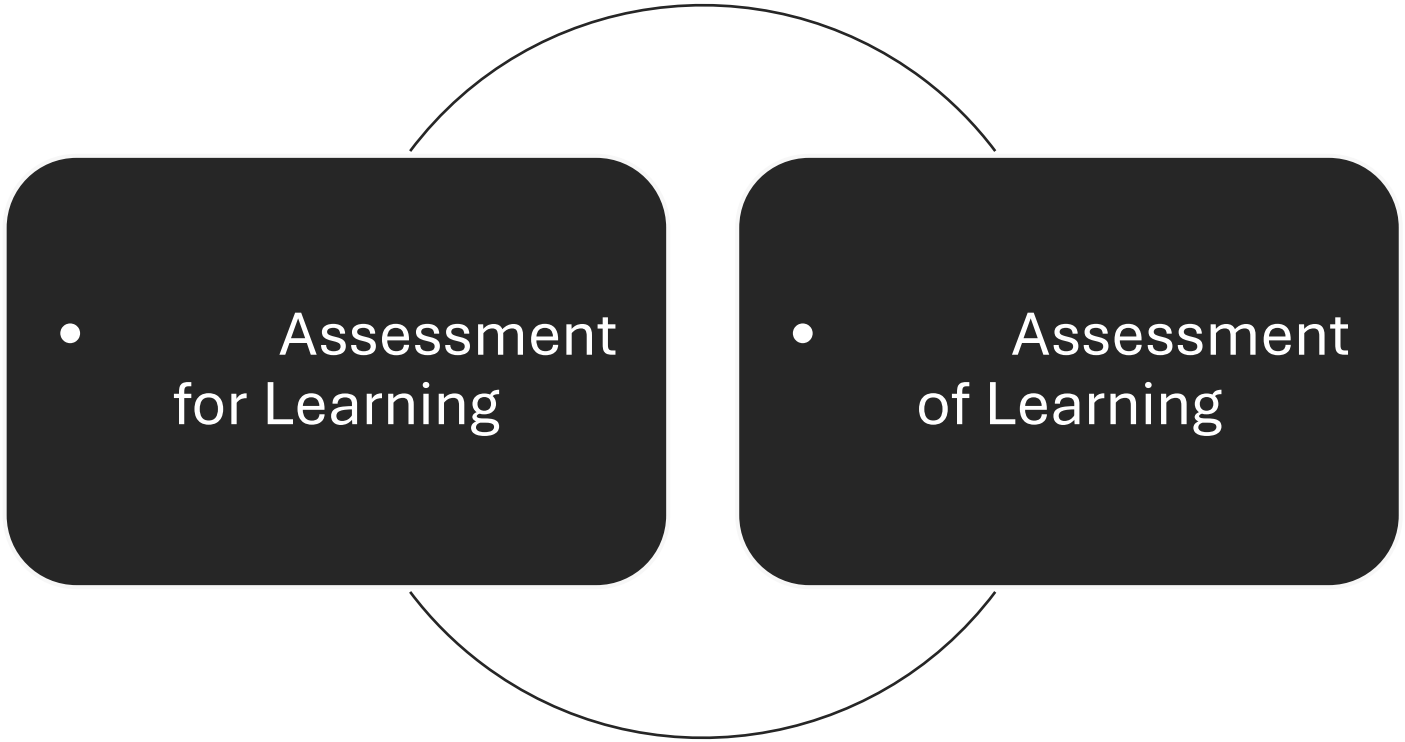
  Aptitude tests are used for guidance, as well as prediction of success in some occupation.

- Important aptitude tests

  1. Differential Aptitude Tests.
  2. General Aptitude Tests.
  3. Mechanical Aptitude Tests.

Types Of Aptitudes Test
1. Mechanical aptitude test.
2. Motor dexterity tests.
3. Clerical aptitude tests.
4. Artistic tests.
5. Professional test etc.

Formative verses Summative Assessment



Looking Backwards	Looking Forwards	Measuring Learning	Assessment of Learning
After Learning	During Learning	Nurturing Learning	Assessment for Learning
Assessment point	Feedback	Looking forward	Go over/ review
Learning continuum	Looking back	Measuring a tree	Leave/ignore
Grade work	Review work	Results orientated	Improvement orientated
Watering a tree	Feed-forward	Chief tastes soup	Customer tastes soup

Test Construction and Evaluation

At the end of the presentation, the participants will be able to:

- *Discuss the principles of Rubrics Assessment.*
- *Apply different types of assessments used in measuring student's performance.*
- *Explain what is a lesson plan*
- *Discuss the purpose of lesson plan.*
- *Explain steps in developing a lesson plan.*
- *Develop a lesson plan.*

Test or Scale Development Procedure

- *Step 1. Characteristics of Good Tests*
- *Step 2. Table of Test Specifications*
- *Step 3. Item Writing*
- *Step 4. Content Validation including Factor Analysis*

Step 1- Characteristics of Good Tests

Validity – the extent to which the test measures what it intends to measure

Reliability – the consistency with which a test measures what it is supposed to measure

Usability – the test can be administered with ease, clarity and uniformity

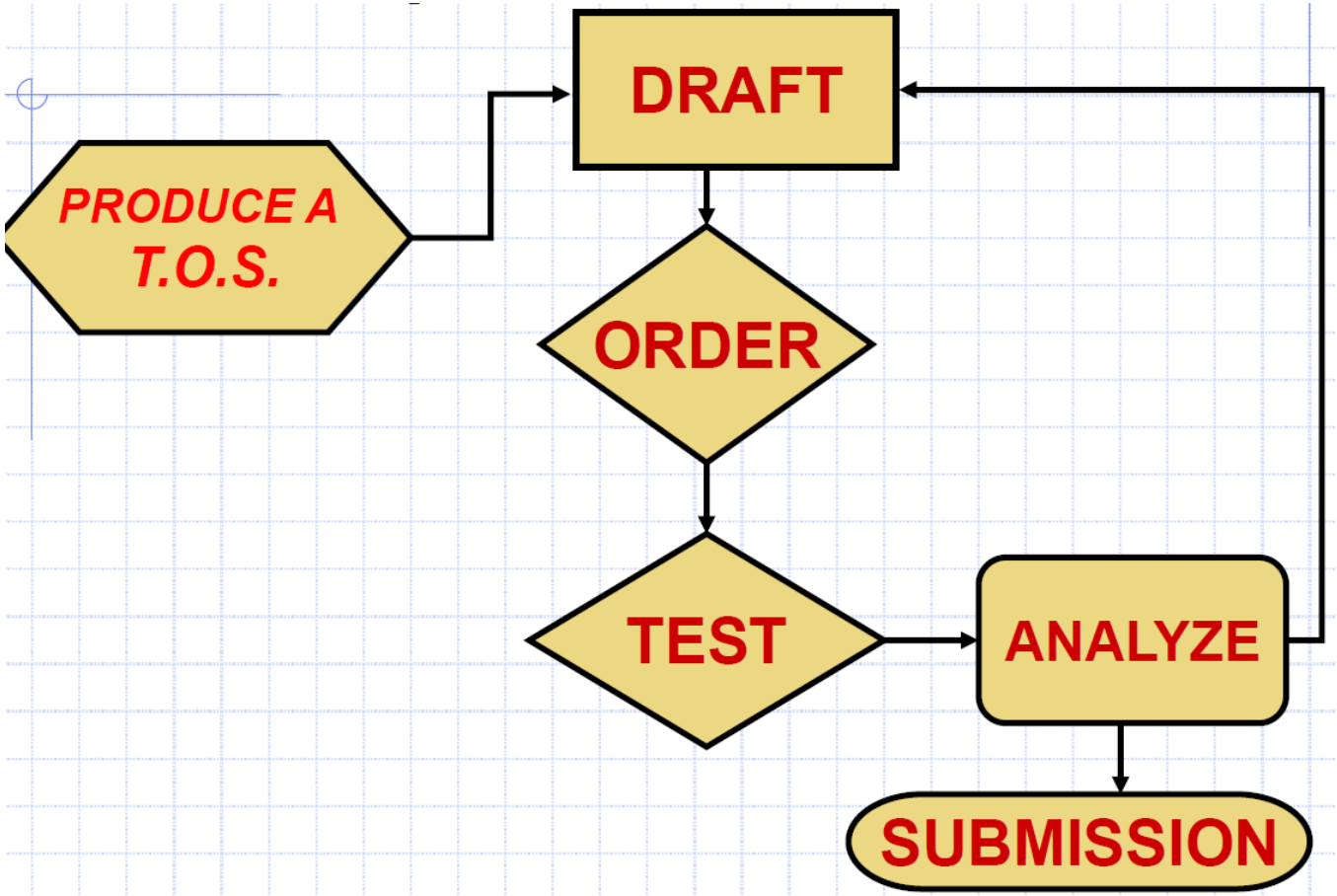
Things to Consider

Scorability – easy to score

Interpretability – test results can be properly interpreted and is a major basis in making sound educational decisions

Economical – the test can be reused without compromising the validity and reliability

General Steps in Test Construction



Step 2.
Table of Test Specifications

A two-way chart that relates the learning outcomes to the course content

It enables the teacher to prepare a test containing a representative sample of student behavior in each of the areas tested.

Step 2. Table of Test Specifications

- **Table of Specifications**
- ***Subject*: _____**
- ***Grade/ Year Level*: _____**
- ***Type of Test*: *Cognitive (Knowledge), Psychomotor (Skills), or Affective (Attitudes)?***
- ***Testing Time*: _____**
- ***Type of Item/s*: *Likert? Or rating?***
- ***Number of items*: ____**

Sample TOS

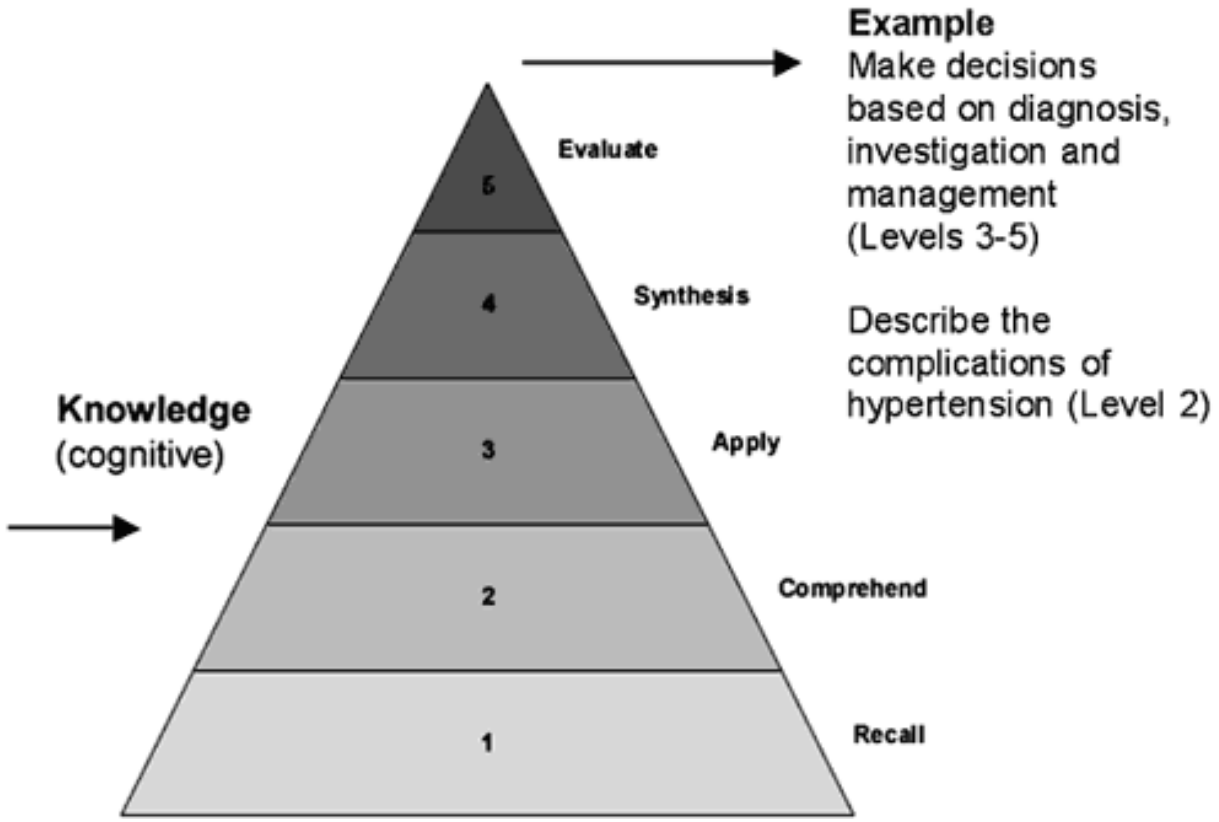
TABLE OF SPECIFICATION
IKALAWANG LAGUMANG PAGSUSULIT SA ARALING PANLIPUNAN 10
(Second Summative Test in AP 10)
SY 2015 – 2016

TOPIC	No. of Days	No. of Items	%	Remembering	Understanding	Application	Analysis	Evaluating	Creating	Item Placement
• Aralin 1: Demand	5	10	16.66	1	2	2	2	2	1	1-10
• Aralin 2: Elastisidad ng Demand	5	10	16.66	1	3	2	3	1		11-20
• Aralin 3: Supply	5	10	16.66	1	2	2	2	2	1	21-30
• Aralin 4: Intersksyon ng Demand at Supply	5	10	16.66	1	2	2	2	2	1	31-40
• Aralin 5: Ang Pamilihan at mga Istruktura Nito	5	10	16.66	1	2	2	2	2	1	41-50
• Aralin 6: Ugnayan ng Pamilihan at Pamahalaan	5	10	16.66	1	3	2	1	3		51-60
TOTAL	30	60	100%	6	14	12	12	12	4	

Prepared by:

Submitted to:

Knowledge (Cognitive)



Levels of Cognitive Domain (Knowledge)

- *Knowledge: The remembering of previously learned material (recall of facts)*
- *Comprehension: The ability to grasp the meaning of the knowledge being learned*
- *Application: The ability to use learning materials in a new way*
- *Analysis: The ability to break material down into its parts so that its organizational structure may be understood*
- *Synthesis: The ability to combine previous experiences with new material to form a whole new structure*
- *Evaluation: The ability to judge the value of material for a given purpose*

Knowledge – Can students RECALL information?

- *<u>Key Questions</u>: Who, What, When, Where, How, How much, Describe, Define, Memorize, Literal questions, Which one, Name, Label, List, Reproduce, Recall*
- *<u>Example of Knowledge Question</u>*
  Which of the following are raw materials or photosynthesis?
  - *a) Water, heat, sunlight*
  - *b) Carbon dioxide, sunlight oxygen*
  - *c) Water, carbon dioxide, sunlight*
  - *d) Sunlight, oxygen, carbohydrates*
  - *e) Water, carbon dioxide, carbohydrates*

Comprehension – Can students EXPLAIN ideas?

- *<u>Key Questions</u>: Explain, Describe in your own words, Inferential questions, Summarize, What would go better, Select the definition, Read the graph table, This represents ¸ Condense this paragraph, What part doesn't fit, What are they saying, Explain what is happening, Give an example, State in 5 words, Explain what is meant, What restriction would you add, Translate, Outline, Locate, Match*

Comprehension – Can students EXPLAIN ideas?

- *<u>Example of Comprehension Question</u>*
- *If living cells similar to those found on earth were found on another planet where there was no molecular oxygen, which cell part would most likely be absent?*

  a) Cell membrane

  b) Nucleus

  c) Mitochondria

  d) Ribosome

  e) Chromosomes

Application – Can students USE ideas?

- *<u>Key Questions</u>: What is this used for?, How would you use, Make a model, Tell what would happen, If…how, Demonstrate how, Construct how, Show how, How much would there be if…, Design a lesson, Choose the statements that don't apply*

Application – Can students USE ideas?

- *<u>Example of Application Question</u>*
- *Phenylketonuria (PKU) is an autosomal recessive condition. About one in every fifty Individuals is heterozygous for the gene but shows no symptoms of the disorder. If you select a symptom-free male and a symptom –free female at random, what is the probability that they would have a child afflicted with PKU?*
  - *(.02)(.02)(.25) = 0.0001 = 0.01%, or about 1/10,000*
  - *(.02)(.02) = 0.0004 = 0.04%, or about 1/2,500*
  - *(1)(50)(0) = 100% = all*
  - *(1)(50)(0) = 0 = none*
  - *1/50 = 2%, or 2/100*

Analysis – Do students SEE relationships?

- *Whole into parts, Analyse, Research, Survey, Group, Categorise, Compare and Contrast, What inconsistencies, fallacies, Arrange, What is the relationship, Chart, What is the function of, Diagram, What conclusions, Reason for…, What does the author believe, Investigate, Make a distinction, Cause for, What motive is there, Conclude, State the point of view, Separate, What relationship, Similar, Graph, Like, Differentiate, Dissect, Categorize, Distinguish fact from fiction, fact and inference, fact from opinion, advantage from disadvantage, good from poor reason, What persuasive technique*

Analysis – Do students SEE relationships?

- *<u>Example of Analysis Question</u>*
  Mitochondria are called the powerhouses of the cell because they make energy available for cellular metabolism. Which of the following observations is most cogent in supporting this concept of mitochondrial function?
  - *a) ATP occurs in the mitochondria*
  - *b) Mitochondria have a double membrane*
  - *c) The enzymes of the Krebs cycle, and molecules required for terminal respiration, are found n mitochondria*
  - *d) Mitochondria are found in almost all kinds of plant and animal cells*
  - *e) Mitochondria abound in muscle tissue*

Synthesis – Can students combine ideas and CREATE a new entity?

- *Key Questions: New ways of doing, Take risks, Consider the unexpected, Pose an alternative, Hypothesis, Create, Compose, Solve, Design, Blend, Construct, How else would you, Build, Combine, Solve the following, Imagine, Plan, Predict, Link concepts in an unusual and flexible way, Make, What if, Make a film, Invent, Propose an alternative*

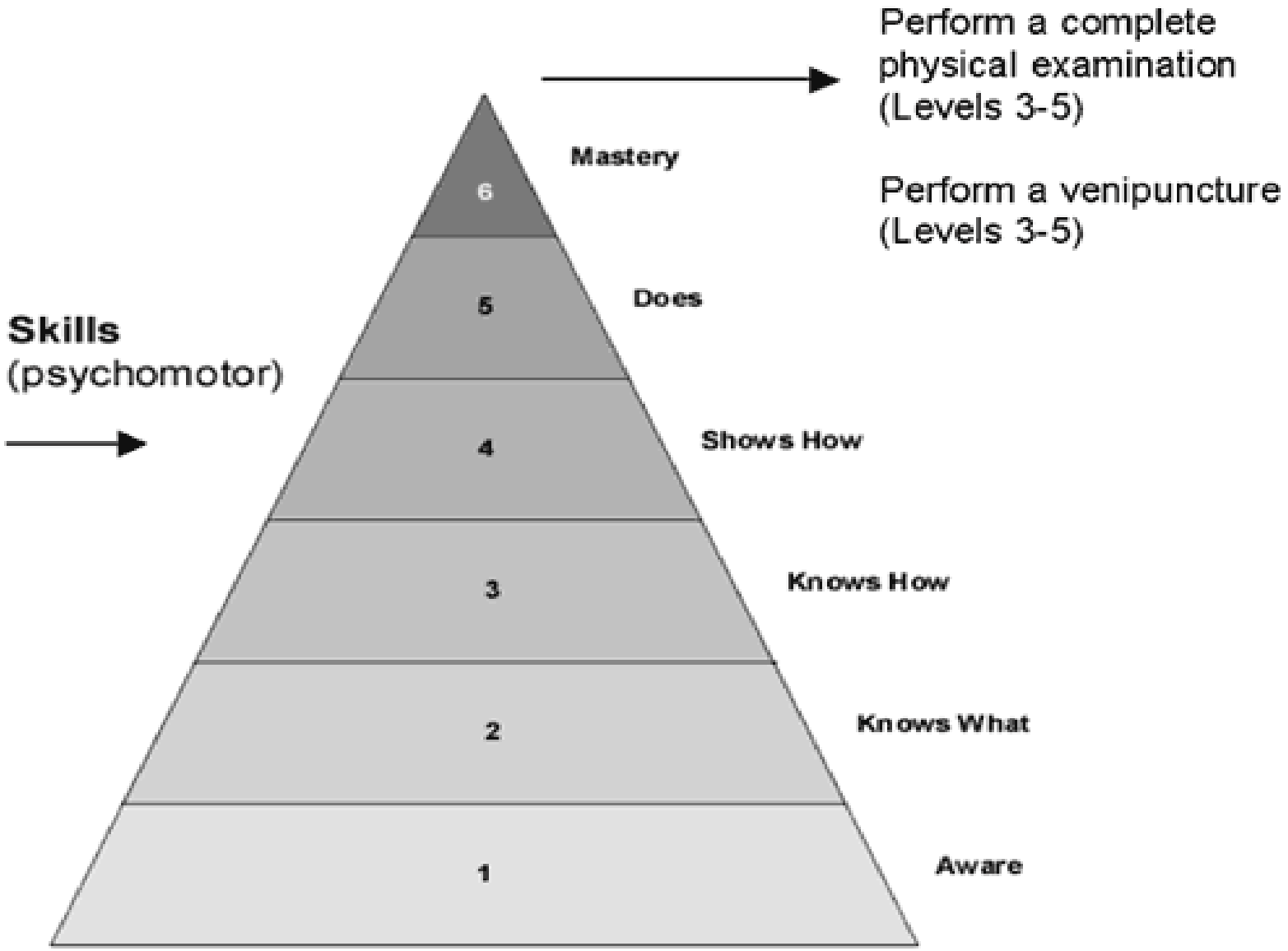
Evaluation – Can students make JUDGEMENTS and support them?

- *Evaluate quality, relevance, reliability, truth, Which is best, Accuracy and effectiveness, Choose and explain why ¸ Rate, Rank, Defend, Choose, Grade, Order, Verify, Dispute, Criticize, Defend, Find the errors, Editorialize, Appraise, Judge, What fallacies, consistencies, inconsistencies appear, Which is more important, better, moral, appropriate, inappropriate, useful, clearer, suits the purpose, achieves the goal, logical, valid*

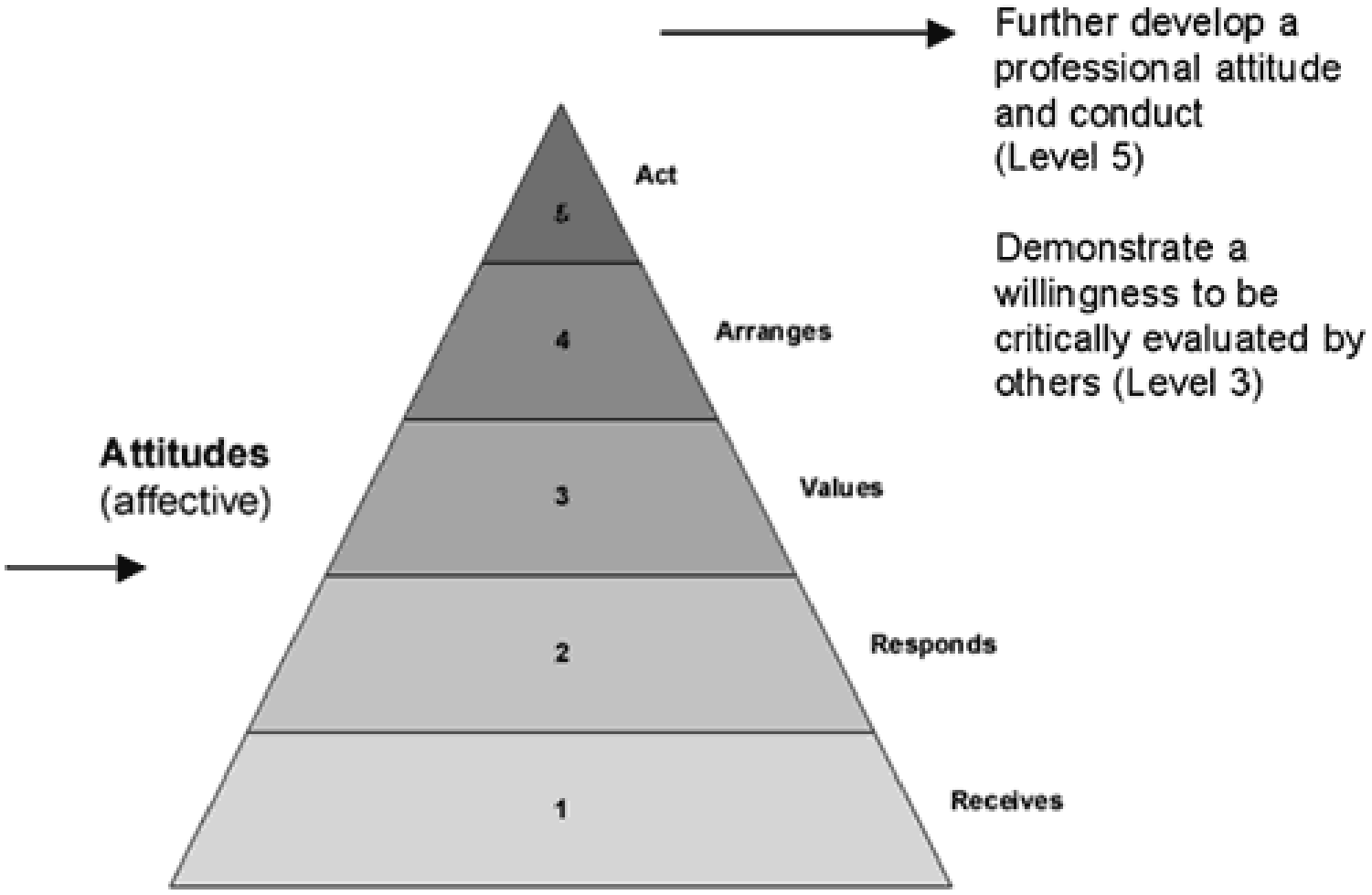
Evaluation – Can students make JUDGEMENTS and support them?

- *Example of Evaluation Question*
- *Disregarding the relative feasibility of the following procedures, which of these lines of research is likely to provide us with the most valid and direct evidence as to revolutionary relations among different species?*
    a) *Analysis of the chemistry of stored food in female gametes*
    b) *Analysis of the form of the Krebs cycle*
    c) *Observation of the form and arrangement of the endoplasmic reticulum*
    d) *Comparison of details of the molecular structure of DNA*
    e) *Determination of the total protein in the cell*
- *Sources:*
    - http://www.nwlink.com/~donclark/hrd/bloom.html
    - *http://www.fctel.uncc.edu/index.html*

Skills (Psychomotor)



Attitudes (Affective)



Sample Attitude Items

- I cringe when I have to go to math class.
- I am uneasy about going to the board in a math class.
- I am afraid to ask questions in math class.
- I am always worried about being called on in math class.
- I understand math now, but I worry that it's going to get really difficult soon.
- I tend to zone out in math class.
- I fear math tests more than any other kind.
- I don't know how to study for math tests.
- It's clear to me in math class, but when I go home it's like I was never there.
- I'm afraid I won't be able to keep up with the rest of the class.

Put a check to the number which best corresponds to your answer:

1 – strongly agree
2 – agree
3 – neutral
4 - disagree
5 – strongly disagree

		1	2	3	4	5
1.	Adolescent who eats a wholesome nutritious breakfast do better in school.					
2.	I prefer to eat breakfast at home to have quality time with my family					
3.	Drinking milk is of much important as part of adolescent breakfast.					
4.	Skipping breakfast could lose out on an important nutritional contribution to adolescent's total daily food intake.					
5.	Adolescents who take enough exercise will reduce the danger for excessive intake of calories.					

Put a check to the number which best corresponds to your answer:

1 – strongly agree
2 – agree
3 – neutral
4 - disagree
5 – strongly disagree

6.	I know that eating breakfast will improve my attendance and punctuality in class.					
7.	I believe that if I am able to consume a balanced meal during breakfast, I will have a “healthy day”.					
8.	If I eat breakfast, it is more likely that I will get the recommended dietary allowance for vitamin A, C, D, and B6, calcium, iron, zinc & folate.					
9.	If I have “instant noodle”, biscuit or coffee for breakfast, it will be enough to start my day.					
10.	Washing my hands before eating will keep me safe from food borne disease.					

Table of Specifications

Content area	*Recall / Recognition*	*Skills Comprehension/ Application*	*Critical Thinking/ Problem Solving*	*Total Allocation of marks*
Biochemistry	*3*	*12*	*0*	*15*
Cells/Tissues	*4*	*13*	*3*	*20*
Genetics Reproduction	*2*	*10*	*3*	*15*
Invertebrates	*4*	*6*	*0*	*10*
Vertebrates	*5*	*11*	*4*	*20*
Plant life	*2*	*6*	*2*	*10*
Ecological	*0*	*7*	*3*	*10*
Total	*20*	*65*	*15*	*100*

Step 3. Item Writing

- *1. Keep the Test Short*
  - *Try out a longer test on a small number of subjects, and then cut those sections that don't result in useful data.*
- *2. Plan to Quantify Your Results.*
- *3. Good tests must be based on the objectives of a course.*
- *4. Each test should meet four criteria: RVDN*
  - *Reliability*
  - *Validity*
  - *Discrimination*
  - *Non-triviality*

RVDN

R: Does not generate random answers and consistently results in marks that reflect the skill level of each student.

V: Measures what it intends to measure.

D: Shows clearly the differences in the levels of achievement of the students to whom it is administered.

N: Focuses on that which the students should know and not on that which is irrelevant to evaluation.

Step 3. Item Writing

5. *Questions must be clearly written.*
6. *Least complex questions should appear first to encourage students' confidence in their knowledge.*
7. *Choose the test format. Commonly used are:*
    a) essay
    b) true-or-false tests
    c) multiple choice tests
    d) completion-and-short answer tests
    e) matching tests
8. *Reread all the items from the standpoint of the students*

Essay Test

Questions should clearly delimit the scope of the answer required

Avoid words such as what, who, when, which trigger closed responses

Avoid letting them to answer a choice of questions

Give definitive task to student-compare, analyze, evaluate, etc.

Use checklist point system to score with a model answer: write outline, determine how many points to assign to each part

Score one question at a time-all at the same time.

True-or-false tests

- *Avoid having more than one idea in a question.*
- *Avoid absolute terms: never, only, all, none, always*
- *Avoid indefinite terms: in most cases, great, sometimes, generally, some, few*
- *Avoid double negatives.*
- *Use exact quantitative language*
- *Don't lift items straight from the book.*
- *Make more false than true (60/40).*

Multiple choice tests

- *In order to measure insight, avoid quoting from the textbook.*
- *Avoid “none of these” or “all of the above”*
- *Stem should be in simple, understood language; delete extraneous words.*
- *Make all distracters plausible*
- *Make all alternatives homogeneous (in subject, content, form, length, explicitness, and grammatical structure)*
- *Don't use double negatives.*
- *Present alternatives in logical or numerical order.*

Multiple choice tests

- *Make each item independent of others on test.*
- *Need more than 3 alternatives, 4 is best.*
- *Ask for the best answer and use terms such as “most” and “primary” if more than one answer is partially correct.*
- *The reading and linguistic difficulty of items should be low.*
- *Use care in the repetition of words or phrases between the stem and the correct answer.*
- *Avoid items that reveal the answer to another item.*
- *Ordinarily, distracters should not overlap, subsume, or be synonymous with one another.*

Completion and short answer tests/ Identification

- *Limit the number of blanks in each question.*
- *Generally, blanks are not inserted at the beginning of the question.*
- *Make sure there is only one unambiguous response for the blank.*
- *In numerical problems, indicate the type of units in which the answer should appear.*
- *State the item so that only one answer is correct*
- *State the items with words that students understand*
- *Avoid items in which the correct answer is a matter of opinion.*

Matching tests

- *Organize questions together in logical groups.*
- *In your instructions, indicate whether or not some answers may be used more than once.*
- *Need 15 items or less.*
- *Use homogenous material in each exercise.*
- *Make all responses plausible.*
- *Put all items on a single page.*
- *Put response in some logical order (chronological, alphabetical, etc.).*

Step 4. Content Validation including Factor Analysis

- *Validity denotes the extent to which an instrument is measuring what is supposed to measure.*
  - *Forms of Validity*
  - *Face Validity*
  - *Content Validity*
  - *Criterion-related Validity*
  - *Construct Validity*

Face Validity

- *Does the test appear valid?*
- *Subjective judgment of a group generally composed of non-experts*
- *Includes good layout and format, clarity of directions/ instructions, non-ambiguity of items, correct grammar and sentence structure(syntax), appropriate scales, appropriate number of items, clarity of printing*

Exercises on Face Validity

Other than infancy, nutrition needs are higher in _____ than at any other time in the life cycle because this is the period of rapid growth.

a) *Infancy*
b) *Adolescence*
c) *Adulthood*
d) *no response*
e) *do not know*

Exercises on Face Validity

_____ *is the meal that should not be missed. Because it breaks the fast of not eating 8 to 12 hours.*

a)Breakfast

b)Lunch

c)Supper

d)no response

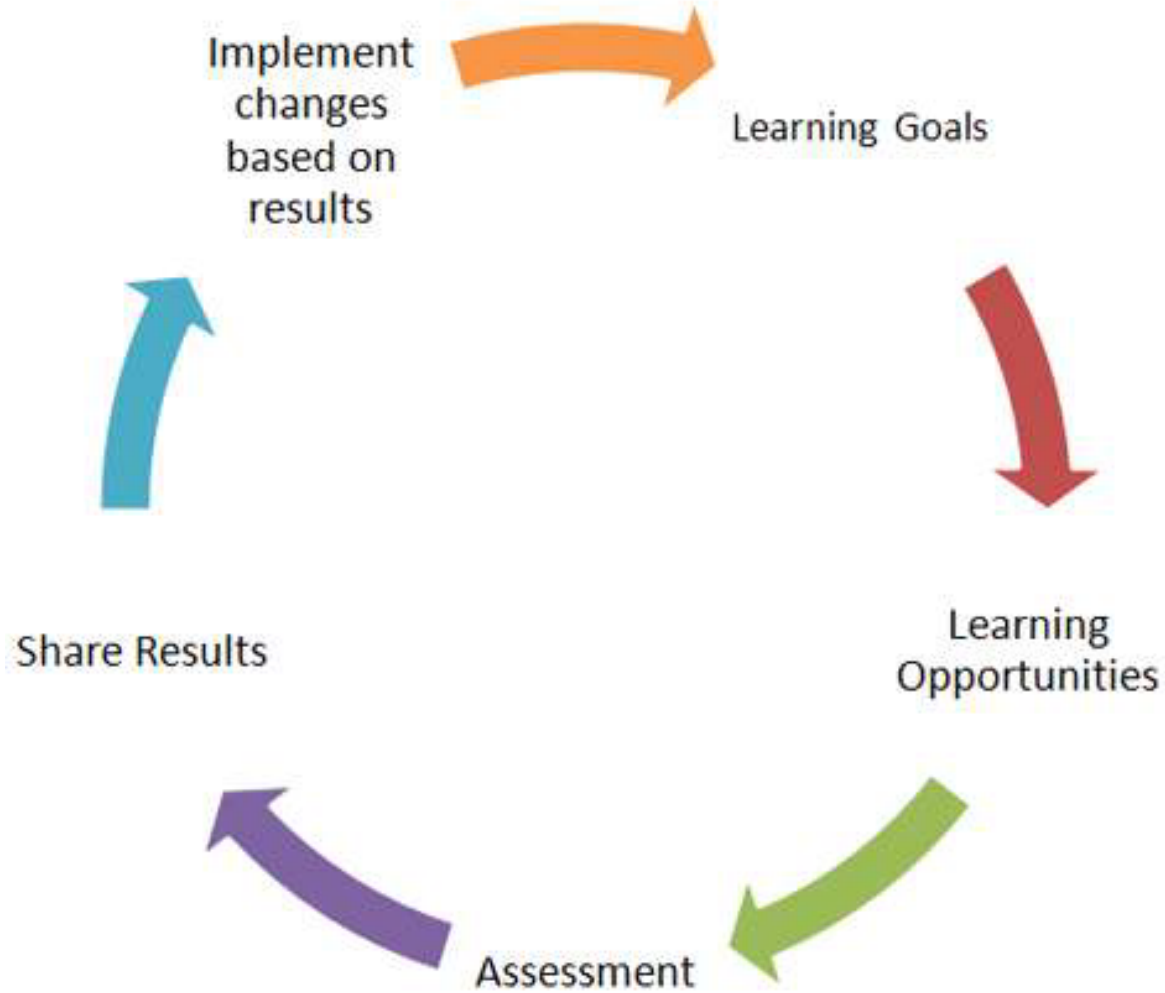
e)do not know

Rubrics and lesson plan

At the end of the presentation, the participants will be able to:

- *Discuss the principles of Rubrics Assessment.*
- *Apply different types of assessments used in measuring student's performance.*
- *Explain what is a lesson plan*
- *Discuss the purpose of lesson plan.*
- *Explain steps in developing a lesson plan.*
- *Develop a lesson plan.*

The Teaching - Learning - Assessment Cycle



Guidelines In Developing Rubrics

1. Identify the qualities and attributes that the teacher wishes to observe in students' outputs that would demonstrate their level of proficiency.
2. Decide what type of rubric to use, whether analytical or holistic.
3. Identify and define the standards of excellence for lowest level of performance.
4. Test whether the scoring rubrics is "reliable" by asking two or more teachers to score the same set of projects or outputs and correlate their individual assessments.

Tips In Developing Rubrics

1. Talk with colleagues.
2. Gather sample rubrics.
3. Keep it short and simple. Ideally, the entire rubric should fit on one sheet of paper.
4. Each rubric item should focus on a different skill.
5. Focus on how students develop and express their learning.
6. Begin with describing the highest (or lowest) level. After you write the descriptors for the highest level, note the words in that box that will vary from one student performance to another. These words will be the one that you will change as you write the next levels.
7. As much as possible, avoid odd numbers in the rating scale. (Studies show that evaluators tend to choose the neutral middle grade more often in odd numbered scales.

Steps to design Rubrics

Identify a learning goal

Choose outcomes that may be measured with a rubric

Develop or adopt (and adapt) an existing rubric

Share it with students

Assess / Grade

Analyze and report results

Example

Table 2:
Template for analytic rubrics

	Beginning 1	Developing 2	Accomplished 3	Exemplary 4	Score
Criteria #1	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #2	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #3	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #4	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	

Hands on practice

At the end of this exercise, the participants will be able to:

- Identify flaws to avoid in MCQs.
- Craft effective final examination questions.
- Craft systematic answer scheme.
- Write and grade essays.

THANK YOU AND BEST OF LUCK

PROF MADYA TS ROZITA HUSAIN