

Introductory Manual to Tools for Measuring Learning Outcomes Academic Year 1442-1443 AH



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Introductory Manual to Tools for Measuring Learning Outcomes

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Contents
Manual Objectives
Basic Regulations for Using Manual Tools
Tools for Measuring Learning Outcomes
Objective Exams
Written Exams
Oral Exams
Presentations
Scientific Projects
Writing Scientific Papers
Self-Assessment (Home Testing)

Introduction

Learning outcomes are declarations of what knowledge and skills a learner should have. It must be completed by the student at the end of his or her enrollment in a particular course or academic program. An essential component of the academic process is measuring learning outcomes. International developments in education have changed the emphasis from being on the instructor to being on the student, who is currently the basis of the two-way communication-based academic process.

The highest-ranking authorities all over the world academic systems have drawn learning outcomes a lot of attention because they have improved students' awareness and comprehension of the knowledge, skills, and values they learn in a way that is appropriate with the demands of the labor market.

The National Center for Measurement prepared a manual for evaluating learning outcomes, which must be clear and precisely specified, demonstrating the Kingdom of Saudi Arabia's apparent interest in the process of monitoring quality in public education. This manual was prepared by the Measurement and Evaluation Unit in accordance with the National Qualifications Framework for Quality Assurance.

Manual Objectives

- Identify a collection of measurement tools.
- Choosing appropriate measurement tools for learning outcomes.
- Use measuring tools properly.
- Consistency between the objective accomplished with the measuring tool and the authorized time for usage.
- Ensuring the quality of learning outcomes.

Basic Regulations for Using Manual Tools

- Preparing a plan to measure the learning outcomes in the course.
- The course coordinator is responsible for standardizing the course's measurement tools for each participant in the other groups.
- Choose a measurement tool that closely matches the characteristics of the learning outcomes it will be used to measure.
- Based on the specification table in the requirements table, assign a grade to the learning outcomes.
- If there are several tools accessible for measuring one or more different learning outcomes, they must be used with all students.
- To provide equitable opportunity in all groups.
- Accurately identify the regulations of each evaluation tool.

Tools for Measuring Learning Outcomes

One or more of the following tools may be employed by the course instructor to measure student learning outcomes:

First: Objective Exams

Definition:

The question is regarded as objective since it evaluates student learning on an objective basis, irrespective of the evaluator's subjectivity, and because it has a single, closed, and specified answer.

Its Types:

- True and false Questions.
- Multiple Choice Questions.
- Matching Questions (pairing).
- Completion Questions.
- Ordering Questions.

Its Characteristics:

- It is unaffected by the corrector's subjectivity, the number of correctors, or the frequency of corrections.
- Covers most parts of the course.
- Covers all cognitive, skill and emotional areas.
- Ease of Correction.
- It is appropriate for students who struggle with language and writing skills.
- The psychometric properties (validity and reliability coefficients) are very high since there are so many questions.

Disadvantages:

- Its preparation requires a lot of effort, time and skills.
- It does not adequately evaluate students' capacity for critical thinking and concept organization;
- It does not evaluate students' capacity for language expression and creative thinking.
- The possibility of guessing and cheating is higher compared to essay tests.

Principles of Its Formulation:

- Measures certain learning outcomes.
- The question format must have only one meaning.
- Consider individual differences.
- Only one correct answer is allowed in the answer form.
- It is preferable that the number of choices at least four.
- Logical consistency and consistency of choices.
- The choices should not include more than one answer only.
- Measures the levels required by the learning outcome.

Written Exams

Definition:

It is one the most traditional and most commonly employed assessments used to evaluate cognitive outcomes. The student is free to answer in a way that suits him. It aims to determine his ability for expressing himself in language, for using concepts and ideas, for structuring and organizing them, as well as his abilities for presentation, justification, analysis, deduction, connecting various pieces of information, and problem-solving.

Its Types:

There are two categories for written tests:

- Essay Questions with a determined (Constrained) Answer:

It specifies the required answer, the area designated for it, the required number of points, or the time allotted for it.

- Open-Ended (free) Essay Questions:

It demonstrates the student's ability to assess, synthesize, arrange, and connect ideas as well as his creativity and inventiveness in expression. Additionally, the student is given freedom to select the details of his answer.

Its Characteristics:

- The learner is given the opportunity to freely express himself and his opinions.
- It helps highlight the student's preferences, skills, trends, and values.
- Simple design.
- Avoid enabling anyone guess or cheat.
- Unlike objective questions, it considers variations among individuals.

Disadvantages:

- It is impacted by the subjectivity of the corrector since each corrector assigns a different grade to the student.
- Because it doesn't cover every aspect of the course, the exam questions tend to favor one study unit over another.
- Correcting requires a lot of effort and time.
- A student's handwriting and capacity for written expression have an impact on his or her grade.
- How well questions are formulated and understood by students influences their answers.
- Written questions don't have a fixed answer.

Suggestions for Improving Written Questions:

- Ask questions that all students can comprehend by using simple language.
- The course objectives are covered in the questions.
- It is necessary to answer to all questions.
- The time provided for the questions should be appropriate.
- Hiding student identities when answering questions to reduce the effect of the corrector's subjectivity.
- Choosing five keywords to represent the right answer to each question.
- The answer sheet must be checked by multiple correctors (one question per corrector).

Oral Exams

Definition:

It represents a real-world interaction between a student and a teacher and measures the student's ability for oral expression, including his ability to read, pronounce, discuss academic material, and plan seminars and discussions.

Its Characteristics:

- Demonstrate students' reading, pronunciation, and communication skills.
- Eliminate opportunities for cheating.
- Immediately corrects and modifies mistakes.
- Easy to prepare and does not require time.
- The accuracy of the findings.

Disadvantages:

- The course content isn't sufficiently comprehensive.
- The evaluation of the score was influenced by the evaluator's subjectivity.
- It takes a long time for it to be completed.
- Unfair (questions are not standardized), as a result each student encounters a variable degree of ease and difficulty.
- The psychological characteristics of the student, such as fear, anxiety, and confusion while the teacher and other students are present, have an effect on the grade.

Presentations

Definition:

One or more students present and explain instructional material to assess how well they have mastered one or more specific learning outcomes. The presentation's objectives and whether it will be a group or individual presentation are decided by the course instructor. Answers to all of the instructor's questions are required for both types of presentations.

Its Characteristics:

- Appropriate for measuring all learning objectives across all courses.
- It may be applied both individually and in as a group.
- shortening the duration as it is evaluated and graded in class.

Its disadvantages:

Dependency: Some students rely on their classmates.

The basics of its preparation are as follows:

- It is used for measuring one or more learning outcomes.
- There are several sources cited.
- demonstrate to the learner how to carry out scientific research.
- Determine each student's role and responsibility.
- All of the participants actively participated in the discussion of questions with the instructor.
- Evaluation questions provide indications about the student's honesty.
- Identify the most significant obstacles and how they were overcome.

Scientific Projects:

Definition:

A scientific project is a collection of thoughts, concepts, theories, and approaches presented by one or more students who collaborated to achieve the project's objective and associate it to the course for evaluation in accordance with the standards provided by the instructor. The project is submitted either individually, collectively, or in groups of three or more, along with a comprehensive explanation and answers to all of the instructor's questions evaluation.

Its Characteristics:

- It highlights the different characteristics of each person.
- It measures multiple learning outcomes.
- It measures advanced cognitive abilities and talents.
- It values the creative and critical thinking of students.
- Its Flexibility.
- It can be presented individually or as a group.
- Exceptional and creative projects can be competed in international competitions.
- It can be used to help disabled students with their problems and challenges.

The basics of its preparation are as follows:

- It complies with the academic outcomes you measure.
- It adheres all state and university regulations and laws.
- It considers the project's size in relation to the allotted presentation time.
- The project's outcomes for learning have been measured and approved.
- It specifies each student's role and responsibility within the project.
- The project is presented and any questions regarding its planning and implementation are answered in order to assess the learning outcomes.

Sixth: Writing the Scientific Paper

Definition:

It is an essay that the student composes in which he provides a collection of scientific facts that have been independently verified using the objectivity-based scientific process.

The student must provide evidence to support the scientific paper, which must contain accurate and verified facts.

The vocabulary employed in the scientific study needs to be precise and supported up by facts, figures, and statistics. The language employed in the scientific essay ought to be formal and free of any literary flourishes.

The learner should utilize declarative language instead of on metaphors, similes, and metonymies.

Its Characteristics:

- It considers the unique characteristics of each person.
- Its flexibility and variety.
- Its credibility, since students are given assignments and have 30 minutes in class to complete in their answers.
- It measures more than one learning outcome.
- It reduces the instructor's time and effort since he or she might measure each student's learning outcomes during the lecture.

The basics of its preparation are as follows:

- Teaching students how to compose a scientific paper.
- Provide students a form for reviewing.
- Explaining to students the measurement standards for the learning outcome.
- Assuring the integrity and accuracy of the language and the writing's in-depth analysis.

Seventh: Reading Comprehension Measurement:

Definition:

By providing students brief texts that are connected to learning outcomes to read, it attempts to determine how well they comprehend what they have read.

Its Characteristics:

- Measuring all learning outcomes is appropriate.
- It works with every reading textbook.
- It is suitable for all programs and course kinds.
- A single text can measure one or more outcomes.
- It allows students to suggest books to read.
- Reading texts may be obtained by utilizing the basic reference.

The basics of its preparation are as follows:

- Consider which subject to concentrate on (targeted learning outcomes, choosing the appropriate time, selecting the text from the approved references in the description) while choosing the content of the reading text.
- Designing measurement that include closed and open questions.

Home Testing

Definition:

The objective is to have the student evaluate themselves independently of the classroom. The (3-5) hour continuous test is one in which he is his own invigilator. It is comparable to a self-evaluation, and the constructivist theory supports its relevance by pointing out how it enhances the principles of honesty and moral values.

Its Characteristics:

- It is appropriate for both applied and theoretical courses and programs.
- It is appropriate for all learning tasks requiring more advanced cognitive abilities and talents.
- It teaches students how to engage in independent learning.
- The student devotes his talents and skills to the improvement of his intellectual faculties.
- The home examination measures advanced cognitive abilities and talents that call for exceptional cognitive abilities.
- Availability at any time or place.
- It creates the impression that the learner is more intelligent and capable of critical thinking.

The basics of its preparation are as follows:

- It is important to measure learning outcomes that call for advanced cognitive abilities and talents.
- The answer should be supported by logical, scientific proof.
- It comprises measurable learning outcomes that necessitate using databases and libraries for research.