

دليل عضو هيئة التدريس في بناء الاختبارات الجامعية





Faculty guide in building university tests

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Introduction:

The calendar is a systematic process that requires the collection of objective and honest data from multiple sources using various evaluation tools in the light of specific metrics on which to base student sentencing, and these provisions undoubtedly contribute to verifying the student's level of performance and competence in carrying out certain work or tasks.

The tests are one of the most important methods of evaluation used to determine the attainment level of students and the extent to which they acquire targeted learning products, which are the basis of their qualification for the labor market, as well as the teacher's various teaching strategies that help to raise the level of performance among students.

From this point of view, the faculty member needs to be familiar with how to judge the level at which these outcomes are achieved, whether for the course or the program. This will only come through the preparation of model tests that meet agreed quality standards.

The release of this guide comes in the belief of quality management and accreditation in the deanship of quality and development of the importance of evaluating student achievement and measuring the extent to which the achievement of targeted learning outcomes is achieved, so the guide provides the faculty with the basic skills to build university tests in accordance with quality standards as well as everything related to the use of tests as one of the most important



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tools to verify the levels of achievement of students in learning products in different fields.

The importance of the guide:

This guide is a reference document and a guide guide that includes the principles, foundations and methodologies of building university tests in accordance with correct scientific rules that enable the faculty member to evaluate the targeted learning outcomes of academic courses and programs in light of quality standards.

Guide objectives:

1. Raising awareness among university faculty about the importance of the role of tests in measuring targeted learning outcomes.
2. Highlight a number of concepts and terminology associated with tests.
3. Identify the different types of tests and areas of learning outcomes that you measure.
4. Standardize the reference in the construction of university tests according to clear criteria that comply with the conditions and standards of the quality of the tests
5. Establish clear controls, rules and specifications to be able to properly develop tests, and ensure the objectivity and fairness of the evaluation of such tests.
6. Provide the tools to identify strengths and weaknesses by measuring targeted learning outcomes.
7. Learn about the audit models associated with the tests designed by the Deanship of Quality and Development at Hail University.
8. Explain how graded performance assessment measures are used to evaluate student results with different tests.

Guide preparation methodology:

The methodology used in the preparation of this guide was based on the comprehensive descriptive method of the nature of university tests, scientific procedures in their construction, test quality standards, test types, and the role of tests in evaluating and measuring different learning outcomes;

On the other hand, the methodology for preparing this guide included several successive and integrated stages: formulating its objectives, determining its importance, the theoretical framework for tests in terms of: associated concepts and terminology, their objectives, principles, types, steps to build them, and finally the advantages, disadvantages and



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conditions for formulating different types of test questions, and the following are the procedural steps to prepare the guide:

1. Form a directory preparation team.
2. Brainstorming sessions to study the topics of the guide;
 - أ. Identify the nature, objectives and importance of the guide.
 - ب. Develop a general picture of the components of the guide, its contents in accordance with the scientific frameworks of the nature of the objectives and processes of building university tests, in order to meet the requirements of institutional and programmatic accreditation.
 - ج. Categorize and arrange all models related to the quality of the tests and measure their results prepared by the University's Quality and Accreditation Department to document them with the guide.
3. Divide tasks into the directory setting team.
4. Collect the information and data needed to prepare the guide.
5. Prepare the initial version of the guide.
6. Scientific and linguistic review of the guide by the review team.
7. Set up the guide in its final form.
8. Printing and publishing the guide among the faculty of the university, to help them build university tests to contribute to achieving the requirements of the quality and adoption of academic programs at the university.

First: The basic concepts and terminology contained in the guide:

1. Tests: Exam

Intended: The main tool for measurement includes a range of types such as oral, editorial, practical.

Test is also intended **as:** an organized process of measuring a sample of behavior (collecting information through a sample of paragraphs indicating measured character-related behaviors, to compare an individual with another, with himself or with a specific criterion.

2. Collection test:

Defined as: One way to determine the level of students' achievement of information and skills in a previously learned subject, through their answers to a set of paragraphs representing the content of the subject.

Some define it as a tool used to determine the learner's level of earning information and skills in a subject that had already been formally learned,



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through his answers to a sample of questions representing the content of the subject.

3. Learning outcomes:

It means: phrases describing what a student should know and be able to perform, and the student is expected to complete it at the end of his studies for a specific course or educational program.

Some also define it as: all the knowledge, skills, trends and values that the learner acquires as a result of his or her study of a particular curriculum.

4. Measuring learning outcomes:

Defined as: The process of judging the level of student acquisition of targeted learning outcomes.

As some know it: the process by which the success of the educational program or course is measured in giving the graduate the targeted learning outcomes

Second: areas of evaluation of learning outcomes in university education:

The evaluation tools and methods used to measure targeted learning outcomes vary according to the nature of each

An area of learning output issued by the National Evaluation and Accreditation Authority to identify, and below is a presentation of those areas:

1. Knowledge: Knowledge

The ability to retrieve, understand and provide information, which includes:

- Knowing certain facts.
- Knowledge of specific concepts, foundations and theories.
- Know specific actions.

2. Cognitive SKILLS Cognitive Skills

- Application of concepts, principles, and theories.
- Critical thinking, and a creative solution to problems, whether at the request of others or when faced with new and unexpected situations.
- Study subjects and problems in the field of study using a variety of sources and draw correct conclusions

3. Skills to deal with others and take responsibility

INTERPERSONAL AND RESPONSIBILITY SKILLS

- Take responsibility for their self-learning and continue personal and professional development.
- Work in a group effectively and practice driving when needed.



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- Act responsibly in personal and professional relationships
- Behave ethically and adhere to personal and high values on a personal and social scale.

4. Communication, IT and numerical skills

COMMUNICATION, INFORMATION TECHNOLOGY AND NUMERICAL SKILLS

- Effective oral and written communication.
- Use telecommunications and information technology.
- Use basic computational and statistical methods.

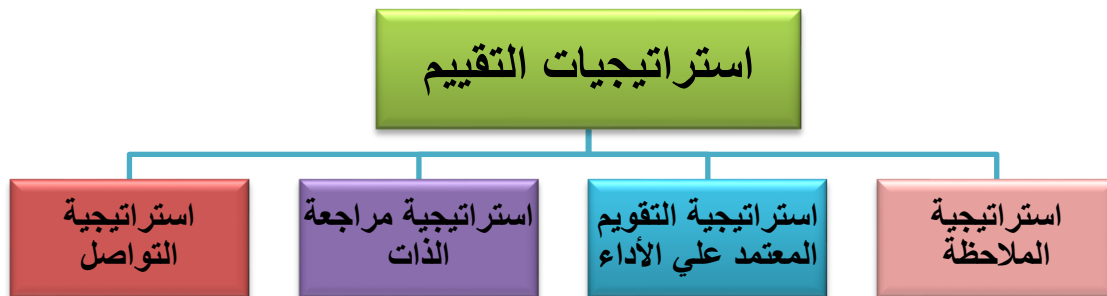
5. PSYCHOMOTOR SKILLS PSYCHOMOTOR PSYCHOMOTOR SKILLS

It includes physical prowess, the fifth area that applies only to some programs. And she promises.

These skills are of high importance in some fields of study. For example, psychomotor skills are required at a very high level for surgeons, artists and musicians.

By examining the areas of learning outcomes targeted by the National Qualifications Framework, each is of a special nature in terms of the precise skills it targets by measurement, which emphasizes the importance of diversity in the evaluation strategies used to measure their respective achievements.

Fourth: Strategies for evaluating different learning outcomes:



Form (1) evaluation strategies

1. Observation note strategy:

Observation is a type of qualitative calendar, a process in which the faculty member or observer goes to students with the intention of monitoring them in an educational situation or activity, and obtaining information that is useful in judging the learning outcomes achieved in the field of skills dealing with others and taking responsibility, communication skills, information technology, numerical skills and motor self-skills.

The note can be divided into several types, the most important of which are:



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- **Simple note:** The observer watches, listens, observes behaviors and occurs automatically in real situations.
- **Structured observation:** Pre-planned and carefully controlled, setting out observation conditions such as time, place and special observing criteria.

2. Performance-Based Assessment Performance Strategy:

These are learning activities used as calendar methods, and Rubrics assessment measures can be used to objectively estimate grades when using one of these methods when a faculty member sees a degree of mastery of a particular skill and performance evaluation, and these rules describe the features and characteristics used in performance analysis, and good graded measurement rules include:

- A fixed standard measure of at least three points.
- A set of clear performance evaluation criteria.
- Description of performance in light of each standard at each point of the scale.

Among the most important evaluation methods used in the performance-based calendar strategy are:

١ Presentation presentation:

It is a planned and structured presentation of a specific topic by the student or a group of students to show their ability to re-present the concept in a clear way and language using techniques such as projectors, computers, electronic slides, images and graphics, and used to measure the extent to which knowledge is gained and how much learning outcomes are achieved in the fields of skills dealing with others and responsibility, communication skills, and information technology.

٢ Demonstration Demo

It is an oral or practical presentation by a student or group of students to show how well they have specific skills. It is one of the learning activities in which the performance-based calendar strategy is used, and an example of demonstration activity is: an experience or a practical presentation of how to perform hajj. It is used to measure the extent to which knowledge is gained and how well learning outcomes are achieved in the field of other people's skills, communication skills, and motor skills.

A. Project Project

A student or group of students perform specific tasks that they carry out in practice to show knowledge, skills and directions. Examples include: stereoscopic production or map, computer program design.



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It is used to measure the extent to which knowledge is gained and how much learning outcomes are achieved in cognitive and other people's skills, and to take responsibility for communication skills.

Dr. Oratory /Talk Speech

A student or group of students talks about a particular topic during a specific and short period, often a story story, a re-creation of a novel, or an idea to show his ability to express, summarize, and connect ideas. It is used to measure the extent to which knowledge is gained and how much learning outcomes are achieved in cognitive and other people's skills, and to take responsibility for communication skills.

E. Exhibition Exhibition

It is intended to show students their intellectual and practical production somewhere and an agreed time to show how well they can use their skills in a particular field to achieve a specific product. It is used to measure the extent to which knowledge is gained and how much learning outcomes are achieved in cognitive and other people's skills, and to take responsibility for communication skills.

F. Simulation & Playing Roleing

In it, he performs a presentation accompanied by movements and gestures required by the role in a situation similar to a life situation to show their cognitive and performance skills and the extent to which they are able to follow instructions, communicate, make suggestions and make decision-making through a task or solve a problem.

G. Debate Debate

A meeting between two teams of students to discuss an issue, where each team adopts a different point of view, as well as an arbitrator (one of the students) to show the ability of learners to convince, communicate, listen effectively and present arguments and justifications in support of his point of view. It is used to measure the extent to which knowledge is gained and how much learning outcomes are achieved in cognitive and other people's skills, and to take responsibility for communication skills.

H. Individual/Group Reports Individual/Group Reports

It may be prepared by a student alone or a group of students, which is a description of an educational situation or an event related to an educational position such as watching a film, attending or conducting an experience, summarizing a story, research or other solution to an issue or duty or educational or recreational trip, and not more than two pages it is important to refer to sources that can be consulted in



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an appropriate manner. Lab Reports fall under this type of evaluation method where the student writes a report on one of the experiments he has conducted.

i. **Concept Mapping** Concept Maps

These are two-dimensional or multidimensional diagrams that reflect the concepts of the structure of the content of the text, organized in a hierarchical manner that takes a hierarchical form, where the main concept is placed at the top of the map and below which less general concepts are included at lower levels with links illustrating the relationships between the main and sub-concepts. This method is used to measure cognitive and cognitive skills.

K. **Long/Short Essays**

It specializes in measuring each language arts skills to measure the cognitive content of several areas, when the student is required to write a long or short article on a particular subject and in some cases is limited by the number of specific words.

3. **Reflection Assessment Strategy**

The self-review strategy provides an opportunity for the student to develop skills above knowledge, and to think

Critic, problem solving skill, helps students diagnose their strengths and weaknesses and identify their needs, and self-review strategy is an essential component of effective self-learning, continuous learning and a key to demonstrating the student's level of cognitive development. Rubrics assessment metrics can also be used to calculate student grades using this strategy.

أ. **Self-Evaluation Self-Evaluation:**

It means the student's self-assessment, and modern education calls for him at all levels of education and has advantages that we can summarize below:

- A means of discovering the individual's mistakes and weaknesses, which in turn leads to modifying his behavior and moving in the right direction.
- Makes the individual more tolerant of the mistakes of others, because with his experience he has realized that everyone has his or her own mistakes and it is not wise to use these mistakes to defame, reprimand or mock.

ب. **Journals** Student Diaries

These are daily memoirs written by the learner that contain his thoughts on an educational activity in which he participated and



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expresses things he has read, seen, or heard. A student's diary can be used to write about a seminar, conference, or some extracurricular activities such as a field visit, an article or text critique, and it is used to measure the extent to which knowledge is gained and how much learning outcomes are achieved in the field of cognitive skills.

ج Portfolio student achievement file:

A student's work file is a tool used by a faculty member to evaluate a student's learning, and the student uses it to measure higher mental abilities, and to important learning processes that can evaluate his or her own learning. Developing and following them inside and outside the school, the file opens up the horizons of research and knowledge to the student. It is a file that includes examples of the best work and achievements of the student that are carefully selected to show how advanced the student is in the learning outcomes desired to be achieved over time, the file shows strengths and weaknesses.

An electronic file can be prepared and does not differ in structure and steps from the student's paper work file, but it is characterized by easy communication between the teacher and the student and the students themselves, obtaining and sharing knowledge and saving time and effort and overcoming the problem of the material cost of the paper file.

4. Communication Strategy

Communication is an interactive activity based on sending and receiving ideas and information using language

The encircled, written and body language such as movements and signals can be made electronically. The strategy of evaluation by communicating is a collaborative process between the faculty member and the student that requires collecting information on the progress made by the student as well as knowing the nature of his thinking, his ability to present his ideas logically, and his method of solving problems through communication activities. It therefore measures the student's cognitive skills and the extent to which some cognitive skills, coping skills, responsibility, communication skills are achieved.

The most important evaluation methods under this strategy include:

ا Interview Interview

It is a meeting between the faculty member and the student predetermined where the faculty member is given the opportunity



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to get information regarding the student's ideas and trends towards a particular topic, including a series of pre-prepared questions. They may be individual or collective.

↳ Questions Answers

Direct questions from the faculty member to the student or vice versa about learning where the faculty member helps to monitor the progress of the student's learning, collect information about the nature of his thinking, his method of solving problems, and differ from the interview in that these questions are born of moment and attitudes and do not need to be prepared in advance.

C. Conference Conference

A programmed meeting between the faculty member and the student to evaluate the extent of his progress in completing a particular project, through discussion, and then identify the next steps necessary to improve his learning.

Fifth: Problems with evaluation strategies currently used to measure learning outcomes:

Although there is a diversity of university calendar strategies and associated methods of measuring learning outcomes, the actual reality indicates that there are several problems in the calendar methods used in university education, in terms of several aspects such as preparation, their association with measured learning outcomes, implementation mechanisms, as well as corrections, and their relative weight in evaluating learning outcomes in general. Calendar problems can be addressed in university education as follows:

1. It tends to measure the summoning of knowledge.
2. The absence of clear and specific criteria either for the preparation of calendar tools, for their application or for the use of their results.
3. Calendar tools need clear and specific metrics of appreciation.
4. Setting up calendar tools takes a long time and takes a lot of effort.
5. Limiting calendar tools to the student's faculty calendar.
6. Rare measurement of calendar tools for practical and emotional skills.
7. Many tests do not take into account the relative weight and relative importance of both content topics and learning outcomes, and the balanced distribution of exam questions.



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8. Poor interest in measuring the transactions of honesty and stability of the tool used, and achieving aspects of objectivity and facilitation.
9. The tools of the calendar are generally limited to comparing the individual to others and not to the learning outputs he has achieved.

Despite the importance of the various methods used to measure learning outcomes in university education, their characteristics and shortcomings and problems, we find that tests of different types play a prominent role in evaluating and measuring different learning outcomes, and the following is an explanation of this role:

Sixth: The role of tests in assessing targeted learning outcomes:

Tests are the most common tools used to evaluate many of the learning outcomes targeted at university education, because of their diversity, inclusiveness and flexibility, making them the most appropriate, most economical means of time, effort and costs to measure many learning outcomes in different fields and levels, as well as different systematic thoughts of those who identify areas of desired learning outcomes in many countries.

It should be noted that determining the nature of areas of learning outcomes varies from country to country, with those who see them as knowledge learning products, skilled learning outcomes and emotional learning outcomes, and there are those from learning outputs to knowledge learning outcomes, mental learning outcomes and professional learning outcomes. At the level of Saudi universities, the National Qualifications Framework has identified five areas for university learning outcomes:

- 1) Knowledge.
- 2) Cognitive Skills
- 3) Interpersonal Skills & Responsibility
- 4) Communication skills, it, and communication information numerical skills
Technology, Numerical
- 5) Psychomotor

By examining the areas of previous learning outcomes, we find that they require careful identification of these outcomes in the light of the nature of the academic programme first and then measure them with different tools and methods;

1. Knowledge Knowledge



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By studying cognitive learning outcomes, we find that their measurement is related to the nature of achievement tests: tests that measure a student's achievement of learning outcomes related to the cognitive structure of different courses. There are different types of collection testing.

Just as collection tests are classified according to their purpose, there are also many types according to the nature of their response (editorial tests - oral tests, performance tests).

Editorial achievement tests are one of the most commonly used types by faculty members to evaluate students' achievement of the courses in question. The following is a table explaining the nature of the relationship between the area of learning outcomes and the purposes and types of collection tests:

M	Areas of learning outcomes	The purpose of the measurement	Appropriate test type for measurement	Measurement timing
.1	Knowledge	Learn about the skills the learner has to learn a later (new) study content.	test Getting ready or preparing	Before the start of teaching
.2		Identify the strengths and weaknesses of the learner's performance.	Diagnostic test	Before and during the teaching process
.3		Estimate the general level of the learner in a specific course.	Final learning test	After completion of teaching

Table 1 shows the relationship between learning outcomes and the type, purpose and timing of the test

2. Cognitive Skills Cognitive Skills

By studying cognitive learning outcomes, our measurement is linked to the nature of two types of tests:

1. **Mental tests: tests that measure the** learner's abilities/skills/mental processes, including: scientific thinking testing, problem solving



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testing, critical thinking testing, decision-making testing, and creative thinking testing. These tests are used if one of the cognitive skills is measured specifically, individually and absolutely, for example, measuring the learner's ability to think scientifically in general and without association with a specific teaching content.

- ب. **Final achievement tests:** This type of test is used if the student's ability to apply conceptual perception of concepts, principles, and theories is used, in addition to its ability to measure the application of methods included in critical thinking, creative solution of problems and scientific thinking regarding the content of the course, and this is done by formulating test questions in a way that requires the skills of applying, analysing, installing and evaluating the knowledge studied in the course, and the essay questions of the two types are "short and long" and the questions of choice of multiple are appropriate to measure the example of I These skills provided they are built appropriately for their purpose.

3. Interpersonal Skills & Responsibility Skills Skills

By studying learning outcomes related to the skills of dealing with others and taking responsibility, we find

Their measurement is related to the nature of two types of tests:

- أ. **Attitudetests:** Tests that measure learning outcomes associated with the habits and life skills of the learner, and are defined as tests that provide the student with a position of real social life that requires a certain value judgment, and ask him to judge this position in the light of certain choices offered to him. These responses are assessed according to an effective level and not as correct or wrong. These tests require special skills from the faculty member because they require to analyse the skill to be measured and then formulate a set of life situations that are associated with these axes and thereby identify a set of responses that the learner is expected to make to each test position by choosing one.
- ب. **Valuetests:** Tests that measure learning outcomes associated with the values that a learner should have according to the specifications of the graduate and the requirements of the profession, such as: values of cooperation, values of dealing with technological innovations, value of work, moral and religious values... Etc., which will lead to the adaptation of the individual and the most important value tests are (Port Vernon-Lindsay's test for the study of values).

Multi-choice editorial tests are the most appropriate tests to measure learning outcomes associated with the skills of dealing with others and take responsibility, but they come second only after



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observing conduct using regulated observation cards, since some learners may resort to guessing the response that satisfies the position test corrector for high grades and assessments, while the codified observation provides the opportunity to evaluate learners more realistically and in more than one situation.

4. Communication, IT, numerical skills

Communication Information Technology, Numerical

By studying learning outcomes associated with communication skills, information technology and numerical skills, measuring them is related to the **nature of achievement tests:** in terms of written communication skills, pen-testing is the most appropriate test to measure these types of skills, providing the learner with the opportunity to review writing skills related to the appropriate use and employment of vocabulary, shortening without disturbing the cognitive structure of the subject of writing, as well as organizing and arranging information in a way that illustrates the relationship between its components, explanation, analysis, presentation and presentation. Perspectives and citing facts, theories and other skills. As it fits

Collection tests also play an important role in measuring the skills of using basic computational and statistical methods by designing a range of mathematical or statistical issues consistent with the nature of the course's subjects. They are used for the purposes of diagnosing learning difficulties or measuring the learner's achievement of these skills.

5. Psychomotor Psychomotor Psychomotor Motor Skills

By studying learning outcomes associated with psychomotor skills, we find that their measurement is linked to

The nature of performance tests: tests in which the student performs a work in practice, hence the performance tests, often of a practical nature, and are used frequently in areas as diverse as sports education, technical and engineering education, biology, physics, chemistry and other fields, both in vocational and general education. The importance of these tests also extends to university education: faculties of medicine, pharmacy, science and technology, engineering and archaeology, as well as military colleges where students conduct hands-on training in the use of all modern electronic devices and weapons. These tests are complementary to article tests and objective tests, and have four types – which will be detailed in the next pages of the guide.

Perhaps in the previous presentation of the role of tests in measuring different learning outcomes, the question of when the test is the most appropriate tool for measuring targeted learning



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outcomes? The answer is simple: testing is more appropriate when the goal of measuring the learning output and the objective of the test matches, as we have already explained the nature of the relationship between learning outcomes and tests.

Seventh: Test objectives:

- Measure students' educational achievement level, identify their strengths and weaknesses.
- Evaluate the teaching strategies used.
- Learn about the development areas of curricula, programs and courses.
- Predict students' future performance and excite their motivation to learn.
- Detect individual differences between students and discover people with special needs.
- Activate realistic education, move students from class to class, and open grades and certificates.
- Provide the student, the guardian and the decision makers with nutrition due to the level of student achievement.

Eighth: The importance of tests:

Collection tests are of great importance at three levels (student- faculty member - institution).

1. The importance of tests for the student

Where the results of the tests work to enhance behavior and thus raise the level of ambition of the student, and work to increase the level of mastery of knowledge and skills in courses, which help to move the impact of positive education from the current situation to the following position similar to the position in which learning was done and know the progress and improvement of the student in educational achievement, as well as work to improve the methods of recalling the feedback provided.

2. The importance of tests for the faculty member

Learn about the level of academic achievement that students have reached. Thus monitoring the progress of the educational process by knowing how much improvement or delay they experience in educational attainment and knowing the preparations of students to learn in the course they teach, as well as diagnosing the learning difficulties of the students and modifying the teaching strategies through feedback.

3. The importance of tests for decision makers

The results of the educational decision-making tests help the educational decision maker with good information that he uses in issuing



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many administrative decisions, such as moving students from one study group to another higher, giving graduation certificates or sending to study missions, as well as issuing many technical decisions such as guiding the type of education as well as determining ways to deal with individual differences for students.

Ninth: Basic principles of collection tests:

There is no doubt that if the tests are to achieve their objective, and the benefits of their application benefit both the learner, faculty member and decision makers of the educational process, a set of basic principles should be taken into account to build them as required, which can be addressed as follows:

- To measure clearly and measurably defined educational outcomes
- To cover a representative sample of educational outputs and subject matter as the test cannot include all educational outcomes for time, effort and cost considerations.
- To contain the quality of the most appropriate questions to measure the educational outputs and development stage of the learners.
- To be built to suit the objectives for which the results will be used, the readiness test requires paragraphs that are low in difficulty and cover a specific set of educational outcomes, as opposed to the final test, which covers a wide range of subjects and requires paragraphs with a wide range of difficulties.
- To have the greatest stability and to be careful in interpreting its results
- To use its results to improve the student's level of learning.

X: Test preparation steps:

1. Select testing purposes:

At this stage, the purpose of the test is to diagnose the aspects of school delays or weaknesses in a specific course subject, to diagnose misconceptions, to discover students' readiness, or to measure the student's achievement at the end of the semester or the end of the school year, as well as to follow up on the progress of the course subject, or to diagnose difficulties for students in studying a specific subject, so it must be taken into account that the test questions are achieved for the purpose of the test. For him.

2. Identify targeted learning outcomes by measurement:

The test is a tool for measuring students' learning outcomes, and in order for the measurement to be accurate, the teacher must identify



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the main and sub-learning outcomes that the test will measure in accordance with the approved description of the course.

3. Select and analyze test content:

Content is the key to achieving the desired learning outcomes, and identifying and analysing the topics covered by the test is an essential step in making achievement choices.

The analysis is defined as fragmentation of content, with the aim of developing questions for each topic that is relevant to the rest of the course's subjects, and the importance of the learning outcomes associated with it. In order to ensure that the sample of questions is represented for content, we can analyze the content appropriately, with a view to developing questions, and the simplest types of analysis is to categorize them into topics, modules, vocabulary, learning products or other parts of the content.

The content tested is analysed using a range of technical methods and procedures designed to categorize the course into key subjects and then addressed in the form of measurable learning products "sublearning products"; with the aim of achieving comprehensiveness and balance in testing, content is the medium through which targeted learning outcomes are achieved.

In this item, the following table can be used:

It is determined by analyzing the teaching topics to their elements, and calls sub-

They are determined by the description of

M	Target decision learning products by measurement	Course topics	Course subject learning outcomes targeted by measurement	Level of measurement of learning outcomes	Reviews
1	1-1	Topic 1			
		Topic 2			
		Topic 9			
2	1-2	Topic 3			



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		Topic 5			
		Topic 7			
		Topic 9			

Table 2 shows the division of course learning outputs into learning outcomes for course topics

Guidelines for analyzing coursetopics:

- Teaching topics are analyzed to their main elements.
- The learning outcomes for each subject are identified and formulated in the light of the course learning outcomes contained in the description, meaning the analysis of each product of learning contained in the "master" description into a set of sub-learning outcomes for each subject.
- It is preferable to use bloom classification of cognitive learning outcomes when formulating sub-learning outcomes.
- Bloom's first three levels of "Remembering, Understanding, And Applying" represent the cognitive skills of the National Qualifications Framework.
- Bloom's last three levels of "Analysis, Composition, Calendar" represent the cognitive skills of the National Qualifications Framework.

Area of learning outcomes	Bloom-rated measurement level	Meaning	Actions indicating learning outcomes
	Remember	Learner's ability to absorb, retrieve or identify correct information	Determines - categorizes - recognizes - mentions - chooses - calls



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Knowle dge	Understan ding	The ability of the learner to give meaning to the position he faces.	Aware - clairvoyant - predicting - inferred - stabilizing - interpreting - translating - giving examples - reformulating - summarizing - generalizing - explaining - transforming
	Applicatio n	Learner's ability to use abstractions (theories of laws - principle-skill) in addressing new attitudes and problems	Applied - exposed - working - created - compared - arranged - calculated - processed - equipped - produced - bleached - solved - used
Cogniti ve skills	Analysis	The learner's ability to fragment or break up the material used to its core components and to draw the relationship between these elements.	Analyzes - separates - divides - differentiates - molecules - differentiates
	Installatio n	The learner's ability to assemble parts to form each integrated and requires innovative behavior of the learner.	Proven - inferred - derived - described - composed - collected - innovated - connected - summarized - told - written
	Calendar	The ability of the learner to judge the value of things, ideas and solutions and justify them	Explains - justifies - appreciates - explains - criticizes - supports - connects

Table 3 shows the areas of learning outcomes and their measurement levels

4. Set up a spec table:

The specification table represents a detailed test chart in which the number of questions representing a particular content is determined,



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and the number of questions that achieve a certain level of knowledge levels of learning outcomes. Setting up the table requires:

- أ- Determine the relative weight of each test subject based on the description of the decision or binding book.
 - ب- Determine the relative weight of each target learning product by comparison.
 - ج- Determine the number of total test questions, and distribute them to content topics depending on the relative weight of each course topic.
 - د- Distribute each topic's questions to the levels of behavior measured by the test.
5. Select the type of "questions" test vocabulary:

The faculty member's choice of test-appropriate vocabulary depends on the nature of the learning outputs targeted by measurement, the nature of the study content, taking into account the basis of the formulation of these vocabularies, their advantages and disadvantages, as well as the test time; if the faculty member decides to use the long essay questions, the test time allows only a few questions, but if he decides to use short-answered or substantive questions, the number of questions will be large, and the choice of test questions in terms of number depends on a range of factors; Among them:

- أ. The type of questions used.
- ب. The educational level of learners.
- ج. The length and complexity of the question.
- د. The type of mental processes that the question requires.
- ه. Total test time.

There are many vocabularies that a faculty member can choose from, such as: essay questions - long essays, short essays - and objective questions such as: multi-choice, the most common in university teaching, marriage, completion, right and wrong, each of which has special advantages, disadvantages and conditions for optimal preparation – and we will provide a full explanation of each type of test vocabulary.

6. Write vocabulary "questions" tests:

At this stage, it is preferable to write more vocabulary than is expected to be included in the final test image of the test, to ensure that you have enough good vocabulary to build the test satisfactorily.



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When writing each type of test vocabulary, a set of considerations for their respective formulations, which will be mentioned later, as well as a set of considerations working to write the test vocabulary, are taken into account as follows:

- أ. Testing is a way to develop performance in the educational process.
 - ب. Development does not mean difficulty or complexity.
 - ج. Avoid writing test questions just before the exam.
 - د. The question should be clear and unambiguous.
 - هـ. The questions should be varied between easy and difficult.
 - و. The questions should be comprehensive on course topics and not focus solely on topics.
 - ز. The question should address an important aspect of the content, not the odd or the odd or the introduction and the margins.
 - ح. Students' answers are not limited to listing the information saved, but must depend on what helps to know the ability of students to think and analyze.
 - ط. One question should not be the answer to another question in the same test.
 - ي. It is time-appropriate, bearing in mind that there are vulnerable students and others who are slow to write.
 - ك. Be so specific that one question is unlikely to answer more than one answer.
7. Review test questions:
- At this stage, the questions are reviewed , after an appropriate period of drafting, to reduce the impact of familiarity, to emphasize: their appropriateness for measuring targeted learning outcomes, clarity of language, and not to be associated with answering another vocabulary, and to measure an educational output from the outputs in the specification table, free of language and spelling errors, size and form of writing lines "examination paper specifications."
8. Order test questions:
- Arrange test questions so that they are easy for the student to understand, track and answer without questions or ambiguity. The answer is arranged so that the teacher can make it easier to correct, and one of the following ways can be followed in arranging test questions, including:



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- أ. Order according to the type of test vocabulary: essay questions, objective questions "Multiple selection, completion, marriage, right and wrong....".
- ب. Ranking according to difficulty: We start with easy questions and then end up with difficult questions.
- ج. Arrangement according to the order of teaching subjects scheduled for characterization.
- د. Order according to the nature of measured learning outcomes and the response required of them (knowledge, conclusion, analysis, interpretation, composition, calendar, multiple choice, marriage, completion.....).
- هـ. Arrange according to the correct responses to objective questions (random - avoid the order that can be inferred).

In arranging test questions, a table is developed that determines the target learning output by measurement and test questions that measure output;

M	Targeted learning outcomes by measurement	Test question numbers that measure learning outcomes	Reviews
.1	1-1		
.2	1-2		
.3	2-1		
.4	2-2		
.5			

Table 4 shows learning outcomes and questions for measuring them

6. Write test instructions:

Instructions that guide and guide the learner to the correct answer method are written on the test vocabulary, including:

- أ. The goal of the test.
- ب. The exact time for the test.
- ج. The means and tools that can be used to answer test questions.
- د. Number of test questions.
 - Any other instructions that the faculty member considers useful to examiners.



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Some considerations must be taken into account when formulating test instructions such as:

- أ. **Clarity:** In otherwise, there are no instructions that need to be clarified or explained to learners or that are vague to learners.
 - ب. **Directly: In other words,** use a simple and concise sentence to express instructions.
 - ج. To be suitable for the nature of learners.
7. Set up the answer form for the test:

The faculty member must prepare a form for the test answer so that the degree to which the student receives is not affected by the different correctors. In the case of objective questions, the correct response is placed according to the type of question, if the choice of multiple is determined the correct answer number, and in the case the right and wrong questions we place the correct mark in front of the number of each question.... Thus depending on the type of response required.

In the case of pan questions, a graded estimate measure should be designed for the correct answers to the Rubricsquestion.

8. Experimenting and adjusting the test "in the case of regulated tests"
- Honesty and stability transactions are conducted at this stage for testing, and these procedures are of great importance in the case of final tests such as efficiency tests - internal and external - and tests of the Kingdom's Measurement and Evaluation Center.
9. Print and direct the test in its final form:

After the test is written in its final form, the vocabulary is read after an appropriate period of writing, to reduce the effect of familiarity, and then printed in preparation for providing the appropriate number of copies of the test in light of the number of students taking the exam. In order to take the exam in its proper final form, it is preferable to follow the followingguidelines:

- أ. See print before withdrawing the required number, which exceeds the number of students applying, to avoid typographical errors, or spelling in the questionsheet.
- ب. I make sure that the question is one page, and is not distributed in more than one page.
- ج. I separate the exam instructions from the questions, and each form of exam paragraphs in a clearline.
- د. Take care of the details and drawings on the test.



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- هـ. Separate the board of the question, its alternatives at a reasonable distance, and each question, which follows, at an appropriatedistance.
- و. Make sure the test numbers are sequenced as a whole.
- ز. Arrange the papers in case of multiple test papers.
- ح. Make sure that the number of exam papers printed is more than the number of students.

10. Build a test specification table:

- أ. Definition of the specification table: A detailed chart that identifies the content of the test and links the content of the subject to behavioral educational objectives, and shows the relative weight that the teacher gives to each of the different topics, and the relative weights of cognitive behavioral goals at different levels.
- ب. The purpose of the specification table: One of the most important purposes of the specification table is to balance the test, and to emphasize that it measures a representative sample of learning outcomes and the content of the course in which achievement is to be measured.
- ج. Composition of the specification table: The specification table includes two dimensions:
 - **First:** horizontal, representing levels of achievement of targeted learning outcomes.
 - **Second:** my head, represents the subjects of the course. (or vice versa)

The table includes weights of relative importance for both topics and outcomes, as well as on the number of questions for each subject in the light of those weights, and the faculty member can place the degree due to the questions of each subject in the same table.

There are many models that have been developed for the test specification table, which do not differ among them in terms of components or procedures used in their preparation, but differ only in their virtual form, and here are models of test specification tables developed by specialists:

Content	Level of measurement of course topic learning outcomes						Relative weights of content	Total test vocabulary
	remember	understanding	application	analysis	installation	calendar		



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Topic 1							%	
Topic 2							%	
Topic 3							%	
Topic 4							%	
Relative weights of targets	%	%	%	%	%	%	%	
Total test vocabulary								

Table 5 Test Specification Schedule Form 1

Topics	Questions and grades	Level of measurement of decision learning outcomes						Total questions	Total hours	Relative weights of subjects
		re me m b e r	u n d e r s t a n d i n g	a p p l i c a t i o n	a n a l y s i s	i n s t a l l a t i o n	c a l e n d a r			
Topic 1	Questions									%
	Grades									
Topic 2	Questions									%
	Grades									
Topic 3	Questions									%
	Grades									
Total questions										
Total grades										
Relative output weights		%	%	%	%	%	%			

Table 6 Test Specification Schedule Form 2

Total	Levels of test questions	Relative weight According to teaching hours	Teaching subject	Course topics
-------	--------------------------	---	------------------	---------------



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For questions.								learning products	
%	Number	%	Above it	%	Remember	%	Hours		
									Topic 1
									Topic 2
									Topic 3
									Topic 4
									Total

Table 7 Test Specification Schedule Form 3

١. Things to consider when building a specification table:

To determine relative weights, and the number of questions in the spec table, the following should be taken into account:

- The nature of the subject matter, and the target learning outcomes by analogy.
- How long it will take to teach each subject.
- The characteristics of learners with regard to the level of study and age.
- The type of test paragraphs that will be used to measure outputs.
- The level at which targeted learning outcomes are achieved by measurement.
- Arrange topics according to their importance.

٢. Benefits of the spec table:

- Help build a test balanced with the effort to teach the subject.
- Give real weight to each topic.
- Help measure targeted learning outcomes, in an orderly manner, so that their achievement can be measured significantly.
- Help the faculty member create equal images of the test.
- To achieve the sincerity of the content for the test significantly.
- Give the student great confidence in the fairness of the test, which helps him organize his time during the memorial and distribute it to the subjects with balance.

٣. Steps to build a spec table:



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- Identify the topics in which the student's achievement is to be measured: they are determined by the description of the course according to the purpose of the test, such as a final test to measure the achievement of learners in a specific course;
- Determining the relative weight of subjects, through one of the two equations, is done by:
 - Calculate the number of pages per topic or lesson in course content, usually represented by a binding book or article book, and the following equation can be used:

$$\frac{\text{Number of lectures on subject teaching} \times 100}{\text{Total number of lectures}}$$

The results of the previous equation can be unloaded in the following table:

Total	Topic 4	Topic 3	Topic 2	Topic 1	Content
4	1	1	1	1	Number of lectures
100%	25%	25%	25%	25%	Relative weight

Table 8 shows the relative importance of the course topics based on the number of lectures

- Estimate the number of teaching hours or lectures in which each subject or lesson is taught in the course, and the following equation can be used:

$$\frac{\text{The number of pages of the topic in the book} \times 100}{\text{Full number of pages of the book}}$$

The results of the previous equation can be unloaded in the following table:

Total	Topic 4	Topic 3	Topic 2	Topic 1	Content
300	75	75	75	75	Number of pages of binding book
100%	25%	25%	25%	25%	Relative weight

Table 9 shows the writing of the relative importance of the subjects of the decision based on the number of pages of the binding book.

- The relative importance of the course topics can be calculated by combining the two methods (a, b) and taking the average collection.



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- The faculty member's experience can be utilized through his previous experience in teaching the course, and to show the most important subjects of study as well as the nature of the learning outcomes that work to measure them and the importance of each of them in achieving the outcomes of learning the course and the program, and this method is the most widespread, but it is difficult to be self-appreciated from one faculty member to another depending on the experiences of each of them.
- **Identify the outcomes of learning the subjects of the course to be measured at different levels: the aim of this phase is to analyse the main learning outcomes of the course into a set of learning outcomes for the subjects of the course, so that the learning outcomes targeted by each topic are determined to the extent in the light of bloom's levels of measurement of learning outcomes, and the results of the analysis can be emptied into table 2 of the current guide.**
- **Determine the relative weight of the course learning outputs at different levels, and can benefit from the following equation, and this is done for the following equation:**

$$\frac{\text{Number of subject learning outcomes} \times 100}{\text{Number of total learning outcomes for the course}}$$

The results of the previous equation can be unloaded in the following table:

Total	calendar	installation	analyses	application	understanding	remember	Output verification levels
25	1	2	3	5	6	8	Number of subject learning products
100%	4%	8%	12%	20%	24%	32%	Relative weight

Table 10 shows the relative importance of decision-learning outcomes.

- **Determining the total number of test questions:** This is done in light of the time available for the answer, the type of questions and the age of the student and other factors influencing.
- **Determine the number of questions per topic, and can take advantage of the following equation:**

$$\frac{\text{The relative importance of the subject} \times \text{number of test questions}}{100}$$

100



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- Determine the number of questions per measurement level for learning outcomes, and can take advantage of the following equation:

$$\frac{\text{The relative importance of the level of outputs measured} \times \text{number of test questions}}{100}$$

- Determine the score of each goal's questions for each topic, and can take advantage of the following equation:

$$\frac{\text{The relative importance of the goal} \times \text{number of test questions}}{100}$$

- Determining the number of questions for spec table cells (for the level of measurement of outputs and topics together): each cell is linked to a certain level of corresponding objectives, and a particular subject versus them, and the following equation can be used:

$$\frac{\text{Number of subject questions} \times \text{number of target questions}}{\text{Total number of test questions}}$$

A practical example:

What is required is to build a specification table for an educational unit for one of the courses. This unit consists of three main topics, which are taught in eight lectures distributed on the subjects as follows: first place (3) lectures, second topic (3) lectures, third topic (2) lectures. The unit contained a number (25) output of learning distributed as follows: remember (8), understand (6), application (5), analysis (3), installation (2), calendar (1).

Steps to build the specification table for this unit:

1. A table is built as follows, and the relative weight of each topic is determined as we explained earlier by dividing the number of lectures per topic by the total number of lectures and then multiplying the output in a hundred with rounding or in any other way - as we have already explained - so it is as follows:

	Level of measurement of course topic learning outcomes	Relative weights	
--	--	------------------	--



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Content	rem emb er	under standi ng	appli catio n	analy sis	instal latio n	cale ndar	of content	Total test vocabular y
Topic 1							38%	
Topic 2							37%	
Topic 3							25%	
Relative weights of targets							100%	
Total test vocabulary								

Table 11 shows the relative weight of teaching topics as an example.

2. The relative weight of a level at each level is determined by dividing the number of level goals by the total number of goals and multiplying the output by 100, so the table shape becomes as follows

Content	Level of measurement of course topic learning outcomes						Relative weights of content	Total test vocabular y
	rem emb er	under standi ng	appli catio n	analy sis	instal latio n	cale ndar		
Topic 1							38%	
Topic 2							37%	
Topic 3							25%	
Relative weights of targets	32%	24%	20%	12%	8%	4%	100%	
Total test vocabulary								

Table 12 shows the relative weight of teaching topics and learning outcomes as an applicable example.

- 3 . Calculating the number of questions in each level for each subject of the following equation:

The number of subject questions in each level of measurement "cells" = the total number of questions × the relative weight of the importance of the subject × the relative weight of the subject's outputs.
The correct numbers should be rounded in a balanced manner.



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Considering the number of questions in the test (50 questions) of the type of multiple selection questions, the specification table becomes as follows:

Content	Level of measurement of course topic learning outcomes						Relative weights of content	Total test vocabulary
	remember	understanding	application	analysis	installation	calendar		
Topic 1	6	5	4	2	2	1	38%	20
Topic 2	6	4	4	2	1	1	37%	18
Topic 3	4	3	2	1	1	1	25%	12
Relative weights of targets	32%	24%	20%	12%	8%	4%	100%	
Total test vocabulary	16	12	10	5	4	3		50

Table 13 shows the results of the full application example specification table

Typical test answer (answer form and patch key):

After the faculty member has finished printing the test questions, he or she has to develop a form to answer these questions and he has to take into account the accuracy of this, which is useful for the faculty member to know how the questions fit with the time limit, and to correct some of the mistakes he has made when writing questions.

The importance of preparing the typical answer to the test (patch form):

1. It is a test of the clarity of the questions, and the existence of specific answers to them.
2. Ensure that there are solutions that can be found for solving problems and arithmetic issues, although there are other ways to solve the model shows how to distribute tags to them.
3. Emphasizes that the learning outcomes to be measured have already been tested and measured.
4. Determine the distribution of the grades allocated to the test on all vocabulary in a clearly equal manner before applying it.

What to consider in the test's typical answer sheet (correction form):

5. The model should be written in a very clear line" not to use the clear decorative lines of Guy."
6. Organize and arrange in the same way as organizing and arranging the question paper with the full writing of the data.



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7. Write the answer to each question and its paragraphs on a separate page from the other question.
8. There should be a break between each question and another.
9. Contain all possible answers, especially in questions where you require the student to mention specific paragraphs from a set of paragraphs.
10. If there are test essay questions, a graded estimate measure should be used for the correct answers to the Rubrics question to distribute the grades allocated to each answer fairly and balancedly before the test begins, and the next table can be used:

M	Targeted learning outcomes by measurement	Description of the question	Total question grade	Rubrics Graded Estimate Scale		
				low Grades 1 to 3	medium Grades 4 to 6	High Grades 7 to 10
1	1-1	Drafting the question as stated by the test	10	Description of the answer in case of low performance	Description of the answer in the case of average performance	Description of the answer in case of high performance
2						

Table 14 shows the rubrics answer form

11. Don't stack the information "stuff it" with the answer form paper
Set a score for each question, taking into account the following:
 1. The degree fits with the quantity and accuracy of the information and between each question and question.
 2. Determining the partial grades of each paragraph of the question.
 3. Each paragraph is recorded in a small circle to the left of the paragraph and the total question score is written in a large number box and written.
 4. A score is allocated to the general shape of drawings or laws.
 5. The final degree of the test is written on the paper in the form of breaking a number and writing.



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Common errors in taking out the typical answer sheet for the test (patch form):

- Unequal distribution of question scores.
- Inaccuracy and comprehensiveness of the answer

Statistical analysis of the test:

In order for the teacher to explain the results obtained by the students, and know the validity of the questions and achieve the goals, they must see the following statistical milestones:

- Arithmetic **medium**:

It means: the average score of a class student. It is calculated in one row as follows:

$$\text{Arithmetic medium} = \frac{\text{total grade scores}}{\text{Number of students}}$$

The arithmetic of the paragraph or question is calculated as follows:

$$\frac{\text{Total student marks on the question "paragraph"}}{\text{Number of students}}$$

Statistical indications of the computational medium:

- The higher the value of the computational medium of the marks, the better the performance, provided that there are no high extreme values that have led to the rise of the arithmetic medium.
- The more the marks are distributed on both sides of their computational middle in a similar and equal way, the moderate distribution reveals the differences between students better.

- Difficulty factor:

Each selection-type paragraph is calculated from multiple, and each of the pan questions is calculated as follows:

$$\text{Difficulty coefficient} = \frac{\text{total score for the question "paragraph"}}{\text{Number of students} \times \text{question mark}}$$

The extent of the difficulty factor values (0% - 100%)

If the difficulty factor is 100%, it shows that the question is very easy, but if

The difficulty factor is zero%, it indicates that the question is very difficult, so it is recommended

By keeping the paragraph or the question if the difficulty factor falls between (70% - 30%)

- Discrimination factors:

The discrimination factors of the paragraph or question are extracted by following the following steps:

- Order the students' grades in descending order.



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- Identify the top category (27%) and they are the ones who got the highest marks, and the lower category (27%) and they are the ones with the lowest marks.

Discrimination factors

Total grades obtained from the upper category - total grades obtained from the lower category

Number of students in one of the two categories × question mark

The discrimination factor is accepted within the range 0.40- 1.00

Semantics of the discrimination factor:

- If the discrimination factor is negative, it means that more than a number of those who answered the paragraph correctly in the lower category answered the correct answer. Therefore, the paragraph is negatively marked and excluded.
- If the discrimination factor (zero), this means that the number of respondents to the paragraph is correct in the lower category equal to the number of those who answered it correctly in the upper category, or that no one answered correctly in both categories and in both cases the paragraph is not distinctive and excluded.
- If the discrimination factor is more than (zero) in a positive direction, this means that more people answered the paragraph correctly in the upper category than the number of respondents in the lower category, i.e. the discrimination of the paragraph is positive, and we take into account the following:
 - If the discrimination factor is less than 0.19, the paragraph (excluded) is deleted.
 - If the discrimination factor is 0.20-0.39, the paragraph is amended.
 - If the discrimination factor is more than 0.40, accept the paragraph
- If the coefficient of the paragraph or question equals (1) this means that all members of the upper category have answered correctly, and that all members of the lower category have erred in answering them.

XI: Test quality standards:

Regardless of the type of test, a good test is the test that achieves the purpose of its use, i.e. the quality of the test is measured by the extent to which it can measure the characteristics and qualities required to measure it and in order to judge the quality of the test there are criteria to be ascertained:

1. Honesty:



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It is intended to measure what has already been prepared for measurement, several types of which are explained as follows:

- أ. **Authenticity of the content:** i.e. the content of test questions covers part of the scientific content of the decision and not the entire
- ب. **Validity of criteria or trials:** Transactions are obtained between the test score and data collected from other trials in the same period as the test.
- ج. **Synthetic honesty:** This type of honesty assumes that most information, skills and abilities are combinations, and the process of measuring the composition of the test includes two main processes, the first of which is some measurements of the capabilities associated with this test, and the second is the collection of data through the application of that test to study the validity of the initial hypothesis.
- د. **The arbitrators believe:** It is obtained by presenting the test to a group of arbitrators specialized in the field in order to ensure the validity of the drafting of the items on the one hand and the appropriateness of the area to be measured on the other.
- هـ. **Predictive honesty:** It indicates the ability of test scores to predict specific behavior in the future.

2. constancy

A hard test gives the same results to the same group of individuals if applied again, and in the same circumstances provided that learning or training does not occur between test times.

There are several ways to get the test stable explained as follows:

- أ. **How arbitrators hold firm:**
Test stability is calculated according to this method by giving students' answers to two or three expert arbitrators in the field of specialization usually two or three independently to classify and estimate these answers and calculate the correlation factor between the grade groups (estimates) given by the arbitrators to the answers.
- ب. **Retest method:**
In this method, the same test is applied to a group of individuals twice as far apart, under similar circumstances, taking into account that the period between the two tests does not exceed one month, and then calculates the correlation factor between the results of the two times, if the correlation factor is high and positive, indicating the stability of the test.
- ج. **Equal image method:**
This method requires the design of two equal tests per test, each prepared separately and independently, so that the tests are applied



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to the same group members at a interval of one to four weeks and then calculate the correlation factor between the scores of individuals in the two tests for stability and require the parity of the two images to be the same and the items clearly arranged as well as the difficulty, ease and method of drafting.

2. **Half retail method:**

This method involves dividing the test in half, so that each half becomes a stand-alone image, can be compared and the test is applied to students, and after correcting the test we compare their grades in the first half of the test with their grades in the second half, calculating the correlation factor between the results of the two halves.

3. **Objectivity:**

It is the opposite of subjectivity and means taking the corrector's opinion or personal wisdom out of the correction process, or not stopping the student's score on who corrects his answer sheet.

Objectivity is an essential characteristic of a good test, depending on the stability of the test and then its sincerity, and it is necessary for all types of tests, especially pans.

Previous standards are scientifically agreed criteria to ensure the quality of the test, but there are mechanisms and procedures taken by the college or academic program to ensure that test quality standards are met in their tests and in this case call test quality specifications.

In this regard, the Quality and Development Deanship, represented by quality management and accreditation, has developed two models to achieve test quality standards, which have been circulated to all university college programs to ensure that the accreditation requirements of quality tests are met, these models are:

- The theoretical test quality standards model. Extension 1.
- Specifications of the exam paper. Extension 2.

4. **Consistency with targeted learning outcomes by measurement:**

It is necessary to proceed with the process of building tests of different types in line with the nature of the course and the learning outcomes it targets. If the course aims to develop manual technical practical skills, the type of test used should be linked to this purpose, such as using performance tests, and if the objective of the material is to measure the cognitive achievement aspect of the learner's father either definitively or temporarily, the type of test must be linked to this purpose... And so on.

5. **Construction on a scientific basis :**



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The scientific method of building tests — or any other calendar tool — has become an important test quality standard, and has gained this importance since the scientific construction of the test brings it to all other standards, as scientific preparation of the test requires a range of procedures:

- أ. Identify course topics and targeted learning outcomes by measurement.
- ب. Identify and build the appropriate vocabulary to measure targeted learning outcomes in the light of their respective scientific foundations.
- ج. Prepare the test specification table, so that the test is linked to the outputs and topics of the course in a balanced manner in the light of the relative importance of each.
- د. Conduct honesty and stability transactions for testing.
- هـ. Ensure that the test matches the specifications specified by the testing authority - from the induce of form, and content.

6. Inclusiveness:

Comprehensiveness is the coverage of all targeted learning outcomes by comparison, and the coverage of the test also includes that its questions include all the subjects studied by students as described by the accredited course.

12th: Types of tests:

There are multiple types of tests, which are classified in the light of the category and nature of the classification subject, and these types can be addressed as follows:

1. The types of tests by whom you prepare them, divided into:

- أ. **Codified tests:** Prepared by a group of specialists in a field and conducted honesty and stability transactions.
- ب. **Unsannified tests:** prepared by faculty members such as quarterly exams and year's work.

2. Types of tests by correction and marking, divided into:

- ج. **Objective tests:** (multiple choice - right and wrong - completion - marriage...)
- د. **Pan tests:** (short - long).
- هـ. **Oral tests.**
- و. **Performance tests.**

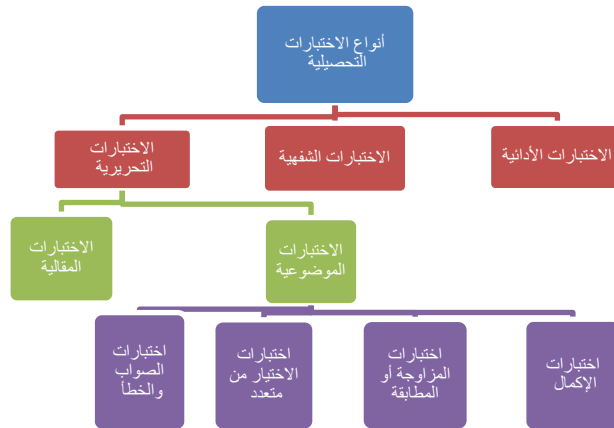
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3. Types of tests by function, divided into:

- أ. **Survey tests:** Tests designed to stand at the general level at the end of each stage such as middle and high school.
- ب. **Diagnostic tests:** They aim to identify strengths and weaknesses.
- ج. **Level tests:** Which determine the general level of students by the end of the semester or by the end of the year.

By studying previous classifications, we find that they overlap with each other at the time of their use, for example: objective tests can be developed for the purpose of measuring the level and have been codified, to obtain a more accurately prepared tool, and so on in other species.

The following figure shows the types of collection tests:



Form number (2) types of collection tests

1. Performing tests

Performance means what an individual does in an area that requires actuality, work or achievement, performance tests are the kind of tests aimed at measuring the performance of the learner, or the kind of test that concerns skill requirements.

Performance tests are used in a number of areas such as special scientific experiments, related scientific activities, the use of modern tools, the diagnosis of delay in some scientific skills, the prediction of the future success of the individual in a particular profession, self-assessment and assessment of tendencies and trends.

أ. Performance test features:

- A direct assessment of the extent to which the student acquires cognitive, performance and emotional skills and their realistic application.
- It allows the student to play a positive and effective role in researching and addressing several sources.



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- The student is able to perform the self-evaluation process while carrying out a task, work or project.
- Allows the student to participate with the faculty in the development of performance evaluation standards and performance levels
- Encourages students to reach a high level of quality
- It gives the student room to defend his performance with arguments, and proofs to justify it logically and practically.

ب. Defects of performing tests:

- Building performance tests is more difficult than collection tests as they require more time to prepare and implement.
- It depends on subjective judgments so that their results are always difficult to trust.
- The following steps are often affected if the student mistook one of the previous steps, resulting in a weakness in the objectivity of the measurement and evaluation.

ج. Performance test patterns:

The classification of performance tests for realistic levels of test position varies to four patterns:

- Written performance: This type of test is different from the usual collection tests in that they give greater importance to the application of knowledge and to the measurement of performance skills in situations that mimic actual or real situations.
- Performance for selecting or identifying the type: This type of performance test includes a wider range of positional tests that represent varying degrees of realism. For example, in some cases, the tester may be required to identify a tool, name its parts and define its functions, and in more complex situations, the tester may be confronted with a particular practical attitude, and may be required to treat it, a type of test commonly used in the field of biology and chemistry.
- Performance if using the simulation model: In such a pattern, the student is expected to take the same steps and movements as the real work required. Performing the required performance in the case of a simulation model can be used as a means or test indicating the acquisition of the required skill, and success in this type of test is evidence of a willingness to do a particular job in a real position.
- Performance in the case of a sample representing the overall position: the working sample represents the highest degree of truth or reality, because it requires the student to do real work representing the full performance that is measured.



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1. Conditions for drafting performing tests:

- Establish standards and conditions for successful performance and describe the minimum conditions for acceptable performance, where the following are determined:
 - Accuracy of performance.
 - Speed of performance.
 - The correct order of performance steps.
- Prepare instructions for the test, and these instructions should explain the following:
 - The purpose of the test.
 - Devices and materials needed by performance.
 - The way the test is conducted.
 - Conditions for the use of equipment.
 - The required performance.
 - Test time.
 - The method of measurement or auditing.

2. Oral tests

Oral tests are one of the oldest methods used to determine students' absorption of the information and knowledge they have acquired, and are of great importance in evaluating the student's ability to read, speak properly, express and talk, and enable the detection and correction of students' errors at the same time, and it should be noted that they are used as complementary tests for other types of tests.

أ. Areas of use:

This type of test is used to achieve certain objectives, most notably:

- Judge the extent to which students understand the facts, and how well they can handle emerging situations.
- Evaluating oral skills such as the ability to express, and the ability to speak in a correct Arabic or foreign language.
- Identify specific attributes related to the personal element.

ب. Benefits of oral tests:

Highlights of this type of test include:

- It measures the student's ability to express, discuss, dialogue and speak properly.
- Helps to judge the speed of thinking and understanding of the student, and his ability to link information and draw conclusions from it, and to judge it.
- Allows the student to benefit from the answers of his colleagues.



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- It helps detect and correct students' mistakes, and helps students avoid mistakes that their colleagues make.
- It connects the parts of the subject to each other, because it makes it easier to move from part to part, or from topic to topic through questions and answers.
- Helps the faculty member to confirm the validity of the results of some editorial tests that he may doubt.

ج. Defects of oral tests:

- Some of the most prominent drawbacks of this type of test include:
- It takes a long time to prepare and perform both if the number of testers is large.
- It is difficult to put questions at one level in terms of difficulty or ease, making it not easy to make the right judgment at the varying level among students.
- It is difficult to ask enough questions per student, which negatively affects the stability of the test results, and the sound judgment at the student level.
- Low degree of objectivity and high degree of subjectivity, because the faculty member may be influenced by his previous idea of the student, which makes it difficult to judge the accuracy of the results.
- Do not allow for the provision of collection data that can be analyzed for diagnostic purposes if necessary.

د. Conditions for drafting oral tests:

- Her questions should be clear and appropriate to the level of students.
- The questions must be in line with the nature of the subject and are thought-provoking.
- These tests should be conducted with complete accuracy and in a timely manner.
- Take into account the individual differences between learners and give each learner sufficient time to master this skill.

3. Editorial tests

It is divided into two basic types: pan tests and objective tests, as follows:

- أ. **Pan tests:** Those tests that need to be answered need to be understood, able to express and organize ideas, and to link topics in an integrated way.

- **Areas of use:**

Highlights of this type of test include:



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- Measure the student's expressive ability by using the structural method of answering.
- Measuring educational objectives in which written expression is important, as a comparison of two things, or forming and defending an opinion, summarizing or analyzing, etc.
- Measure the ability to select, link and organize ideas.
- Diagnose the student's creative ability, identify his or her directions, and his or her level of ability to use his or her own language.
- **Advantages of pan tests:**
 - Easy and fast set up.
 - Used to measure learning outcomes from higher levels of knowledge.
 - Depends on the freedom to organize the required answers, enabling the student to choose the right ideas and facts.
 - Its suitability to measure the student's abilities, and his ability to achieve interdependence and integration in his knowledge and information.
 - • Reveals the student's ability to use his knowledge to solve new problems.
 - Allows the student to use his own words, expressions and self-dictionary to express the answer.
- **Disadvantages of pan tests:**
 - Do not allow the course to be fully covered, and therefore not measure all educational outcomes.
 - It takes a long time to correct them.
 - It requires a Rubric descriptive estimate balance to estimate the different levels of the answer.
 - Correcting the answer may be influenced by subjective factors and whims, resulting in an inaccuracy of the degree granted to the student.
 - Chance or luck plays a big role in the outcome of these tests, so the student succeeds if the questions come from the subjects he studied, and fails if they come from subjects that he did not study.
- **Criteria for drafting article questions:**
 - Diversify question levels so that learning outcomes are measured as much as possible at lower and higher mental levels (remembering, understanding, application, analysis, criticism, evaluation, creativity).
 - The question must be formulated so that the problem it contains is quite clear and its frame of reference is precisely defined and does not require interpretation.
 - The language of the questions must be quite clear, unambiguous, and equally understandable for all students.



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- Optional questions should not be asked unless the educational output requires it.
- A clear and specific answer form should be made for each question.
- Avoid starting the question with words like: Remember, why, number.
- It is preferable to start the question with words such as: Compare.... In terms of, among the reasons that led to... explain.... explain.... conclude.... discuss.... It encourages the learner to think and realize the mind.
- Questions should measure the core learning outcomes of the decision, not marginal sub-elements.

ب. Objective tests:

Are the tests that remove the corrector's opinion or judgment, from the correction process because the answer is specific, and is called objective because it is objective in its results, not affected by the subjective personal factors of the corrector. **The following types include:**

● **Multiple selection tests:**

This type of objective test is the most important and used, given the possibility of formulating its questions in a different way, and using it to measure multiple aspects that other substantive tests cannot measure. These are questions in which the paragraph consists of two parts, the first is an origin or introduction presenting the problem, and the second is multiple alternatives that provide possible answers to the problem with one correct answer and the rest camouflaged, these questions are able to measure all mental levels of (knowledge - understanding - application - analysis - composition - calendar), the number of alternatives may be two, three, four or five, and the more alternatives the less guesswork in the answer.

➤ **Areas of use:**

- Questions for this type of test are used in many areas, most notably:
- Measuring the ability to remember facts, terminology and concepts.
- Measure the ability to understand interpretation, analysis, conclusion, proof, discrimination, comparison, and examples.
- Measuring the ability to apply important principles, rules and laws in new situations.
- Measure the student's ability to communicate to the right answers by performing calculations.
- Measuring the ability to analyze, install, make judgments, and so on complex learning processes.



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➤ **Advantages:**

One of the advantages of this type of objective test is:

- It draws the student's attention to the need for excellence and accurate knowledge of the facts.
- Helps measure the student's ability to distinguish between correct and wrong judgments.
- Honest and consistent much more than the rest of the species.
- Provides an excellent learning opportunity because of the possible answers when making sure the right answer.
- Used to measure different areas of knowledge such as remembering, understanding and application ... etc.
- The student is used to the right judgment, balancing and distinguishing the best.
- Helps diagnose students' mistakes or misunderstandings by responding to wrong alternatives
- The student is offered to review the largest amount of the required material.
- Their results can be analyzed statistically easily.
- It is easy to correct this type of test, especially using the perforated answer key.
- Disadvantages:
- It takes a long time to prepare them and a lot of effort to correct them.
- Cost in printing and photography.
- There is still room for some fraud and speculation.
- The terms of the drafting of questions for this type of test:
- The problem with the missing question or phrase should be quite clear in his head without having to read the alternatives given.
- The head of the question must include all words that can be repeated in the alternatives.
- If the question problem is formulated in the form of an incomplete sentence, the language of all alternatives must be consistent with the wording of this sentence, and the vacuum must be at the end of it.
- Alternatives must be homogeneous in their content, so that all alternatives are somewhat formally valid as possible answers to the question.
- Exiled phrases should be avoided as much as possible.
- You should avoid using the "all of the above" and "not one of the above" alternatives unless required.
- Any indications that some alternatives are correct or wrong when formulating them should be avoided, such as: repeating words from



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the top of the question in some alternatives, or linguistic or grammatical indicators.

- If alternatives include numerical measurements or values, units of measurement must be selected in each alternative.
- The correct answer position between alternatives should change from one question to another continuously through the test, and this should not be linked to a fixed rule or pattern.
- Alternatives must be alphabetically arranged if they contain names or flags such as : (persons) and be as long as possible.
- The head of the question should not include precisely defined words such as words that indicate craftsmanship, such as: always, all, usually, often, to some extent, all, never, no one, the only one).

- **Right and wrong tests:**

This type of objective test consists of a number of phrases, some of which are correct and some are wrong, and the student is required to judge each phrase either correctly by placing a signal (✓) to indicate the right, or a signal (×) to indicate error, sometimes replacing the word "yes" or "no" from the signals, and the student may be asked to explain the right and wrong, or be asked to correct the error.

- **Areas of use:**

- This type of question is used in the following areas:
- Measuring the ability to remember simple facts and reporting information.
- Measure the student's understanding of general theories and concepts, and his ability to judge their health and safety.
- Measuring the student's ability to recognize the validity of a causal relationship.
- Measuring the student's ability to distinguish between facts and opinions, between assumptions and hypotheses, and between correct and incorrect terms.

- **Advantages:**

- Easy to prepare, formulate and correct its paragraphs, saving a lot of time and effort.
- Its coverage of a large sample of the vocabulary of the content of the subject, which makes it comprehensive in measuring aspects of the behavior to be measured.
- They are self-corrected because their answers are specific and can be corrected using the patchkey.
- The answer does not need to use the language, so the answer is equal to the student who is fast-expressing, slow, strong in language and weak.



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➤ **Disadvantages:**

- It is not suitable for measuring some important abilities such as analysis, composition, evaluation and perception of relationships, which means that they are limited to measuring simple mental processes such as knowledge and understanding.
- Encourages conservation, recitation and focus on detailed facts, preventing adequate briefing.
- Easy fraud in answering questions from students.
- The stability factor is reduced due to the possibility of communicating to 50% of the correct answers to his questions by guesswork, and this percentage may rise further, if the scheduled book takes phrases and adds artificial camouflages, making them look right or wrong.
- The degree of honesty is weak, since the student's response to some of his words may not reflect the reality of his performance.
- The terms of the formulation of this type of test:
- The individual must bear no more than one answer, i.e. either the answer to the question is completely correct or completely wrong, and it does not tolerate any doubt or disagreement.
- Make the question as short as possible.
- Make the correct number of phrases equal to the number of wrong phrases as much as possible.
- Randomly arrange the correct phrases and wrong phrases and are not associated with a fixed rule or pattern.
- Make the length of all phrases as equal as possible.
- Avoid exiled phrases.

● **Completion tests:**

The test in this type consists of a number of paragraphs that are in the form of incomplete phrases. The student is required to complete the deficiency by placing a specific word, word, number, or code in the blank space assigned to it in each statement.

➤ **Areas of use:**

- Some of the most prominent areas in which this type of test is used include:
- Measure the student's ability to remember facts and information that are indisputable and undisputed.
- Measure the student's ability to interpret based on principles and laws.
- Measuring the student's ability to solve sports issues.
- Measure the student's ability to recognize methods, methods and procedures.

Its advantages:



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- Easy setup and correction.
- The chances of guessing are lower than other types of objective tests.
- Objectivity in correction.
- It can cover most of the course topics.
- **Disadvantages:**
 - Difficulty correcting with more than one possible answer to the question.
 - Requires effort and time from the corrector in case of spelling errors.
 - Limited use to measure simple educational outcomes.
 - Less objective than other types of substantive questions.
 - Conditions for drafting this type of test
 - The question problem must be fully and accurately defined, so that all students required in the question understand the same meaning.
 - The missing word in the phrase must be valuable and linked to the primary theme of the lesson.
 - The void should not be at the start of the phrase.
 - Phrases should not be literally removed from the prescribed books.

Marriage or interview tests:

These are questions in which two lists of issues are a number of issues, the second includes a number of answers to these problems in a different order, and each problem from the first list (introductions) is required to be linked to its answer in the second list (answers), and can be said to be a modified image of the pattern of multiple selection paragraphs.

- **Areas of use:**
 - Highlights of this type of test include:
 - Measure the student's understanding of the meanings of certain words and terms.
 - Measure the student's ability to remember terms, dates, or events.
 - Measure the student's ability to combine interconnected facts and information.
- **Advantages:**
 - Save time and effort in preparation and correction.
 - It is one of the tests that saves space and provides paper.
 - There are fewer chances of guessing than other types, especially when the introductions are selected so that they seem suitable for all introductions.
 - Achieves a great deal of objectivity and distance from subjectivity.
 - To save the student's effort, instead of reading a number of alternatives to each question, he reads a number of solutions to answer a number of questions.
- **Disadvantages:**



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- This type requires a sufficient number of symmetrical and interrelated relationships and may not always be possible, which limits its use.
- This type is not suitable to measure some of the higher mental abilities such as proof, discrimination, evaluation, and complex learning processes.
- Its usefulness is limited to conformity and the statement of the relationship between one element and another.
- The terms of the formulation of this type of test:
 - The number of phrases on either list must not exceed eight.
 - Phrases must be relatively short, and no more than four words are long.
 - It is preferable to arrange the items of each list alphabetically, and if the vocabulary of the list contains numerical values, it is preferable to arrange them in ascending or descending order.
 - The phrases in each list must be homogeneous, i.e. all phrases belong to the same study content.
 - All items of the two lists must be on one page.

13th: The role of quality management and accreditation at Hail University in ensuring the quality of evaluation processes in the university's programs:

Recognizing quality management and accreditation in general quality and development of the importance of building learning output measurement tools "calendar tools", especially tests because they play an important role in the harshness of learning outcomes in their various fields and as tools that economically time, effort, costs and other advantages that make them one of the most widespread ways to measure learning outcomes in different academic programs by collecting university colleges, and in order to support all that would support the excellence of the teaching process in collecting its stages " planning, implementation and evaluation; It has taken many constructive initiatives to build the knowledge and skills of graduates in light of the requirements of the labour market and the national qualification framework.

Quality management and accreditation initiatives for test preparation have varied in accordance with their quality standards and meet accreditation requirements, and these initiatives can be presented as follows:

1. Raising awareness among faculty of the nature of targeted learning outcome assessments and measurements

This role was:



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- أ. Production and distribution of a folded specialized in explaining the role of the faculty member in achieving the quality system, including calm in the various evaluation processes of the program.
- ب. Production and distribution of a guide to measure the target learning outcomes of academic programs and courses at Hail University, explaining the nature and complexity of learning products with graduate specifications, and how to measure them.
- ج. The production and distribution of the test building manual — which is now in your hands — aims to deploy the mechanisms and procedures for building tests in a scientifically codified manner that will measure the outcomes of learning as desired.

2. Developing faculty skills with the nature of evaluations and measurements of targeted learning outcomes

This role was to introduce a package of training workshops aimed at developing the skills and abilities of faculty members associated with evaluation and preparation methods, and the topics of the training workshops were as follows:

- أ. Measuring learning outcomes, presented in "Arabic and English".
- ب. Calendar strategies and methods.
- ج. Efficiency test "internal and external".
- د. Preparation of the exam paper and its specifications.

14th: Test quality measurement models:

This role was to present a variety of models related to measuring the quality of tests presented in academic programs at the university colleges in both Arabic and English, which were the following models:

- أ. A theoretical test quality assessment model in Arabic. Extension 1.
- ب. A theoretical test quality assessment model in English. Extension 2.
- ج. Criteria for evaluating the exam paper in Arabic. Annex 3.
- د. Criteria for evaluating the exam paper in English. Extension 4.
- هـ. A matrix that corresponds to targeted educational outcomes with different calendar methods.



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List of supplements

- "Annex No. 1" is a theoretical test quality assessment model in Arabic.
- "Supplement #2" is a theoretical test quality assessment form in English.
- "Annex 3" criteria for evaluating the exam paper in Arabic.
- "Annex 4" criteria for evaluating the exam paper in English.
- "Supplement #5" matrix corresponds to targeted educational outcomes with different calendar methods.



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Extension No. (1)

Theoretical examination and evaluation form

Section:----- Rapporteur:-----

Grade 100	Method of examination and evaluation	Standard	M
	Compare questions with the content of the course	Distribution of questions to the contents of the course	.1
	Compare questions with targeted educational results	Cover the knowledge, understanding and skills required in characterization	.2
	gives 100% when the number of questions is equal to four	Diversity of nature and composition of questions	.3
	Based on their expertise in specialization, examiners determine the appropriate time of the exam to answer questions.	The exact time of the exam is appropriate for the answer.	.4
	The success rate is 50% and more is calculated at 100% and the lowest is zero%.	Success rate	.5
	Balanced success estimates	Balanced estimates	.6
	Determining the number of questions in which students achieved a score higher than 50% of the question score (success) and determining the percentage of these questions as a percentage of the total number of questions and below the percentage	The level of questions is higher or lower than required or from the target	.7
	A question that all students didn't answer gives zero. A question that 50% of students didn't answer gives 50%. Balance in answers gives 100%	There's one or more questions most students didn't answer.	.8
	Review the presence of the typical answer attached to the exam paper of the course in the control	Is there a typical answer?	.9



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	Yes 100% - No 0% (percentage write down)		
	Compare sample scores of students' answer sheets with the answer form and estimate the percentage of commitment and write down the percentage	Corrector's commitment to the typical answer in the correction	.10
	An internal examination of a sample of students' answer papers and the determination of the percentage of parts written in the grades of the total number and the percentage	Grades are distributed and written on the parts of the question in the answer sheet.	.11
	The control examines the cover of a sample of the answer booklets to make sure the wrong combination is corrected There's no 100% error. There's a zero% error.	The correctors conducted a review of the collection of grades (there were collection errors corrected by the control)	.12

Extension No. (2)

No.	Evaluation Elements	Methods of Analysis/Assessment	Percentage
1	The distribution of the questions on the course topics	Comparing the final exam and course contents	
2	Covering all ILOs stated in the Course Specification	Comparing questions with ILOs.	
3	Diversity of questions (subjective and objective)	Given 100% when using all four types.	
4	Given Time for the exam is sufficient enough for the answer.	It is determined through the experience of the auditors.	
5	Passing Rates	passing % \geq 50 100 points \rightarrow passing % $<$ 50 0(zero \rightarrow	
6	Grade distribution	Checking exam results statistics	



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7	The level of questions are suitable to students' level	Determining number of questions where students achieved higher than 50% of the question grade. Set a percentage of these questions to the total number of questions	
8	Program or more questions were not answered by students	Course Name and Code Academic Year: Semester	Teaching Team 90% 50%, if the majority answer 100% →→→ Auditors
			Credit Hours Date of Evaluation
9	Key answer is available		How well the examiner abided with the key answer while checking (a sample of students marked answers may be examined)
10	Marks has been assigned to every question, part and sub-part and written as well in final exam.		Check final exam paper, answer key provided and sample of student's answer sheets.
11	Re-checking the total sum of final exam for presence of any mistake		Pick the samples of student's answer sheets and re-check the total done by the teacher. In case of any mistake 0 %(zero) otherwise 100% →→

Theoretical Exam auditing Report

Extension No. (3)

Descriptive assessment of the extent to which the criteria for writing the exam paper are applied

Section:-----	College:-----
University year: ----- -----	Schedules of reviewed courses: ----- -----



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Notes/recommendations	Evaluation elements	M
	University-college logo (and section if available).	1
	Basic data. (Course name- code-time-number of pages- university year--- etc.) on each question page	2
	How clear is bold-Font 14 question head	3
	Distribution of grades on baskets and sub-questions	4
	The page is not packed with 21-24 lines of questions and there are suitable margins on both sides of the page.	5
	Sign the teaching staff at the bottom of the page and sign the external examiner if available.	6
	Sign the references to the exam paper.	7
	The diversity of question patterns.	8
	The extent to which the exam paper is free of language errors.	9
	How clear is the printing of the exam paper	10
	The availability of evidence of the measurement of targeted educational outcomes through the examination paper model.	

Other notes:

Extension No. (4)

Criteria for Theoretical paper Exam Auditing



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Program	Course Name and Code:	Teaching Team	Auditors
Semester:	Year Academic	Credit Hours	Date of Evaluation

No	Evaluation standards	Percentage Coverage	of	Notes
1.	The university and college Logo on each page			
2.	Identification and General Information (Department, course, Exam duration, number of page, total number of grades... etc) on each page.			
3.	The Clarity of the Question head (question statement (Bold font 14)			
4.	The clarity of the questions			
5.	Marks written next to the head of the question and distributed on each sub-question.			
6.	Non overcrowding line with questions (around 21-24 lines)			
7.	Page margins are suitable (around 2.5cm. in four directions on both sides of the paper)			
8.	Numbering the exam pages in a clear sequence (if more than one.			
9.	Life signature of the course instructor on each page (and of the external examiner (if available)			
10	Life signature of the exam auditor			
11	Diversity of questions (subjective and objective)			
12	Clear printed paper without writing/ grammatical or linguistic mistakes.			
13	Success wish for the students at the end of the exam paper.			

Learning outcomes	Calendar methods used							
Decision code and number	Editorial exam	Oral exam	Practical exam	Feedback	Assignments	Self-assessment	Learning record	Periodic exam
1. Knowledge								
1.1 The student learns about ----	√				√			
2.1. Learn about techniques----	√							
3.1. Acquired principles-----	√						√	
2. Cognitive								
1.2. Analyzes --- -----	√	√			√			
2.2. --- applies-- -		√			√		√	
3. Communicating with others and technology								
1.3. -----				√	√			



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2.3. -----				√		√		
3.3. -----				√			√	

