



جامعة فهد بن سلطان
FAHAD BIN SULTAN UNIVERSITY

ILOs Development Policy

Guideline #	AA-200-G1	Revision #	02
Accessibility level	A	Effective date	01/20/2021

Guide to Writing Learning Outcome



Vision

To become a leading university in the Kingdom of Saudi Arabia and beyond in teaching, research, innovation, and community service.

Mission

Providing high quality academic programs, distinguished research through a distinguished teaching and administrative staff, using the latest educational and research equipment in an environment conducive to research, innovation and knowledge building to contribute effectively to building the knowledge society and the knowledge economy, while adhering to the highest ethical standards.

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Preamble

Identifying learning outcomes, which is key to planning a new or revising an existing credit-bearing academic program, is a multi- step process that rests on the foundation of faculty responsibility for academic content and quality. Once the aims of a program are delineated, program planners are to identify the learning outcomes needed to meet such aims. This also requires planners to select the courses needed to best meet the learning outcomes of the program. Like program aims, course aims are achieved through a set of learning outcomes developed to this end.

This practical guide is designed to assist faculty members to develop and/or revise expected learning outcomes in their respective degree programs in accordance with the domains and standards of the Saudi Arabia Qualifications Framework (SAQF). It also aims to provide the faculty members with the basic steps and criteria related to developing and revising program and course learning outcomes.

1. What are Learning Outcomes?

Learning outcomes (LOs) are statements that clearly describe what a learner must know, understand and can do as a result of learning. These outcomes are expressed through the knowledge, skills and values that the program aims to achieve through specific educational activities and strategies and evaluation methods that measure how and how these results are achieved.

2. Significance of LOs

The significance of LOs stems from their ability to draw a clear and scientific roadmap for the design and development of the academic program. They help achieve integration, interdependence, and coordination among the courses of the academic program. They also improve the teaching and learning processes. In addition, they help guide students to achieve clear, specific goals that precisely explain what is expected of them.

Identifying LOs is a key starting point whether developing or revising a course, program, or learning activity. Each of the following aspects feeds into the others and should be developed holistically. To give coherence, you may need to re-visit and modify each aspect during the development process.

- 2.1. Aims should lead into LOs
- 2.2. LOs should reflect aims
- 2.3. The learning and teaching strategy should enable learners to achieve the LOs

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- 2.4. The assessment and feedback strategies should help learners see how far they are achieving the outcomes (assessment for learning) and indicate to stakeholders that learners have achieved them (assessment for grading)
- 2.5. Assessment criteria should indicate the performance expected against the LOs (and indicate performance expected against grades).

3. Levels of LOs

There are three levels of LOs.

3.1. Institutional Learning Outcomes (ILOs)

ILOs determine what learners in the relevant institution should know, understand, and be able and committed to do upon their graduation from the university to ensure quality of education and consistent curricula regardless of their specialization. ILOs constitute the Graduate Attributes (Gas) of the institution.

3.2. Program Learning Outcomes (PLOs)

PLOs are the knowledge, skills, or behaviors that a program's student should be able to demonstrate upon the completion of the respective program. Outcomes represent broad statements incorporating many areas of interrelated knowledge and skills developed through a range of courses and experiences during the program. They represent the big picture, describe broad aspects of behavior, and encompass multiple learning experiences. PLOs should be

- Developed by the respective department or the committee entrusted with this task.
- Measurable and direct statements of the skills, knowledge, and competences of a graduate.
- Aligned with the CLOs to ensure your program's curriculum meets these objectives.
- Assessed through direct and indirect assessment (Performance Indicators, Surveys, etc.).

3.3. Course Learning Outcomes (CLOs)

CLOs are specific and measurable statements that define the knowledge, skills, and attitudes learners will demonstrate by the completion of a course. Like other LOs, CLOs are written with a verb phrase and declare a demonstrable action within a given time frame, such as by the end of the course. CLOs should:

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- Specify knowledge, skills, and abilities that a successful student will attain from the course;
- Be known by the students;
- Be basis for classroom assessment;
- Be prepared by course instructors and coordinator and approved by the Dept. Council.

Figure (1) illustrates the three types of LOs.

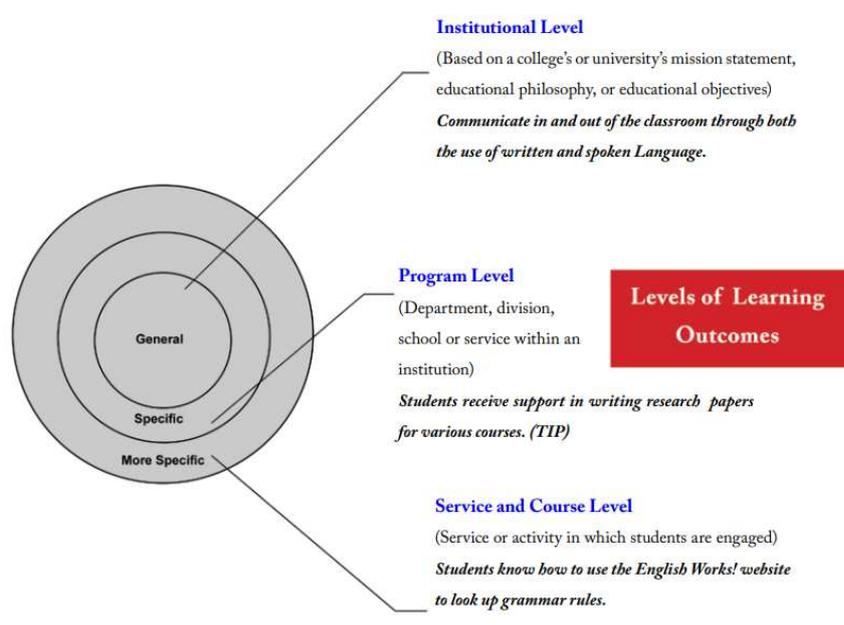


Figure (1): Levels of learning outcomes

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4. Benefits of LOs

LOs provide numerous benefits for students, faculty, program quality and stakeholders as shown in Table (1).

Table (1): Benefits of LOs

Benefits for Students	<ul style="list-style-type: none"> ▪ LOs provide students with clear information about the delivered materials of a course and/or program. ▪ LOs assure students that the evaluation process will be transparent and consistent. ▪ LOs ensure that students are aware that there is a common core content across all sections of the course. ▪ LOs allow students to make better decisions about selection of their courses and/or programs. ▪ LOs clarify the connections between courses, program learning outcomes, and institutional goals.
Benefits for Faculty	<ul style="list-style-type: none"> ▪ LOs provide faculty with evidence to justify the needed resources to improve courses and programs. ▪ LOs clarify the connection between course and PLOs. ▪ LOs allow faculty to make improvements or changes in their courses based on students' achievements. ▪ LOs promote awareness of course contributions to program and institutional goals. ▪ LOs provide assurance that important concepts are covered without gaps or duplication.
Benefits for Program Quality	<ul style="list-style-type: none"> ▪ LOs increase departmental discussion of program goals and curriculum improvement needs. ▪ LOs increase clarity of program purposes and goals. ▪ LOs facilitate curriculum improvement through integration with the curriculum development cycle.
Benefits for External Stakeholders	<ul style="list-style-type: none"> ▪ LOs provide employers and stakeholders with the sufficient information regarding the program aims and expected graduate attributes. ▪ LOs provide evidence of quality assurance processes to government and accrediting bodies.

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5. Writing LOs

5.1. Features of Los

LOs should:

- Be concise and clear, using language that is easy to understand;
- Be realistic, taking into account the students' prior knowledge and the time-frame for the module or program;
- Be aligned to the SAQF levels, domains and standards;
- Be student-centered rather than faculty-centered;
- Start with active verb, recognizing an appropriate level of achievement;
- Focus on knowledge and skills that are central to the course topic and/or discipline;
- Clarify the content and educational objectives;
- Be observable and/or measurable;
- Indicate how the learning will be demonstrated, linking to assessment;
- Be specific, using one verb per sentence. Bloom's taxonomy provides an excellent guide for suitable verbs (see below);

5.2. Structure of a learning outcome

- Learning outcomes should be written from the perspective of the student and should define the required level of knowledge, skills and understanding that students need to achieve by the end of the unit.
- Learning outcomes should provide answers to the following statement:
“Upon completion of this unit/course/program, students will be able to ... “

5.3. What factors to consider when formulating LOs?

- Program Mission & Vision
- Graduates Attributes
- Job market need
- Academic & Professional Standards
- Alignment with National Standards (Domains: NQF/ SAQF)

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5.4. Domains of LOs

Based on the Saudi Arabia Qualifications Framework (SAQF), LOs are categorized into three domains, viz.

5.4.1. Knowledge and Understanding:

- Knowledge without understanding means just memorizing.

5.4.2. Skills:

- Abilities gained by knowledge, understanding and training.

5.4.3. Values:

- Values are based on personalities, responsibilities and loyalty of the graduates.
- Values can be, but not solely, achieved by some courses at University and college levels to enhance the graduate's ethical values and their abilities to work in teams or as a member or a leader.

5.5. Bloom's Taxonomy of Cognitive Learning

A useful way to write learning outcomes is to use Bloom's taxonomy which classifies the level of the learning outcomes as shown in Figure (2). Bloom's Taxonomy of cognitive learning describes outcomes at different levels of knowing and understanding. This taxonomy also provides a potential vocabulary for articulating different kinds and level of outcome.



Figure (2): The New Bloom's Taxonomy

The New Bloom's Taxonomy is a way to define the type of knowledge or skill that is to be learned. Table (2) illustrates that the higher order learning objectives are listed higher in the table.

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Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	<ul style="list-style-type: none"> Choose Define Find How Label List Match Name Omit Recall Relate Select Show Spell Tell What When Where Which Who Why 	<ul style="list-style-type: none"> Classify Compare Contrast Demonstrate Explain Extend Illustrate Infer Interpret Outline Relate Rephrase Show Summarize Translate 	<ul style="list-style-type: none"> Apply Build Choose Construct Develop Experiment with Identify Interview Make use of Model Organize Plan Select Solve Utilize 	<ul style="list-style-type: none"> Analyze Assume Categorize Classify Compare Conclusion Contrast Discover Dissect Distinguish Divide Examine Function Inference Inspect List Motive Relationships Simplify Survey Take part in Test for Theme 	<ul style="list-style-type: none"> Agree Appraise Assess Award Choose Compare Conclude Criteria Criticize Decide Deduct Defend Determine Disprove Estimate Evaluate Explain Importance Influence Interpret Judge Justify Mark Measure Opinion Perceive Prioritize Prove Rate Recommend Rule on Select Support Value 	<ul style="list-style-type: none"> Adapt Build Change Choose Combine Compile Compose Construct Create Delete Design Develop Discuss Elaborate Estimate Formulate Happen Imagine Improve Invent Make up Maximize Minimize Modify Original Originate Plan Predict Propose Solution Solve Suppose Test Theory

Table (3): Revised Bloom's Taxonomy Action Verbs

5.6. Designing and Delivering ILOs, PLOs and CLOs

The optimal method in creating and teaching to learning outcomes is to design backward to deliver forward. Start with the Institution's mission and College-level learning outcomes and work backward to design program and course outcomes. Program and course outcomes should drive the design of activities and assessments within the classroom.



Figure (4): Designing and delivering learning outcomes

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6. Goals, Objectives and LOs

6.1. Learning Goals

Course goals are broad statements of intent or desired accomplishment.

- Learning goals are the general aims or purposes of the program and its curriculum.
- Effective Learning goals are meaningful, achievable and can lead to assessable outcomes.
- Learning goals describe broad learning outcomes/competences and concepts (what you want students to learn) expressed in general terms (e.g., clear communication, problem-solving skills, etc.)
- Learning goals should provide a broad framework for determining the more specific learning objectives of a program.
- Learning goals should be consistent with the mission of the program and the mission of the institution.
- A single learning goal may include many specific subordinate learning objectives.
- In current practice, many programs move directly from the Mission to the Program Learning Objectives/Outcomes without explicitly defining the goals as a separate category, while others move from Program Learning Goals directly to Student Learning Outcomes.

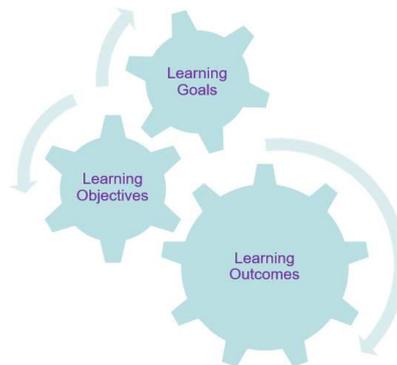


Figure (5): Learning goals, objectives, and outcomes

➤ Examples of Learning Goals:

- **Goals 1:** Students will be able to apply the skills and strategies of a successful reader.
- **Goals 2:** Students are expected to understand and apply the conventions of academic writing in English.

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6.2. Learning Objectives

Learning objectives are statements that define the expected goal of a curriculum, course, lesson or activity in terms of demonstrable skills or knowledge that will be acquired by a student as a result of instruction.

- Learning Objectives describe the intended purposes and expected results of teaching activities and establish the foundation for assessment.
- Learning Objectives are brief, clear statements that describe the desired learning outcomes of instruction; i.e., the specific skills, values, and attitudes students should exhibit that reflect the broader goals.
- Learning Objectives describe what faculty will cover in a program/course. They are generally less broad than goals and broader than student learning outcomes.

➤ Examples of Learning Objectives:

- Objectives for Goal 1: This course is expected to develop students' abilities to:
 - skim for main idea(s)
 - scan for details.
- Objective for Goal 2: This course will develop students' abilities to write effective and coherent paragraphs.

6.3. Learning Outcomes

- Learning outcomes are statements of expectations written in measurable terms that express what a student is expected to know, think or able to do at the end of the learning experience (lesson, unit, course or program)
- Learning outcomes are measurable learner-oriented abilities that are consistent with standards of professional practice.
 - Course outcomes are more specific and describe achievement expected in a particular course.
 - Course outcomes should clearly relate to topics, assignments, and exams that are covered in the course.
 - Course outcomes should be clear and measurable.
 - Course outcomes should start with active-voice verbs and may contribute to the assessment of program learning outcomes.
- Learning outcomes have three major characteristics:

1. They specify learning that is *observable*.
2. They specify learning that is *measurable*.

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3. They specify learning that is completed by the *students/learners* (rather than the faculty members).

➤ Examples of Learning Outcomes:

- Learning outcomes for objective 1: Upon successfully completing the course, students will be able to:
 - identify the main idea(s) in the text; and
 - identify specific details.

6.4. Mapping Goals to Objectives and Objectives to Learning Outcomes

1.1. Goals	1.2. Objectives	1.3. Learning Outcomes
<ul style="list-style-type: none"> ▪ Students will link learning experiences to the world they will confront. 	<p>A. Students will gain understanding of the conceptual and theoretical tools used in reasoning and problem solving, such as statistics, probability, logic, and decision theory.</p>	<p>A. By the end of the course, students will be able to demonstrate the ability to use mathematical and statistical techniques relevant to the business subjects taught.</p>
<ul style="list-style-type: none"> ▪ The Educational Technology course (program) will enable the students to make reliable and accurate assessments of the type of assistive technology needed for a variety of disabilities. 	<p>A. The student will be able to use an appropriate technology to address the needs of autistic children in the classroom.</p> <p>B. The student will be able to adapt any assistive technology to address behavioral problems.</p>	<p>A. At the end of the course (program), the student will be able to create lesson plans using inspiration to teach autistic students how to draw a picture independently.</p> <p>B. At the end of the program, the student will be able to create an activity teaching autistic children how to behave in the classroom.</p>

6.5. Hierarchical relationships among goals, objectives, and outcomes

The Outcomes Pyramid presents a pictorial clarification of the hierarchical relationships among several different kinds of goals, objectives, and outcomes.

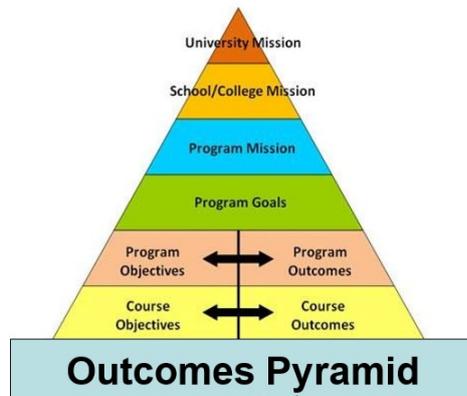


Figure (6): Learning Outcomes - A Connected Hierarchy Aligning ILOs, PLOs and CLOs

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7. Checklist to self-evaluate your learning outcomes

The following list of items can be used to self-evaluate a list of intended learning outcomes:

- Learning outcomes are clearly stated, in clear and unambiguous language.
- All learning outcomes clearly indicate what the students should learn.
- All learning outcomes use one verb that is aligned to the level of the course/program.
- The learning outcome is significant and meaningful on the long term.
- Learning outcomes provide a guide for the development of learning activities, teaching and assessment.
- All intended learning outcomes can be assessed effectively – you can envision assessment tasks are able to achieve this.
- Learning outcomes are aligned to the level of study, faculty and university strategic priorities and values.

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