

**GUIDELINE FOR DEVELOPING INTENDED LEARNING OUTCOMES (ILOS)
FOR COURSE MODULES**

This proposal is prepared by the committee appointed by the Senate Sub-Committee on Academic Development & Planning, Scholarship & Ethics (ADPSEC) by its minutes number 2021.52.3.5 for the development of Guideline for Developing Intended Learning Outcomes (ILOS) for Course Modules.

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Guideline for Developing Intended Learning Outcomes (ILOs) for Course Modules

1. Introduction

Learning comprises complex mixtures of knowledge, understanding, skills, attitudes, and broader capabilities that can be more or less demonstrated and assessed. It will also embody values, attitudes, and behaviors that are difficult to evaluate directly but which are an essential part of a student's academic performance. Thus, clear **Intended Learning Outcomes (ILOs)** are a key component of good program and unit planning and assessment of students. This outcomes approach is useful because it makes explicit the design and assessment of units and whole programs. It makes easier for students, examiners, quality assurance professionals, and any stakeholder to know the expectation. It also moves students into the center of the picture, emphasizing what they need to learn, and how both parties (teacher and learner) understand and assess whether students have achieved it. Therefore, it is one element in the shift of focus from teaching to learning that has been productive recently. This document aims to provide guidance on developing ILOs, which will assist in planning and writing ILOs for course modules or any new program.

ILOs – What are they?

An outcome is simply a result or consequence of an action or process. From the learning perspective, a learning outcome refers to the result of a learning process. Thus, the ILOs emphasize teacher's intention on what learners will have gained as a result of learning. Simply, these are statements that predict typical students' achievement through a learning process.

In definition, ILOs are statements that set out what students will be expected to know or be able to do by the end of a period of study/learning. From the students' perspective, the outcomes approach communicates what they are expected to be able to do and the criteria that will be used to assess them. Basically, in ILOs, students' achievements represent the knowledge, understanding, and skills gained through engaging in a learning process. The purpose of ILOs is to give students an idea of what is expected of them, and in effect, they should reflect the minimum standard the 'typical student' should achieve.

2. Types of ILOs

Different types of ILOs are used to define based on the period of study/learning. Basically, ILOs are defined for a program, module, or individual session focusing on students' achievement at the end of a particular study. It is obvious that the lower-level component

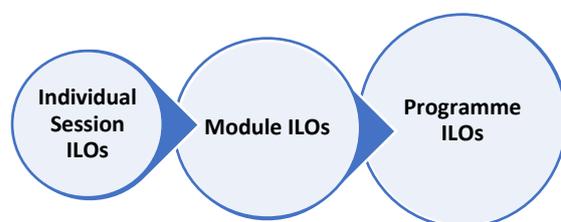


Figure 1: Relationship among ILOs at different levels

ILOs should relate to and support the higher-level component ILOs as shown in Figure 1.

Program ILOs

Program ILOs outline the intended learning at the end of the course of study (program or degree). At the program level, **ILOs are broad** and relate to the knowledge, understanding, and skills students will be expected to develop/achieve **during the whole program**.

- Program ILOs are not a wish list or simply a summary of the program content; neither they are just an aggregation of the module learning outcomes.
- Program ILOs should relate to and support the aims of the program and advise/ guide the module ILOs. In other words, these needed to be established first.

Module ILOs

Module ILOs outline the intended learning at the end of the particular unit of study (module). Module-level ILOs are more specific in the knowledge, understanding, and skills that students are expected to develop/achieve during the whole module. Module ILOs provide a sort of direction to decide its content, delivery, and assessment. The ILOs will be more directly linked to the assessments of the module and should therefore be measurable. Module ILOs should be linked to the relevant program outcomes.

Session ILOs

Similar to the Module ILOs, Session ILOs outline the intended learning in terms of the specific knowledge, understanding, and skills students will be expected to develop/achieve at the end of an individual teaching session. It can be a lecture, seminar, or laboratory session. The Session ILOs should be aligned to and support the module learning outcomes.

3. Learning domains

ILOs also span different learning domains. These can be categorized as follows.

Knowledge and Understanding

Knowledge-based ILOs are often the most common type of outcome and describe the set of knowledge that students are expected to acquire.

Subject Specific Cognitive Skills

These are application-based outcomes that describe the kinds of application or transformation students are expected to make to the knowledge they acquire. These typically require students to apply knowledge or engage with it critically to, for example, evaluate, appraise, analyze, synthesize, or debate it.

Subject Specific Practical Skills

These are skills-based outcomes that describe the subject-related skills students are expected to develop alongside knowledge acquisition. These are typically the skills that are likely to be required for employment within the subject discipline.

Key Transferable Skills

These are skills-based outcomes that describe the generic and broader (non-subject specific) skills students are expected to develop alongside knowledge acquisition. These are typically the general skills that are required for graduate employment.

(Loughborough University, 2019)

4. Writing ILOs

When considering the ILOs, three components in an ILO statement can be identified: defining verbs, the subject of learning, and the context of learning. Generally, ILOs are expressed using a stem (that gives a time limitation) followed by a statement that begins with an **active verb** (outlining what students will be able to demonstrate), **object** (what is to be learned), and a **qualifying phrase** (that provides the context and degree of mastery expected).

Writing can be started with *'at the end of the session/course/program a successful student will be able to...'* then choose an action verb that says clearly what the teacher expects the students to be able to do at the end of the course/session/ program and the cognitive level they are expected to operate at when assessed.

Using Appropriate 'Action Verbs'

Since the learner's performance should be observable and measurable, the verb chosen for each outcome statement should be an action verb which results in overt behavior that can be observed and measured.

When writing ILOs, it is helpful to refer to Bloom's Taxonomy as a guide. Bloom's Taxonomy is a set of three hierarchical models used to classify educational learning objectives into levels of complexity. Also known as the three domains of learning, Bloom's Taxonomy covers learning objectives in cognitive, affective, and psychomotor domains.

The most widely used domain of learning in Bloom's Taxonomy is the Cognitive domain. The Cognitive domain relates to intellectual ability and measures the amount of knowledge gained through learning, setting out six progressive cognitive ability levels. ILO developers can refer to these levels alongside the example verbs when writing outcomes.

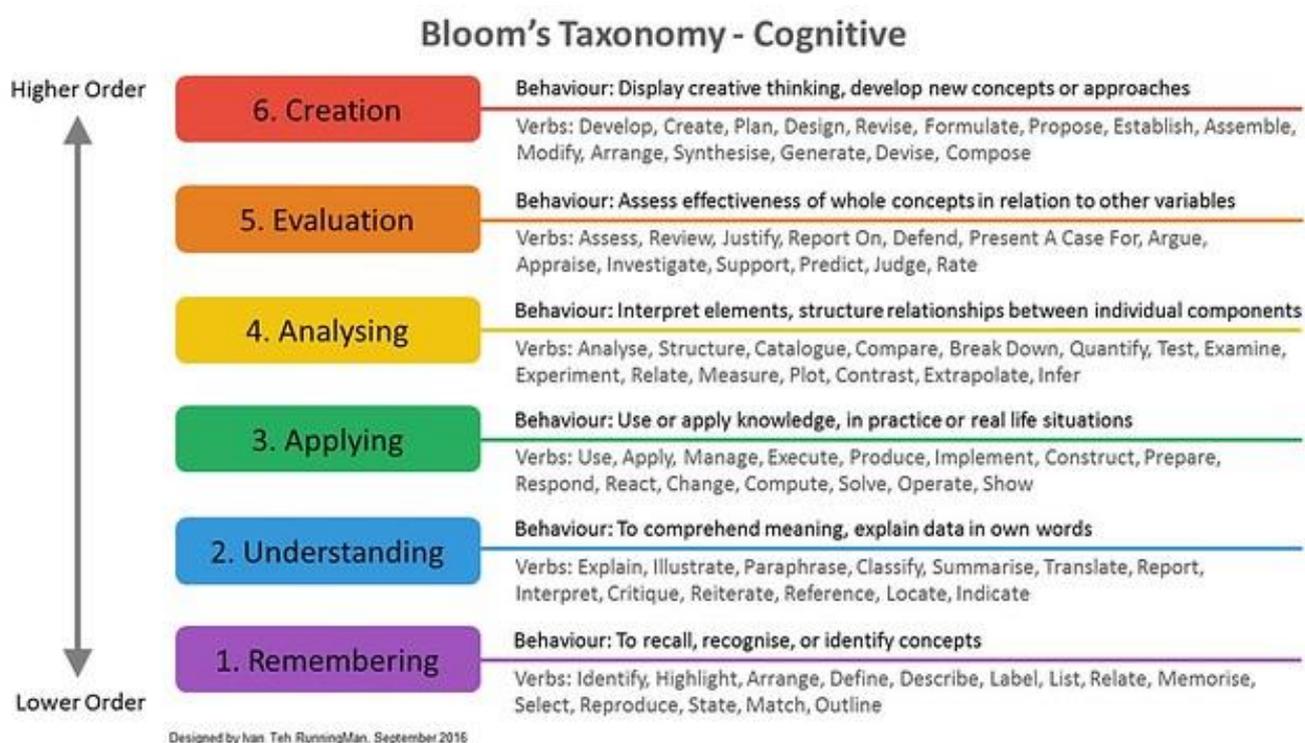


Figure 2: Bloom's Taxonomy – Cognitive

Source: <https://ivanteh-runningman.blogspot.com/2016/09/blooms-taxonomy.html>

Further, categories of cognitive abilities list in Bloom's Taxonomy can be summarized as in Figure 2.

Knowledge or Remembering

This comes under the lower order thinking. Using the active verbs, ILOs are defined to identify whether students can recall and describe the information to show what they know. Though the targets are to determine "Know/Knowledge", different verbs can be used to explain what a student can do to demonstrate his/her knowledge.

Since the verb 'know' is not a measurable action verb, it is not an appropriate word for learning outcomes.

Action verbs: Describe, Define, Identify, List, Name, State, Recall, Order, Recognize, Show

Comprehension or Understanding

This refers to the students' ability to explaining information. By using related action verbs, ILOs can be designed to recognize whether students can interpret and convey their understanding of information and just recall it. Though it is important and implies students' understanding, 'know' and 'understand' terms do not help design ILOs.

Action verbs: Discuss, Illustrate, Distinguish, Explain, Summarize, Extend, Review, Clarify, Interpret, Classify

Application

This level of the taxonomy represents moderate-level cognitive ability where students use information in new ways. The objective is to identify whether students can use a theory or information in different situations or articulate the relevance of the information in other circumstances. At this level, students are able to put their knowledge and understanding to use in new situations.

Action verbs: Apply, Employ, Use, Choose, Demonstrate, Perform, Execute, Illustrate, Implement, Prepare, Modify, Solve, Write, Interpret

Analysis

It identifies the students' ability to understand and explain complex structures by identifying parts and their relationships.

Action verbs: Analyze, Investigate, Differentiate, Appraise, Debate, Breakdown, Calculate, Compare, Contrast, Relate, Test

Further, this level includes the synthesis component, which refers to students' ability to compile information by putting parts together to form a new whole, which is important in constructing an argument and integrating knowledge into alternate solutions. ILOs can be designed to identify whether students can take the elements of what they have learned and put them together differently, where they can develop a plan or a proposal from set knowledge.

Active verbs: Arrange, Create, Categorize, Organize, Compose, Design, Construct, Explain, Develop, Manage, Rewrite

Evaluation

This is posited as the highest level where students can make judgments based on the value of evidence and material for a given purpose. ILOs can be designed to identify whether students can make judgements about knowledge, and construct an argument or compare opposing views.

Active verbs: Appraise, Assess, Argue, Defend, Support, Evaluate, Justify, Interpret, Measure

Creation

Creativity can be placed at the higher order of thinking ability where students can create a new product (original work) or point of view. Following action verbs can be used when designing this category targeting the highest level of ILOs.

Action verbs: Design, Invent, Construct, Assemble, Develop, Formulate, Generate, Produce, Write/Author

In Bloom's hierarchy, verbs relating to the 'lower' cognitive processes (those grouped under Remembering and Understanding) will likely be more predominant and commonly used in ILOs at lower levels of study. In contrast, those related to 'higher' cognitive processes (such as 'evaluation' and 'creation') will be more likely used at higher levels as students progress through their studies.

On the other hand, you may find that in your discipline, the hierarchy is not as straightforward as Bloom's model implies, but the associated verbs are still helpful when writing ILOs. Further, Biggs (1999, 2003) has also suggested certain verbs based on different levels of understanding, which can be referred to when developing ILOs.

5. Things to Consider: Writing ILOs

ILOs represent achievement attained by students instead of topics to be covered. Statements referring to the topics covered in a module are typically the purpose of a syllabus. Writing appropriate ILOs is a skill, and it may take time to master. The different types of ILOs require expressing differently. This can be noted when developing ILOs for programs, modules, and sessions. Also, each discipline will have its own verbs as well, and each verb has a context. But they should focus on the performance. This implies;

- There must be a performer: The performer should be the student, not the teacher
- There must be something performable (thus demonstrable or assessable) to perform
- The focus is on the performance, not the activity or task to be performed

When writing ILOs, it is better to consider the following facts. They may help writers to come up with explicit statements.

- what knowledge, skills, values, and attributes do your students already have when they enroll in the course/program?
- what knowledge, skills, values, and attributes do you want students to develop?
- the learning outcome represents the threshold level for a pass
- what will students need to do to demonstrate that they have achieved the ILOs?
- ensure that course ILOs are consistent with, and contribute towards, program ILOs
- write the ILOs from the students' perspective, in terms of what is expected of them (rather than what they will be taught).
- use user-friendly language that students, colleagues and external examiners will understand – avoid jargon, abbreviations and ambiguous words or phrases
- try to avoid using verbs such as understand, appreciate, be familiar with, and know in ILOs as these verbs do not clearly indicate what level of understanding or knowledge a student must demonstrate in an assessment (refer Bloom's taxonomy)
- write in short clear sentences and avoid putting too much or too many verbs into a single ILO.
- try to use future proof ILOs where possible (e.g. avoid referring to very specific or technical equipment/software)
- The suggested verbs should not be taken as being the only ones possible, nor as fitting into only one level as some may well operate at more than one level (Though the word 'analyze' is a higher-order skill as per the Blooms taxonomy, this can be related to relatively simple or to more complex versions of the same skill)
- it is acceptable to use the same active verb more than once in the ILOs if it expresses what you want students to be able to achieve
- each outcome should be easily differentiable from each other. If there are overlapping, remove them. This is particularly important if you are going to map your curriculum.
- aims and ILOs will be used by both staff and students and should help to ensure clarity about the purposes and intended outcomes of courses/programs
- if the writers came up with many content-related ILOs, consider whether every element of the course contents needs a separate ILO

Important Tips to Remember

- Use language which students can understand
- Generally written in the future tense
- Limit the ILOs to a manageable number (typically 4 to 6 for a module) by identifying the essential learning requirements
- Determine the optimal number of ILOs based on the number of credit
- Avoid using verbs such as understand, appreciate, be familiar with, and know
- ILOs should be achievable and assessable
- Relate to explicit criteria for assessing levels of achievement

6. ILO Preparation Check List

Compiling the set of outcomes should be a collaborative effort of the program team. A common understanding of what the program is trying to achieve is vital for developing appropriate teaching and assessment strategies. The following checklist may provide a brief idea for the designer to understand the comprehensiveness of the designed outcome statement.

Does it relate/contribute to (i.e. align with) your program outcomes?	Yes/No
Is your outcome statement student-focused rather than teacher-focused?	Yes/No
Is your outcome statement focusing on the learning rather than the learning activity?	Yes/No
Is your outcome statement using verbs that are performable?	Yes/No
Does your statement give sufficient details for subject teachers to work on their teaching and assessment design?	Yes/No

Source: Outcome-based Education: The Hong Kong Polytechnic University

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