# Learning and Teaching Toolkit #4
## Development of Learning Outcomes (LOs)

## What are Learning Outcomes?

"Learning outcomes are statements of what a student is expected to know, understand and/or be able to demonstrate after completion of a process of learning". (ECTS Users' Guide)

## Why do we use LOs?

LOs cultivate **student-centered** learning and underpin the principles of the Bologna process by:

- facilitating the recognition of degrees;
- supporting student mobility;
- promoting lifelong learning.

**LOs help faculty** to:

- design course materials more effectively;
- select the appropriate assessment and teaching strategies matched to the LOs;
- set examinations based on the LOs;
- monitor students' achievement of LOs.

**students** to:

- know what is expected of them;
- select courses;
- track their progress and identify gaps.

# 7 steps to writing effective LOs

## Step 1. Brainstorm and define key knowledge, skills and attributes

- What are the key aspects students should know?
- What are the skills students should possess?
- What other areas of knowledge are connected to the course?

Program LOs should help to deliver the NU Graduate Attributes.

## Step 2. Maintain balance

Maintain balance in defining the LOs. Do not focus only on knowledge and understanding. Include cognitive, generic and practical skills.

| | |
|---|---|
| **Knowledge and understanding** (e.g. describe, define, state) | |
| **Cognitive skills** (e.g. synthesize, compare, evaluate) | Balance |
| **Generic (transferrable) skills** (e.g. communication, IT, leadership skills) | |
| **Practical skills** (subject-specific, professional skills) | |

## Step 3. Align the LOs with the GAs, program aims and teaching, learning and assessment methods

Follow the principle of **constructive alignment** in developing LOs:

- The NU Mission, NU Graduate Attributes, Program/Course Aims, and Program LOs should inform the Course LOs;
- You may wish to align LOs with the EQF level and Dublin descriptors, and select an appropriate action verb from the Bloom's taxonomy (Diagram 3);
- Use subject descriptors and requirements of accrediting bodies as benchmarks.

The course should be designed so that the learning and assessment methods are aligned with and support the achievement of LOs (Biggs, 2003). Read the Toolkits 2&3 to learn more about assessment of LOs and course design.
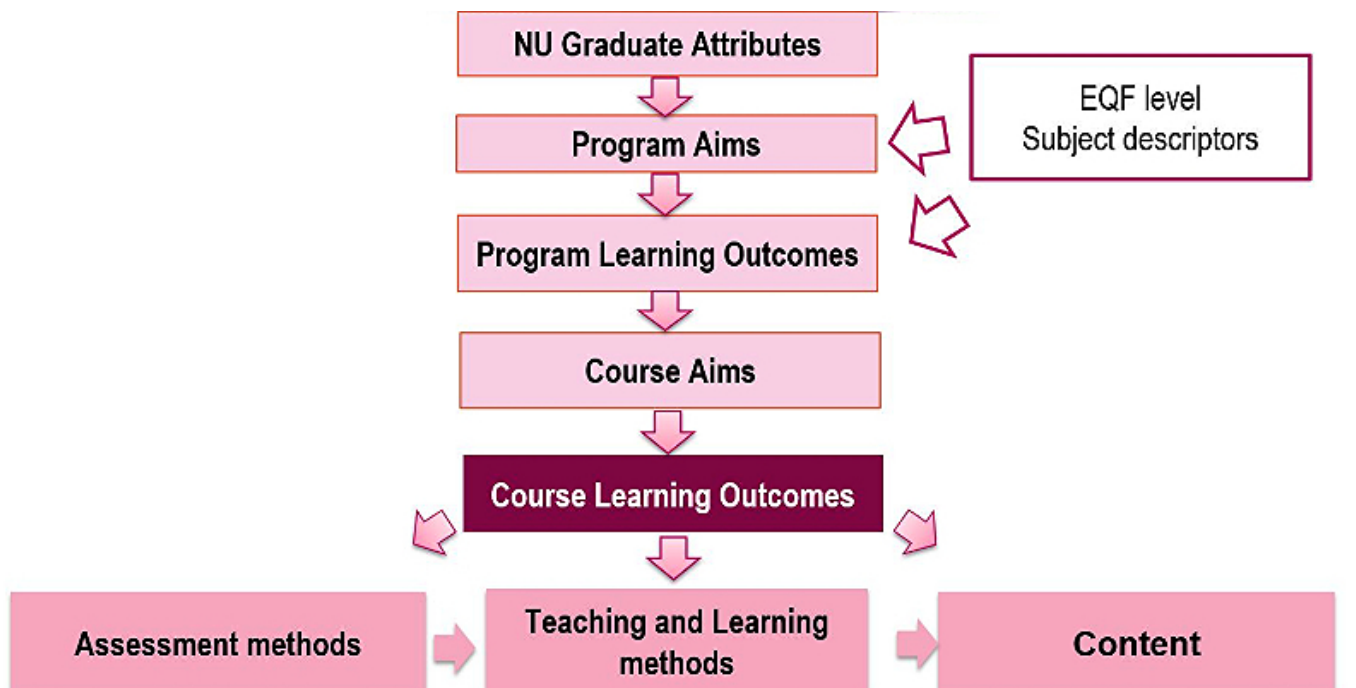


## Step 4. Develop Smart and Clear LOs

LOs should be:                                    • Avoid compound and complicated

❖ **S**pecific (to the course);

❖ **M**easurable (possible to assess for evidence of achievement);

❖ **A**chievable (attainable)

❖ **R**elevant

❖**T**ime-limited (within a specific period of time)

statements (no more than 1 verb);
- Develop a manageable number of LOs (5-7);
- Start with an action verb (use Bloom's taxonomy);
- Avoid ambiguous statements: be aware of, know, appreciate, think, be familiar with, possess deep knowledge, learn, be competent in. LOs should be clear to students.

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# Step 5. Use Bloom's taxonomy

Bloom's taxonomy is frequently used for writing LOs. It lists action verbs through six levels that gradually increase in complexity from basic skills for bachelor programs, to more complex for master's programs, and to the most advanced for doctoral programs (Diagram 3).

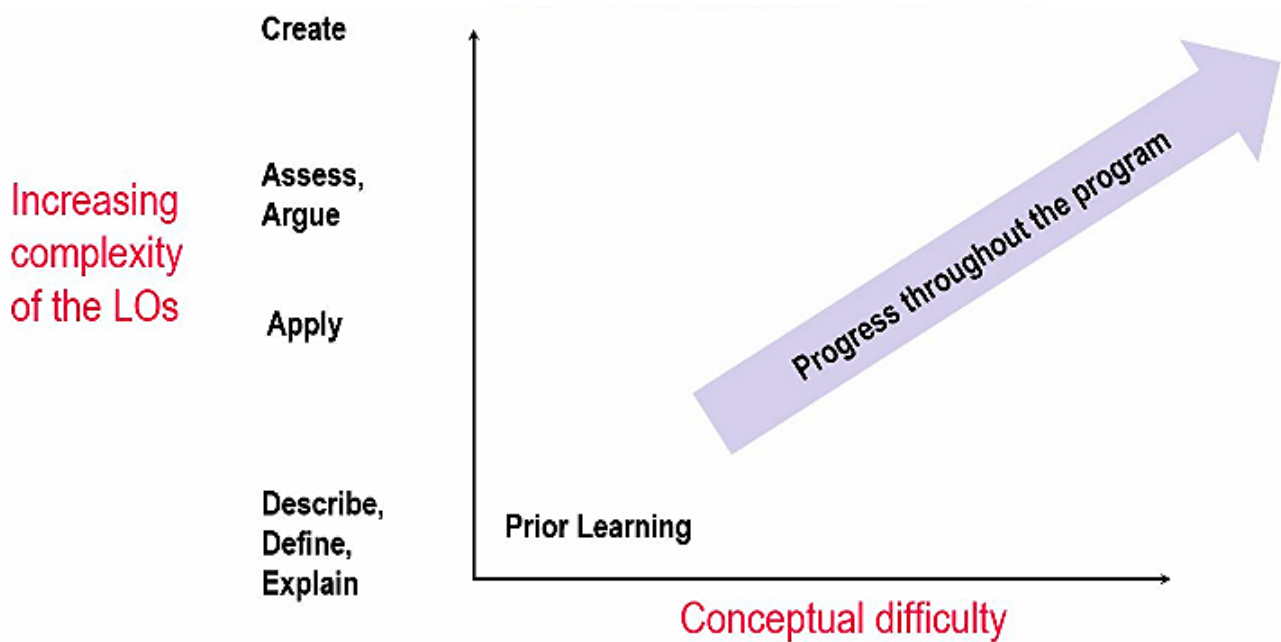Revised Bloom's Taxonomy. Anderson & Krathwohl,2001*
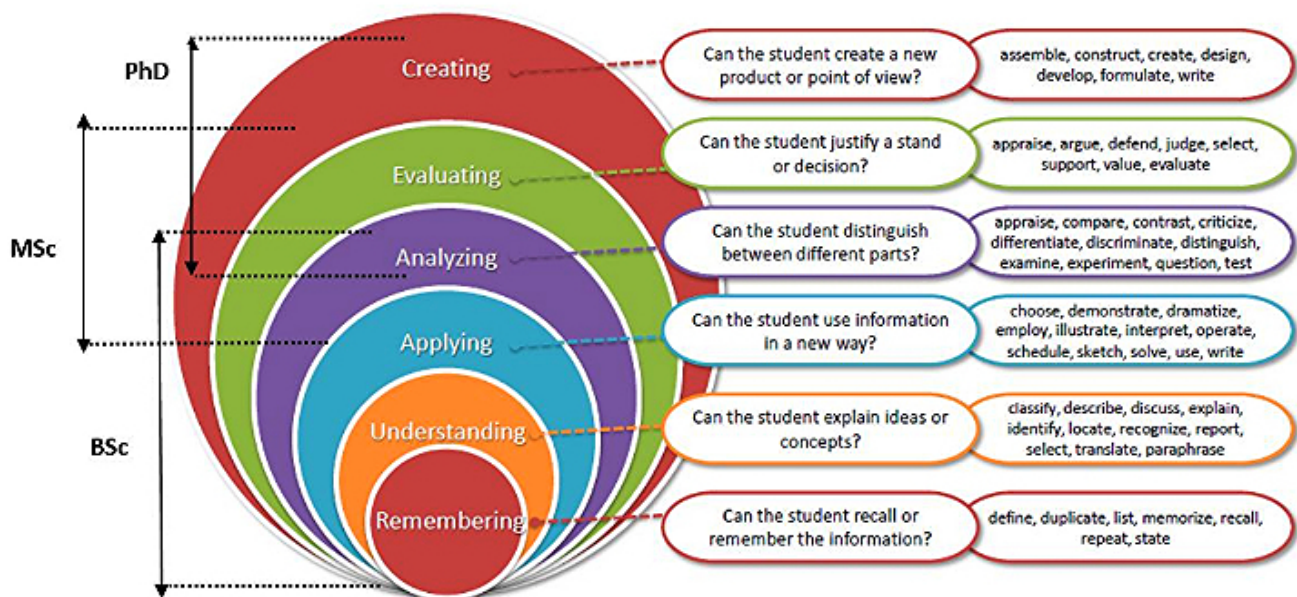


Anderson, L. W., & Krathwohl, D. (Eds.). (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives.

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# Step 6. Reflect the conceptual complexity of the course

Please ensure that LOs are appropriate to the program type, and year of study.

Students' progress throughout the program is supported by gradually increasing complexity of the LOs and conceptual context. See the graph below.
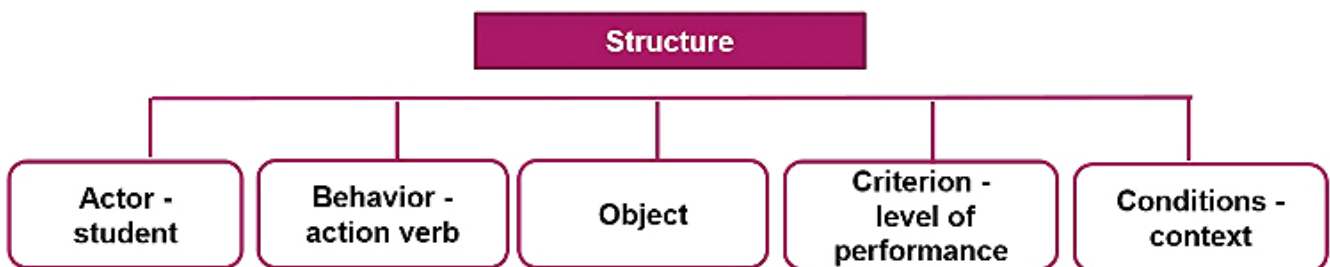
Create

Assess,
Argue

Apply

Describe,
Define,
Explain

Increasing
complexity
of the LOs

Prior Learning

Progress throughout the program

Conceptual difficulty

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## Step 7. Follow the structure

Start writing LOs with the following statement:

**"Upon successful completion of the course, students will be able to ..."**

When writing a LO, focus on an action verb, followed by the object of the verb as well as a statement specifying the depth/breadth of learning to be demonstrated, and complete with an indication of the context. The diagram below demonstrates the basic structure of LOs statements:

**Structure**

| Actor - student | Behavior - action verb | Object | Criterion - level of performance | Conditions - context |

For example:

Upon completion of the course, students (Actor) will be able to critique (Behavior) a performance art work (Object), with reference to (Criterion) contemporary theory of artistic criticism (Context).

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# Review the LOs

Use the following checklist to ensure that your LOs are adequately stated. Click on the button below.

Review and examine LOs annually based on student feedback and assessment results.

**Checklist**

You may also use a LO generator by following this link (Indiana University Bloomington).

## Please read more on the development of LOs:

**Useful links**

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## Previous Issues

Read our previous issues:

Toolkit #1 - Research-Integrated and Inquiry-Based Learning

Toolkit #2 - Assessment of Learning Outcomes

Toolkit #3 - Course Design

**Toolkit #1**   **Toolkit #2**   **Toolkit #3**

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