



# Learning Outcomes: their Impacts on Teaching, Learning and Assessment

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# Learning Outcomes at three Levels



- › at the **local level** for individual higher education institutions to design course units, modules, programmes of study and qualifications
- › at the national level: to develop qualification frameworks and quality assurance regimes
- › at the international level: to obtain wider recognition, transparency and comparability between education systems



# Learning Outcomes



- ❖ Conceptualising learning outcomes and its genesis
  - › Characteristics
  - › Language issues
- ❖ Impacts of learning outcomes on teaching, learning and assessment processes
- ❖ Some observations
- ❖ To what extent can we compare learning outcomes across the board?



# Bloom Taxonomy: educational objectives

- \* \_\_\_\_\_
  - › as “explicit formulations of the ways in which students are expected to be changed by the educative process”
    - › (Bloom et al. 1956:26)
  - › 3 domains of learning:
    - › **cognitive**: knowledge, intellectual abilities and skills.
    - › **affective**: “change in interest, attitudes and values, and the development of appreciations”, “emphasize a feeling tone, an emotion or a degree of acceptance or rejection.”
      - › (Krathwohl et al., 1964:7).
    - › **psychomotor**: motor skills and manipulation of objects, which are frequently related to performance.
  - ❖ **‘mental skills’, ‘attitudes’ and ‘physical skills’** (Winterton et al. 2006)



# Educational Objectives



- › thinking, feeling and acting (Greek philosophy)
- › three parts form a “total organism” or “whole being” which change as a result of educational experiences.

These changes are

- › articulated in the statements of the educational objectives
- › described as student behaviours.

❖ Bloom taxonomy is a classification of the student behaviours

(1950s)

❖ These characteristics are captured in the language of learning outcomes in the form of active verbs (2000s)



# Cognitive domain

## Levels of objectives

### Knowledge

1. *Knowledge*

### Intellectual Abilities and

### Skills

2. *Comprehension*

3. *Application*

4. *Analysis*

5. *Synthesis*

6. *Evaluation*

## Descriptions of behaviours

1. To remember, either by recognition or recall of ideas, theories, or phenomena.

2. To translate, interpret and extrapolate; to re-state in one's own words.

3. To apply science generalizations or principles, rules or theories, concepts or abstractions to new situations; to relate, to predict probable effects of a change.

4. To breakdown the material into its constituent parts and detect the relationships between the parts and of the way they are organised. To use techniques and tools/devices to convey the meaning or to establish the conclusion of a communication.

5. To work with elements, parts, etc. and assemble them (both previous experience and new materials) in a new pattern or structure that was not clearly there before.

6. To make quantitative or qualitative judgments about the value of ideas, works, solutions, methods, materials... in relation to a given purpose.



# Cognitive domain



## ❖ Hierarchy

- › Bloom's educational behaviours in a hierarchical order
- › Growing levels of specialisation and complexity of learning outcomes

Are the links always linear?

## ❖ Cross subjects, levels and place of study

- › Common tool to measure learning in various subjects, educational settings and levels, learning modes and different locations



# Relationship between cognitive domain and affective domain



## Levels

1. Receiving
2. Responding
3. Valuing
4. Organising
5. Internalising a value complex

## Behaviours

1. From the state of being aware to willing to receive to paying controlled and selected attention to a phenomenon.
2. Actively attending to a phenomenon and being involved with small satisfaction and commitment.
3. Accepting a value, expressing preference for a value and being committed to an underlying value.
4. Organizing values into a structure, establishing hierarchy of interrelated values.
5. Internalising value to an extent that one is characterized by them, integrating value into a life outlook or a world view, building a personal lifestyle.



# Various definitions of learning outcomes



- › What are the common features?
- › What are the differences?



# Learning Outcomes

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- › represent “what is formally assessed and accredited to the student”
- › offer “a starting point for a viable model for the design of curricula in higher education which shifts the emphasis from input and teaching process to student learning”

(Allan, 1996:93).



# Learning Outcomes:



- › “...statements of what a learner is expected to know, understand and/or able to demonstrate after a completion of a process of learning”
  - › (ECTS user’s guide, 2004: 232-233).
- › This definition focuses on the results of a learning process and implies the learner is to achieve them. This is a frame of reference for signatory countries of the Bologna process.



# Learning Outcomes:



- › “a statement of what a learner is expected to know, understand and be able to do at the end of a period of learning. Learning outcomes are linked to the relevant level and since they should generally be assessable they should be written in terms of how the learning is represented.”  
› (Moon, 2004).
- › This definition pays attention to the levels, the assessment and the language of learning outcomes. (used by the Southern England Consortium for Credit Accumulation and Transfer)



# Learning Outcomes:



- › Australian Universities see learning outcomes as academic standards:
- › “The measurement and reporting of student outcomes - their knowledge, skills, achievement or performance - is now a major reference point for academic standards.”
  - › (James, 2002).



# Learning Outcomes:



- › UNESCO suggests that the success of students is the demonstrability of their intellectual and practical skills and defines learning outcomes as:
  - › "statements of what a learner is expected to know, understand, and/or be able to demonstrate after completion of a process of learning as well as the specific intellectual and practical skills gained and demonstrated by the successful completion of a unit, course, or programme".
- (Viăsceanu *et al.*, 2004, pp. 41–42)



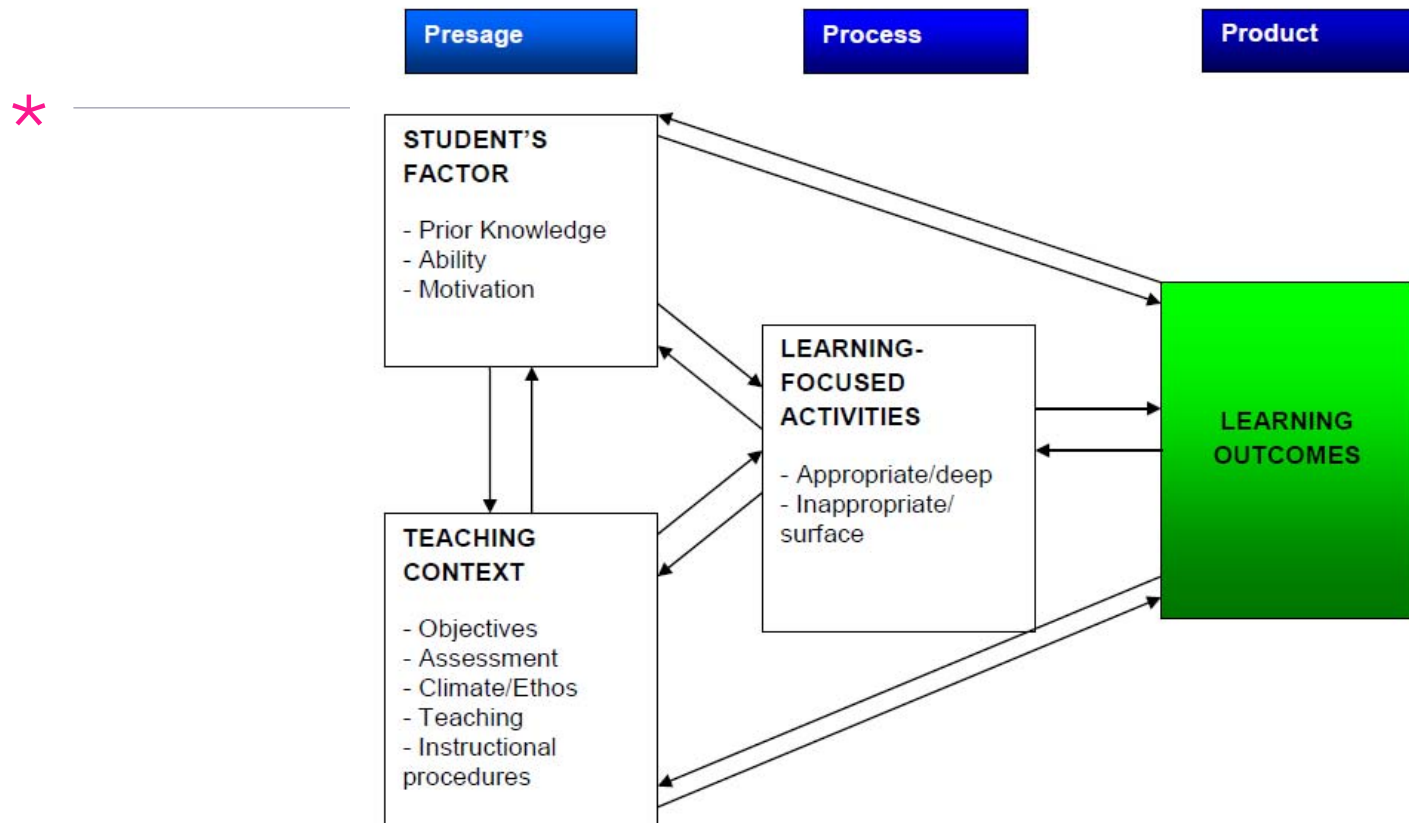
# Learning Outcomes



## ❖ Linguistic Issues:

- › Some verbs are ambiguous and fluid with different meanings
- › Progression is not always reflected in verbs.
- › Verbs in different languages denote different meanings

# Learning outcomes: impacts on teaching, learning and assessment





# Learning Outcomes and Teaching

- \* \_\_\_\_\_
  - › Learning outcomes: in curriculum planning, module designing, in the preparation for teaching sessions and in student study guides
  - › five-step approach to curriculum design:
    1. Plan intended learning outcomes.
    2. Assess students' existing knowledge.
    3. Design teaching/ learning units (i. e. subsections of the module/course).
    4. Implement learning/ teaching strategies that are geared to the outcomes.
    5. Assess whether outcomes have been met.
- ❖ This approach changes the working pattern of module/course developers



# Learning Outcomes and Teaching



## ❖ Observations

- › What happens in practice?
  - › Input-based or outcome-based approach?
  - › Are teachers bound by the prescribed learning outcomes and associated contact hours?
  - › Do they have full freedom to select the content?
  - › Is course design influenced by international, national and institutional factors OR by individual preferences and values of the academics?
  - › Do the available resources matter?
  - › Do teachers' personal choice and their pedagogic experiences matter?
- ❖ The message: If curriculum design is being driven simply by a need for compliance with a regulatory change, the result is likely to be superficial with no real impact on students' learning experience.



# Learning Outcomes and Learning



- › Learning outcomes are less within teachers' control
- › The criteria for success depend on the quality of the learning outcomes of students
- › Students become empowered learners
- › How can Intellectual skills and Practical skills be developed, practised and demonstrated? – diverse learning experiences.



# Learning Outcomes and Learning: Drawbacks



## ❖ Observations

- › Learning outcomes may lead to instrumental reasoning and surface learning that stifles creativity and diversity of education.
- › Students may merely aim to meet minimum threshold standards as specified in the learning outcomes.
- › As immature customers with naïve view, limited understandings, students may not be able to interpret learning outcomes precisely before making their choice of study.



# Learning Outcomes and Learning: Drawbacks



- › a paradox: “on the one hand there is a concern with providing learners with the space to exercise control over their own learning and to facilitate this, and yet on the other hand explicit and detailed prescriptions flow”
- › Academic study by definition is open-ended, detailed specification of outcomes, target-oriented learning could be in the opposite to the traditional university function.



# Learning Outcomes and Assessment



- › LOs present what is formally assessed and accredited to the student
- › LOs help formulating an assessment strategy
- › Assessment is a central “steering element” and it is directly linked to learning outcomes
- › Students play far more active roles in the assessment of their achievement
- › Various forms of assessment are introduced alongside with traditional examinations



# Learning Outcomes and Assessment: Drawbacks



## ❖ Observations

- Assessment of LOs often does not cover anticipated long term learning
- Assessment of LOs mostly concentrates on quantitative aspects of learning
- Assessment of quality has been highly subjective.
- Assessment of LOs at international level, country level, institutional level has its own peculiarities and features deeply grounded in its culture (educational traditions and nature of subjects).



# Some thoughts:

- \* \_\_\_\_\_
- › Do we attempt to write descriptions of ‘educated person’ of our HE systems?
- › Are we developing ‘technical manual’, statements and texts, which are to be interpreted?
- › When interpretation is involved the variety could become wider. How to avoid this risk?
- › How can we introduce sustainable assessment which foster learning for the longer term?
- › The goal of HE is a more extensive concept, how can we capture in the language of a handful of learning outcomes?
- › Subject understanding can be fairly pre-specified and assessed in terms of outcome statements, how can we do so with beliefs and reflective thinking?
- › Learning outcomes must be measurable. How can we measure the unknown of science that learning aims to discover?
- › To what extent well-described learning outcomes encourage revolutionary scientific inventions?