LEARNING OUTCOMES
WORKSHOP

Reyyan Ayfer
Ceylan Yazıcı
Lori Russell Dağ
INTRODUCTION

I. Who We Are
II. Teaching or Learning
III. Efforts
IV. Bologna Process
V. EHEA European Higher Education Area
VI. Student - Centered Learning
VII. Tools for the Bologna Process:
VIII. National Competencies, Program and Course Outcomes
WHO WE ARE

BETS is a volunteer group supporting the use of instructional technology at Bilkent University.

http://bets.bilkent.edu.tr/
“A teaching mission necessarily embraces both a concern for teaching and a concern for the end product of the teaching process that is: the student learning experience.”

(Little & Locke 2011, 19)
<table>
<thead>
<tr>
<th>Australia &amp; US</th>
<th>UK &amp; Europe</th>
</tr>
</thead>
</table>

**Caucasus, Middle & Far East**

The Bologna Declaration (1999)

- to ensure more comparable, compatible and coherent systems of higher education in Europe.
- to foster student mobility and employability through the introduction of a system based on undergraduate and postgraduate studies with easily readable programmes and degrees.
- Quality assurance has played an important role from the outset, too.

Ministers responsible for higher education
Participation of Turkey in BP (2001)
Under the responsibility of Council of Higher Education (CoHE)

https://globalhighered.wordpress.com/2011/04/20/mapping-bologna-process-membership
THEMES

- common degree system
- a European system of credits
- mobility
- cooperation in quality assurance
- national qualifications framework
- lifelong learning
- employability
- social dimension of higher education
EHEA

BP → European Higher Education Area (March 2010)

27 countries 1999 → 47 countries 2010 → 49 countries now
EHEA PRIORITIES

- social dimension: equitable access and completion
- lifelong learning
- employability
- student-centered learning and the teaching mission of higher education
- education, research and innovation
- international openness
- mobility
- data collection
- multidimensional transparency tools
- funding
Student-centered learning (SCL) is an approach to education, which aims at overcoming some of the problems inherent to more traditional forms of education by focusing on the learner and their needs, rather than being centered around the teacher's input. This approach has many implications for the design and flexibility of curriculum, course content, and interactivity of the learning process and is being increasingly used at universities across Europe.
TOOLS

- ECTS: European Credit Transfer System
- Diploma Supplement
- Quality Assurance

  NQF: National Qualifications Framework
<table>
<thead>
<tr>
<th>Previously</th>
<th>Now</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-Teacher contact hours</td>
<td>Student workload</td>
<td>Learning outcomes based student workload</td>
</tr>
</tbody>
</table>
National Competencies, Program and Course Outcomes
OUTLINE

I. Goals, objectives, learning outcomes

II. Features of good learning outcomes

III. Parts of objectives

IV. Developing objectives
   A. Bloom’s cognitive domain
   B. Verbs
   C. Key points while writing

V. An example
   A. Steps to follow
   B. Constructive alignment

VI. Team work
GOALS, OBJECTIVES, LEARNING OUTCOMES

- **Goal/Aim:**
  A general, global statement of intended general outcome of a course, a lesson, an instructional unit.

- **Objective:**
  A statement of specific performances which will contribute to the attainment of the goal. Intended results; might include teaching intention.
GOALS, OBJECTIVES, LEARNING OUTCOMES

- **Learning outcome:** A statement focusing on achieved results; preferred for emphasizing the learner and the resulting learning behaviour.
Goals/Aims:

- This course aims to help learners design effective courses using instructional technology.
- The aim of this course is to give students an introduction to organic chemistry.
- The aim of this course is to provide learners with an overview of the academic research process.
Learning Outcomes

Upon completion of the module, students will be able to **design** functioning computer programs using **structured and object-oriented approaches**.

By the end of the course students will be able to **use** mathematical expressions **appropriately** by constructing rooted tree.
FEATURES OF GOOD LEARNING OUTCOMES

SMART (Boyd & Vitzelio)

- **Specific**: Clear, definite terms describing the abilities, knowledge, values, attitudes and performance desired.
  
  **Poor**: Be able to use terms related to the field

- **Measurable**: Tangible, should have a measurable outcome and a target can be set.
  
  **Poor**: Be able to understand mathematics.
  
  Develop an appreciation for music.
FEATURES OF GOOD LEARNING OUTCOMES

- Achievable: The outcome is something your students can accomplish.
  
  Poor: Become a life-long learner

- Realistic: The outcome is practical in that it can be achieved in a reasonable time frame.
  
  Poor: Write a novel (semester course)
FEATURES OF GOOD LEARNING OUTCOMES

- **Time-bound**: Identify a specific time frame for the completion of the outcome.

  E.g. Upon completion of the course, by the end of the course....
PARTS OF OBJECTIVES

Condition | Behavior | Criterion
PARTS OF LEARNING OUTCOMES

- **Condition:**
  Under what circumstances is the student expected to perform?
  - Given a set of whole numbers ...
  - In the presence of an audience ...
  - Without the aid of class notes ...
  - Using internet applications ...
  - After a detailed examination of the causes ...
  - Given a list of chemical elements ...
  - By using the instructional design principles...
PARTS OF LEARNING OUTCOMES

- **Behavior:**
  What is the student expected to do (a measurable outcome)?
  - Describe
  - Apply
  - Analyze
  - Judge
  - Support
  - Evaluate
  - …
PARTS OF LEARNING OUTCOMES

- **Criterion:**
  Is the performance sufficient?
  - **Speed:** In under two hours, within fifteen minutes...
  - **Accuracy:** To the nearest whole number, with no more than two incorrect entries in...
  - **Quality:** Effectively, successfully, meaningfully, appropriately...
The students will be able to design **functioning** computer programs using structured and object-oriented approaches.
The students will be able to develop a comprehensive portfolio of lesson plans that are appropriate for K-12 level.
At the conclusion of module one, students will **successfully** prepare a work breakdown structure for an assigned case study.
DEVELOPING LEARNING OUTCOMES FOR YOUR COURSES
**Blooms Taxonomy**

1. **Knowledge**
   - Recall of information; Discovery; Observation; Listing; Locating; Naming

2. **Comprehension**
   - Understanding; Translating; Summarising; Demonstrating; Discussing

3. **Application**
   - Using and applying knowledge; Using problem solving methods; Manipulating; Designing; Experimenting

4. **Analysis**
   - Using old concepts to create new ideas; Design and Invention; Composing; Imagining; Inferring; Modifying; Predicting; Combining

5. **Synthesis**
   - Identifying and analyzing patterns; Organisation of ideas; recognizing trends

6. **Evaluation**
   - Assessing theories; Comparison of ideas; Evaluating outcomes; Solving; Judging; Recommending; Rating
# ACTION VERBS

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Analysis</th>
<th>Synthesis</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remember previously learned information.</td>
<td>Demonstrate an understanding of the facts.</td>
<td>Apply knowledge to actual situations.</td>
<td>Break down objects or ideas into simpler parts and find evidence to support generalizations.</td>
<td>Compile component ideas into a new whole or propose alternative solutions.</td>
<td>Make and defend judgments based on internal evidence or external criteria.</td>
</tr>
</tbody>
</table>

### Action Verbs

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Analysis</th>
<th>Synthesis</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrange</td>
<td>Classify</td>
<td>Apply</td>
<td>Analyze</td>
<td>Compose</td>
<td>Appraise</td>
</tr>
<tr>
<td>Count</td>
<td>Conclude</td>
<td>Change</td>
<td>Characterize</td>
<td>Construct</td>
<td>Argue</td>
</tr>
<tr>
<td>Define</td>
<td>Convert</td>
<td>Choose</td>
<td>Classify</td>
<td>Create</td>
<td>Assess</td>
</tr>
<tr>
<td>Describe</td>
<td>Defend</td>
<td>Compute</td>
<td>Compare</td>
<td>Design</td>
<td>Choose</td>
</tr>
<tr>
<td>Draw</td>
<td>Demonstrate</td>
<td>Dramatize</td>
<td>Contrast</td>
<td>Develop</td>
<td>Conclude</td>
</tr>
<tr>
<td>Find</td>
<td>Discuss</td>
<td>Interview</td>
<td>Debate</td>
<td>Integrate</td>
<td>Criticize</td>
</tr>
<tr>
<td>Identify</td>
<td>Distinguish</td>
<td>Prepare</td>
<td>Deduce</td>
<td>Invent</td>
<td>Decide</td>
</tr>
<tr>
<td>Label</td>
<td>Estimate</td>
<td>Produce</td>
<td>Diagram</td>
<td>Make</td>
<td>Evaluate</td>
</tr>
<tr>
<td>List</td>
<td>Explain</td>
<td>Role-play</td>
<td>Differentiate</td>
<td>Organize</td>
<td>Judge</td>
</tr>
<tr>
<td>Match</td>
<td>Extend</td>
<td>Select</td>
<td>Discriminate</td>
<td>Perform</td>
<td>Justify</td>
</tr>
<tr>
<td>Name</td>
<td>Generalize</td>
<td>Show</td>
<td>Distinguish</td>
<td>Plan</td>
<td>Predict</td>
</tr>
<tr>
<td>Order</td>
<td>Identify</td>
<td>Transfer</td>
<td>Examine</td>
<td>Produce</td>
<td>Prove</td>
</tr>
<tr>
<td>Quote</td>
<td>Illustrate</td>
<td>Use</td>
<td>Outline</td>
<td>Propose</td>
<td>Prioritize</td>
</tr>
<tr>
<td>Recall</td>
<td>Interpret</td>
<td></td>
<td>Relate</td>
<td>Rewrite</td>
<td>Prove</td>
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<tr>
<td>Recite</td>
<td>Paraphrase</td>
<td></td>
<td>Research</td>
<td></td>
<td>Rate</td>
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<tr>
<td>Recognize</td>
<td>Predict</td>
<td></td>
<td>Separate</td>
<td></td>
<td>Select</td>
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<tr>
<td>Relate</td>
<td>Report</td>
<td></td>
<td></td>
<td></td>
<td>Support</td>
</tr>
<tr>
<td>Select</td>
<td>Restate</td>
<td></td>
<td></td>
<td></td>
<td>Value</td>
</tr>
<tr>
<td>Sequence</td>
<td>Review</td>
<td></td>
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</tr>
</tbody>
</table>
VERBS TO AVOID

- Understand
- Appreciate
- Know about
- Become familiar with
- Learn about
- Become aware of
- Enjoy
- Believe
- …
WHILE WRITING

- Focus on **student** performance not teacher performance.
  
  **Poor**: To teach the difference between behaviorism and cognitivism

- Focus on **product** - not process.
  
  **Poor**: The students will examine the differences between behaviorism and cognitivism
WHILE WRITING

- Focus on **terminal behavior** - not subject matter.
  **Poor:** Historical origins of art history

- Include only **one** general learning objective in each outcome.
  **Poor:** Successfully *apply* instructional design principles to a learning materials and *evaluate* its effectiveness.

- Link your objectives to your assessment
  Map your assessment
STEPS TO FOLLOW WHILE WRITING LEARNING OUTCOMES
BEFORE YOU START

1. Check the **goals** and **competencies** for your program.
2. Outline the specific **knowledge**, **skills**, or **attitudes** for specific goals.
3. Include a variety of **levels** from the **cognitive domain**
4. Plan your **teaching** and **learning** methodology
5. Focus on your **assessment** at the same time you are working on your outcomes
1. Identify aims and objectives of module.
2. Write learning outcomes using standard guidelines.
3. Develop a teaching and learning strategy to enable students to achieve learning outcomes.
4. Design assessment method to test if learning outcomes have been achieved.
5. If necessary modify module content and assessment in light of feedback.
IDENTIFY KSAs (Knowledge, Skills, Attitude)

For your courses, identify:

- **Knowledge**: Theoretical – Conceptual
- **Skills**: Cognitive – Practical
  - Communication skills
  - Critical thinking skills
  - Teaching skills...
- **Attitude**: Commitment – Appreciation – Valuing
Learning outcome

By the end of the course, the students will be able to:

1. Clearly explain the theoretical underpinnings of major instructional theories in a reflection paper.
2. Compare major instructional theories in detail by referring to the role of the teacher, learner and the process of instruction.
SKILLS

Learning outcome

By the end of the course, the students will be able to:

1. Develop effective electronic materials for the intended grade level by using web applications in a purposeful manner.
2. Apply visual design principles correctly when designing the layout of the materials.
ATTITUDE

Learning outcome
The students will be able to:

1. Communicate effectively with others members of the group while completing their own tasks during project work.

2. Fulfil his/her duties responsibly in a timely manner while working on his/her part of the project.
CONSTRUCTIVE ALIGNMENT
The curriculum is designed so that the teaching activities, learning activities and assessment tasks are co-ordinated with the learning outcomes.
<table>
<thead>
<tr>
<th>Learning outcomes</th>
<th>Teaching and Learning Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td></td>
<td>End of module exam</td>
</tr>
<tr>
<td>Demonstrate Knowledge</td>
<td>Lectures</td>
<td>Multiple choice tests</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Tutorials</td>
<td>Essays</td>
</tr>
<tr>
<td>Application</td>
<td>Discussions</td>
<td>Practical assessment</td>
</tr>
<tr>
<td>Analysis</td>
<td>Laboratory work</td>
<td>Fieldwork</td>
</tr>
<tr>
<td>Synthesis.</td>
<td>Clinical work</td>
<td>Clinical practice</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Group work</td>
<td>Presentation</td>
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<tr>
<td></td>
<td>Seminar</td>
<td>Project work</td>
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<tr>
<td>Affective</td>
<td>Peer group presentation</td>
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<tr>
<td>Integration of beliefs</td>
<td></td>
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<tr>
<td>ideas and attitudes</td>
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<tr>
<td>Psychomotor</td>
<td></td>
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<tr>
<td>Acquisition of</td>
<td></td>
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<tr>
<td>physical skills</td>
<td></td>
<td></td>
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<tr>
<td>Assessment Mode</td>
<td>Most likely kind of learning assessed</td>
<td></td>
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<tr>
<td>----------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Extended prose, essay type</strong></td>
<td></td>
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<tr>
<td>Essay exam</td>
<td>Rote, question spotting, speed structuring</td>
<td></td>
</tr>
<tr>
<td>Open book</td>
<td>As for exam, but less memory, coverage</td>
<td></td>
</tr>
<tr>
<td>Assignment, take-home</td>
<td>Read widely, interrelate, organise, apply</td>
<td></td>
</tr>
<tr>
<td><strong>Objective test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple choice</td>
<td>Recognition, strategy, comprehension, Hierarchies of understanding</td>
<td></td>
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<tr>
<td>Ordered outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Performance assessment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practicum</td>
<td>Skills needed in real life</td>
<td></td>
</tr>
<tr>
<td>Seminar, presentation</td>
<td>Communication skills</td>
<td></td>
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<tr>
<td>Posters</td>
<td>Concentrating on relevance, application</td>
<td></td>
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<tr>
<td>Interviewing</td>
<td>Responding interactively</td>
<td></td>
</tr>
<tr>
<td>Critical incidents</td>
<td>Reflection, application, sense of relevance</td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>Application, research skills</td>
<td></td>
</tr>
<tr>
<td>Reflective journal</td>
<td>Reflection, application, sense of relevance</td>
<td></td>
</tr>
<tr>
<td>Case study, problems</td>
<td>Application, professional skills</td>
<td></td>
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<tr>
<td>Portfolio</td>
<td>Reflection, creativity, unintended outcomes</td>
<td></td>
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<tr>
<td><strong>Rapid assessments</strong></td>
<td></td>
<td></td>
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<tr>
<td>(large group)</td>
<td>Coverage, relationships</td>
<td></td>
</tr>
<tr>
<td>Concept maps</td>
<td>Relationships</td>
<td></td>
</tr>
<tr>
<td>Venn diagrams</td>
<td>Level of understanding, sense of relevance</td>
<td></td>
</tr>
<tr>
<td>One minute/three-minute paper</td>
<td>Recall units of information, coverage</td>
<td></td>
</tr>
<tr>
<td>Short answer</td>
<td>Holistic understanding, application, reflection</td>
<td></td>
</tr>
<tr>
<td>Letter to a friend</td>
<td>Comprehension of main ideas</td>
<td></td>
</tr>
<tr>
<td>Cloze</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Clearly explain the theoretical underpinnings of major instructional theories in a reflection paper.

   T-L: Examine theories in class
   A: Reflection paper

2. Compare major instructional theories in detail by referring to the role of the teacher, learner and the process of instruction.

   T-L: Group work, comparison
   A: Poster
3. Develop effective electronic materials for the intended grade level by using web applications in a purposeful manner.

   T-L: Material development
   A: Material portfolio

4. Apply visual design principles correctly when designing the layout of the materials.

   T-L: Critiquing visual design principles
   A: Reflection
5. Communicate effectively with others members of the group while completing their own tasks during project work.

6. Fulfil his/her duties responsibly in a timely manner while working on his/her part of the project.
EXAMINING YOUR OWN SYLLABUS

1. Take a look at your own syllabus.
2. Review the aims and learning outcomes with the checklist.
3. Take a look at your T-L activities to see the alignment.
4. Take a look at your assessment to see the alignment.
5. When you are done, please share your outcomes with the person sitting next to you and use the checklist again.
□ Have I focussed on outcomes not processes, i.e. have I focussed on what the students are able to demonstrate rather than on what I have done in my teaching?

□ Have I begun each outcome with an active verb?

□ Have I used only one active verb per learning outcome?

□ Have I avoided terms like know, understand, learn, be familiar with, be exposed to, be acquainted with, and be aware of?

□ Are my outcomes observable and measurable?

□ Are my outcomes capable of being assessed?

□ Have I included learning outcomes across the range of levels of Bloom’s Taxonomy?

□ Do all the outcomes fit within the aims and content of the module?

□ Have I the recommended number of outcomes (maximum of nine per module)?

□ Is it realistic to achieve the learning outcomes within the time and resources available?