

Outcome Based Education Attainment Measurement Framework

UNIVERSITY SCHOOL OF INFORMATION, COMMUNICATION AND TECHNOLOGY



Tranvi Choudh
29/9/23

Table of Contents

Introduction.....	2
Definitions.....	2
Assessment Methods.....	3
Attainment of CO.....	4
Steps for Assessment of Learning Outcomes and analysis of Assessment Findings.....	4
Implementation and Monitoring.....	5

Travis Cloud
20/9/23

Introduction

Outcome-Based Education (OBE) is an approach to education that focuses on the desired outcomes or results of the learning process, rather than just the delivery of content or the completion of courses. OBE process is a result-oriented approach to education that aims to produce students who are not only knowledgeable in their field of study but who are also able to apply that knowledge to real-world situations. It is a student-centered instruction model that focuses on measuring student performance through outcomes. Outcomes include knowledge, skills, and attitudes. It focuses on the evaluation of outcomes of the program by stating the knowledge, skill, and behavior a graduate is expected to attain upon completion of a program after graduation. In the OBE model, the required knowledge and skill sets for a particular degree are predetermined and the students are evaluated for all the required parameters (Outcomes) during the course of the program. The key features for the implementation of Outcome-based education include

- Development of a curriculum framework that outlines specific and measurable outcomes.
- Instructional Methodology to ensure delivery for specified outcomes.
- Assessments to determine if students have achieved the stated standard.

These Guidelines called Outcome Based Education Guidelines shall apply to all students, faculty members and administrators of University School of Information, Communication and Technology (USICT) a school of Guru Gobind Singh Indraprastha University, Delhi, to all programmes under the aegis of the school w.e.f. AS 2023-24.

The benefits of OBE include:

- Improved student learning outcomes: The focus on outcomes helps students to see the relevance of what they are learning and to develop the skills and knowledge they need to be successful in their future careers.
- Increased accountability: By emphasizing the outcomes that students are expected to achieve, OBE helps to hold educators and institutions accountable for the quality of education they provide.
- Better alignment with workforce needs: OBE helps to ensure that students are learning the skills and knowledge that are relevant and in demand in the workforce.
- More effective assessment: By focusing on outcomes, OBE allows for a more meaningful and relevant assessment of student learning, which can provide valuable feedback to students and educators.
- Personalized learning: OBE emphasizes the individual needs and learning styles of each student, which can lead to more personalized and effective learning experiences.

Definitions

Outcome-Based Education (OBE) is a student-centric teaching and learning methodology in which the course delivery and assessment is planned to achieve stated objectives and outcomes. It focuses on measuring student performance i.e. outcomes at different levels. Some important aspects of the Outcome Based Education –

1. Course is defined as a theory, practical or theory cum practical subject studied in a semester. For e.g. Computer Applications Management

Travin Choudhary
29/9/23

2. Course Outcome (CO) Course outcomes are statements that describe significant and essential learning that learners have achieved, and can reliably demonstrate at the end of a course. Outcomes may be specified for each course based on its weightage.

3. Program is defined as the specialization or discipline of a Degree. It is the interconnected arrangement of courses, co-curricular and extracurricular activities to accomplish predetermined objectives leading to the awarding of a degree. For e.g.: B.Tech., MBA etc.

4. Program Outcomes (POs) Program outcomes are narrower statements that describe what students are expected to be able to do by the time of graduation. POs are expected to be aligned closely with Graduate Attributes.

5. Program Educational Objectives (PEOs) of a program are the statements that describe the expected achievements of graduates in their career, and also in particular, what the graduates are expected to perform and achieve during the first few years after graduation.

6. Program Specific Outcomes (PSO) are what the students should be able to do at the time of graduation with reference to a specific discipline.

7. Graduate Attributes (GA): The graduate attributes, are exemplars of the attributes expected of a graduate from a Program.

Assessment Methods

Assessment is a core academic activity and an essential component of the learning process. Assessment of Program indicates the quality and extent of student achievement or performance, and therefore by inference a judgment about the student's learning. It inevitably shapes the learning that takes place; that is, what students learn and how they learn it should reflect closely the purposes and objectives of the Program Program assessment is an ongoing process to support educational quality and student achievement. It is the main mechanism to monitor the effectiveness of the learning environment based on evidences that determine whether students have met the learning outcomes and Program objectives.

The school seeks to ensure that assessment occurs consistently and systematically so that the results contribute to University-wide planning that supports quality education. Assessment practices within the University are based on the general principles of validity and reliability, manageability and fairness. It is expected that staff use these principles while planning, implementing and reviewing assessment tasks and processes.

Direct and Indirect Methods are used for the assessment of the attainment of CO, PO.

Direct method of assessment includes three domains of student learning i.e. cognitive domain, affective domain and psychomotor domain.

- Assessment is done through two ways - external and internal
- External – Theory exam, lab/practical exams and project evaluation.
- Internal – Mid-term, class assignments, tutorials, seminars/class project.

Indirect method of assessment conducted by collecting and analysis of feedback from the students to reflect on student's learning. The students feedback is taken on each course and programme after each semester.

Tharun Choudhary
29/9/23

Attainment of CO

A set of performance evaluation criteria will be used for quantitative assessment of COs. Thus, the attainment of COs provides an evidence of attainment of POs and PSOs. Steps for Assessment of Learning Outcomes and analysis of Assessment Findings

Steps for Assessment of Learning Outcomes and analysis of Assessment Findings

- (A) Teacher will assess each student's performance in each course and provide feedback to the student. The CO attainment will be based on internal assessment and end term examination assessment;
 - a. Student will reflect on course learning experiences and provide feedback
 - b. Internal/external reviewers will provide feedback regarding the overall quality of the program and the experiences that relate most directly to student achievement of stated learning outcomes
- (B) A common format will be used for finding the average attainment of COs.
- (C) The following are the three target levels: High (3), Moderate (2) and Low (1) attainment for direct and indirect methods
- (D) Target level for attainment of COs initially will be set based on passing marks of that course and increased consequently as previous performance.
- (E) Attainment Level Calculation for direct assessment for each CO is the sum of external (50%) and internal (50%) assessment of that CO.
- (F) Indirect assessment will be done through student feedback on achievement of COs.
- (G) Attainment level calculation for overall CO is the sum of direct (90%) and indirect assessment (10%)
- (H) The CO attainment will be measured and the results obtained. Based on the results of attainment, the corrective measures/remedial action will be taken.

The evaluation matrix shall be prepared by the Academic Programme Committee (APC) of the concerned school. The Dean of the School may constitute a committee in this regard.

Attainment of CO/PO/PSO

- (A) Outcomes will be attained through direct and indirect methods.
 - a. Direct Method: For measuring PO in direct method a CO/PO matrix will be used to measure PO. The COs will be linked to the PO using the CO vs PO matrix as stated in Course Syllabus. The attainment of POs and PSOs will be calculated based on the CO attainment using following steps –
 - i. The mapping of individual Courses or subjects and their learning outcomes with Program Outcomes and Program Specific Outcomes will be done.
 - ii. Performance in theory courses will be measured according to the marks obtained by the students in the Internal and External evaluation.
 - iii. After Evaluation of marks, the CO attainment will be done.
 - iv. PO attainment will be calculated on the basis of average CO attainment of each course.
 - v. The PO attainment will be calculated by using the predefined CO/PO matrix and the value of final CO attainment for the subject. The PO attainment will be calculated by using the formula $PO \text{ attainment} = \text{Avg. of COs of a PO} / 3 \times \text{Final CO attainment for the subject}$.

Pravin Choudhary
29/9/20

- vi. Performance in these courses will then be analyzed in detail to measure the degree to which the Program Outcomes and Program Specific Outcomes are attained.
- vii. The following methods shall be utilized for direct assessment of student's performance in a theory course / paper (UES paper) for the teacher's continuous assessment:
- Class test: A course shall have 02 test. All COs will be covered in these 02 test. Class tests shall be of 24 marks in total (maximum marks).
 - Assignment : 08 marks (in total) that will cover all the COs. Multiple assignments may be given.
 - Quizzes / presentations / Class Participation & Response : 08 marks.
- viii. The following methods shall be utilized for direct assessment of student's performance in a practical course / paper (UES paper) for the teacher's continuous assessment:
- Laboratory Assignments: 24 marks (maximum marks) shall be used.
 - Viva-Voce: The maximum marks assigned for this shall be 08 marks.
 - Participation & Response of the Students : Maximum marks 08.
- ix. The following methods shall be utilized for direct assessment of student's performance in a NUES course / paper (NUES paper):
- The evaluation can be project based with a notified marking scheme for the evaluation of the project. And / Or
 - Reports on topics assigned: with a notified marking scheme for the evaluation of the report.
 - Assignment / Quizzes etc. with notified marking scheme
 - The above may account for 90% of marks. 10% marks shall be awarded on the basis of Participation & Response of the student.

(B) Indirect Attainment: In this method, the feedback on the framed questionnaires will be considered. The survey questionnaire will be circulated to graduates (exit survey), teachers, alumni and employer. The surveys will then be assessed and evaluated to determine the strength of attainment level of COs/POs/PSOs. Overall attainments of POs will be calculated by taking 90% of direct attainment and 10% of indirect attainment PO Attainment = 90% (Direct Attainment) + 10% (Indirect Attainment). If the POs and PSOs attainment value is below the target, an essential remedial action will be planned and implemented.

Implementation and Monitoring

Implementation of Outcome Based Curriculum for a specific programme will be the responsibility of (for School):

1. Dean of the School
2. Programme Coordinator
3. Two faculty members nominated by the Dean of the School

Implementation of Outcome Based Curriculum will be the responsibility of (for affiliated Institutions):

1. Director / Principal of the institution
2. Head of Department of the programme

Bhanu Chandra
29/9/23

3. 2 faculty members nominated by the Head of Department with the approval of the Director / Principal of the Institution

Prami Chand
24/9/23