

# Chapter 17

## Outcome–Based Education Through E–Learning Pedagogy: A Case Study

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### **ABSTRACT**

*This case study explores the implementation and effectiveness of Outcome-Based Education (OBE) with E-Learning. It focuses on assessing and improving learning outcomes by aligning course objectives, program outcomes, and specific educational outcomes for the course Theory of Computation. This study emphasizes aligning objectives and outcomes for comprehensive assessment and quality enhancement. OBE with E-Learning offers a structured framework for evaluating outcomes and improving the educational system.*

## **INTRODUCTION**

This chapter examines the implementation and effectiveness of Outcome-Based Education (OBE) through the utilization of E-Learning pedagogy. The study focuses on assessing and improving learning outcomes in an educational setting by employing a structured framework that aligns course objectives, program outcomes, and specific educational outcomes. Through a comprehensive analysis of the case, the study explores the impact of OBE and E-Learning on various stakeholders within the educational system. It investigates the extent to which this approach enhances the assessment of learning outcomes and shapes the future direction of education. The findings reveal the benefits of integrating OBE with E-Learning pedagogy. The structured framework facilitates the establishment of thresholds and targets for each course, ensuring the alignment between course objectives, program outcomes, and specific outcomes of the educational program. This mapping not only enables educators to evaluate the effectiveness of teaching and learning processes but also provides valuable feedback for continuous improvement.

Moreover, the case study highlights the advantages of using E-Learning as a delivery method for OBE. The utilization of digital tools, multimedia resources, and interactive platforms enhances student engagement, flexibility, and access to educational materials. This, in turn, contributes to the overall effectiveness of OBE in achieving desired learning outcomes. By showcasing the successful integration of OBE and E-Learning pedagogy, this case study offers insights into the potential of this approach in shaping educational systems. It emphasizes the importance of aligning course objectives, program outcomes, and specific outcomes to ensure a comprehensive assessment of learning outcomes and continuous quality enhancement in education. Outcome-based education (OBE) in conjunction with e-learning pedagogy is a potent technique for assessing learning outcomes in educational systems. The initial step in raising educational standards involves evaluating courses using an OBE approach. By employing a precisely defined educational process with e-learning methods, OBE aims to achieve its objectives and shape the future direction of the educational system. The evaluation of educational outcomes yields valuable insights into the impact of education on various stakeholders.

In the context of assessing learning outcomes for the Theory of Computation course, OBE is applied to establish thresholds and targets for each course, facilitating Course Outcome-Program Outcome-Program Specified Outcome (CO-PO-PSO) mapping. This mapping ensures the alignment between course objectives, program outcomes, and specific outcomes of the educational program. Analyzing evaluation outcomes not only provides valuable feedback but also acts as a guide for improving the quality of the educational system. This approach enables educators to identify areas that require attention and make necessary adjustments to enhance the effectiveness of teaching and learning processes. Ultimately, the combination of outcome-based education and e-learning pedagogy offers a structured framework for evaluating educational outcomes, gathering reliable information about the impact of education on stakeholders, and leveraging these insights to continuously enhance the quality of the educational system. Through this approach, educational institutions can refine their educational processes and better meet the needs and expectations of their stakeholders.

To enhance the quality of e-learning and teaching, it is essential to cater to the specific style and needs of students. This can be achieved through the implementation of outcome-based education e-learning (OBEEL), a pedagogical approach that aims to go beyond mere credit accumulation and focus on high-order learning. By adopting OBEEL, the curriculum, pedagogy, and evaluation processes can be transformed to better reflect this objective. One of the key benefits of OBEEL is the improved efficiency and effectiveness of the e-learning experience (Falvo et al, 2007) . By aligning the curriculum with desired

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