



IMPLEMENTATION OF OUTCOME BASED EDUCATION IN EDUCATION INSTITUTIONS – A REVIEW

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Abstract

Outcome-based education (OBE) is a student-centered approach to education that focuses on clearly defined learning outcomes as the primary goal of the educational process. In OBE, the desired outcomes are identified before instruction takes place and guide the selection of teaching strategies, assessment methods, and curriculum design. The approach emphasizes the importance of measurable and observable outcomes that can be used to assess student learning and demonstrate accountability. The key principles of OBE include defining clear and specific learning outcomes, aligning instructional strategies and assessments with those outcomes, and providing students with opportunities to develop the knowledge, skills, and attitudes necessary to achieve the outcomes. OBE also emphasizes the importance of ongoing assessment and feedback to ensure that students are making progress towards the desired outcomes. OBE has gained widespread acceptance across various educational settings, spanning from K-12 schools to higher education institutions. It has been recognized for its positive impact on student learning outcomes, as well as its ability to foster increased student engagement and motivation. Moreover, OBE has been instrumental in elevating the overall quality of education by emphasizing measurable outcomes and aligning educational goals with real-world applications. However, some critics argue that OBE can be overly focused on standardized testing and may neglect important aspects of education such as creativity, critical thinking, and social and emotional development. In general, outcome-based education provides a noteworthy change in educational ideology, where the emphasis is placed on the ultimate objective of learning and establishing a framework to attain that objective by means of distinct and measurable outcomes. This paper discusses the application of OBE in different institutions including Schools, Engineering Colleges, Medical, Arts & Science Colleges and other organizations and the results and benefits out of the implementation.

Keywords: teaching, learning, outcome-based education, learning outcomes, assessment, skills.

1. Introduction

Outcome Based education (OBE) is the buzz word for a systematic approach and a scientific method of student-centric teaching and learning that has created a paradigm shift in the education system, globally. OBE targets outcomes of knowledge and competence at different levels, as against the traditional system of education which is unilateral and focuses only on learning through teacher's inputs and outcome by scoring of marks. The transfer of education system from the traditional approach to OBE had given a significant change in many educational institutions worldwide (Norhayati Mohd Zain et al, 2014). By implementing outcome-based education, institutions enhance their processes and capacities to meet standards and objectives. This is achieved through improving the performance of individuals involved and the outputs they produce, thereby strengthening overall institutional effectiveness and achievement. OBE prioritizes a clearly defined set of knowledge, skills, and abilities that students are expected to acquire by the end of their education. The emphasis in this approach lies in identifying and clearly articulating the specific outcomes that students are expected to demonstrate upon completing their education. In summary, OBE focuses on the skills and knowledge that students should possess as they complete their education, ensuring a targeted



focus on the desired abilities and aptitude they should acquire in the journey. OBE is an outcome-oriented approach concerning curriculum, instruction delivery, evaluation, and promotions in a best manner to attain the pre-determined results (Cristina L. Javier et. al, 2019).

1.1 Key steps involved in outcome-based education

OBE promotes clarity and transparency for both teachers and students by clearly defining the learning outcomes and expectations. This approach allows students to have more flexibility and autonomy in their learning process and reduces the likelihood of comparison between students, as each student has their own individual learning goals. OBE emphasizes the importance of student accountability by encouraging them to take responsibility for their own learning and progress towards their goals. The key steps involved in outcome-based education is given here,

1. Identify desired learning outcomes: This involves specifying the knowledge, skills, and attitudes that students should be able to demonstrate upon completion of a course or program.
2. Design assessments: Create assessments that are aligned with the desired learning outcomes and that provide evidence of student learning.
3. Develop curriculum: Develop a curriculum that is aligned with the desired learning outcomes and that includes instructional strategies and materials that will support student achievement.
4. Deliver instruction: Implement instruction that is aligned with the desired learning outcomes and that utilizes appropriate instructional strategies and materials.
5. Assess student learning: Regularly assess student learning using assessments that are aligned with the desired learning outcomes and provide feedback to students to support their ongoing development.
6. Evaluate program effectiveness: Evaluate the effectiveness of the program in achieving the desired learning outcomes and make adjustments as necessary.

Through the implementation of these steps, outcome-based education establishes a framework to ensure that students are equipped with the necessary knowledge, skills, and attitudes to thrive in their chosen careers and lead fulfilling lives.

2. Traditional education system compared to OBE incorporated system

Traditional education systems often focus on content delivery and teacher-centered instruction, with a heavy emphasis on standardized testing and grades. In contrast, outcome-based education (OBE) places the focus on student-centered instruction and the attainment of clearly defined learning outcomes. In traditional education, teachers are responsible for delivering content and students are expected to learn and memorize the material. Assessment is often focused on testing recall rather than application or higher-order thinking skills. Students are evaluated based on grades and standardized test scores, which can create a competitive environment and lead to feelings of inadequacy for those who do not perform as well.

In contrast, OBE prioritizes the attainment of specific learning outcomes, with teachers providing support and guidance for students to achieve these outcomes in a variety of ways. Assessment is aligned with the learning outcomes and may involve a variety of methods, such as projects, presentations, and portfolios. OBE encourages students to take responsibility for their learning and progress, and fosters a collaborative and supportive learning environment. In general, outcome-based education (OBE) presents a student-centered and customized approach to learning, prioritizing individualized learning outcomes over standardized testing and grades. By doing so, it fosters student



engagement, critical thinking, and the acquisition of practical skills that extend beyond the boundaries of the classroom.

3. Literature

Tang Howe Eng, et.al (2012) observed, there is a significant negative correlation between OBE grade score and class size, smaller the class size, higher OBE grade score can be expected. Oriah Akir et.al (2012) observed and experimentally found that the students following the OBE structure and technology e-learning support are more active learners as opposed to students who are following the conventional structure. OBE and technology e-learning support academic performance in terms of overall grade point average achieved by students regardless of programmes and streams. Educational objectives are soul for any educational Programme and it is the prime pillar for sustainable socio-economic development. Along with the objectives of increasing the quantitative students' enrolment percentage in higher education (Thirumoorthy, 2021), it is the need of the hour to insist OBE for holistic development. OBE approach is based on sound educational principles and provides a robust framework for students (Mainul Haque, 2017) to acquire the necessary fitness to practice particularly to rectify irrational prescribing and promoting rational prescribing.

3.1 OBE application in Medical Education

Outcome-based curriculum adopted at International Medical University (IMU), Malaysia (Nai Ming Lai, 2007), to train undergraduate Medical students demonstrates the strength of outcome-based curriculum to produce competent students who are well prepared for their internship. Assessing students using this educational approach provides a clear picture of their strengths and weaknesses, and identifies stages in their training where additional inputs are required.

OBE identifies the problems associated and the need for further development and research if the OBE movement is to achieve its full potential. However, the work to date on OBE provides a good basis for the training of the doctors for tomorrow (RM Harden et al, 2007), OBE is considered as performance-based approach at the cutting edge of curriculum development offers a powerful and appealing way of reforming and managing medical education (Mainul Haque, 2017)

For medical schools providing outcome-based education, the prerequisites are systematic mission statement and continuous improvement that enable individual medical schools to promote stakeholders' participation through mission statement based on stakeholders' priority (Youngjon Kim et al., 2021). The implementation of outcome-based education at the University of Dundee medical school, Scotland, UK is described as a case study for curriculum planners in veterinary medical education and is identified to aid veterinary medical educators wishing to implement the approach (Margery H Davis, 2003)

3.2 OBE application in Engineering Education

Mahbulul Syeed et al., 2022, studied the adoption of OBE framework for tertiary level engineering programs by successfully deploying it in the undergraduate CSE program, complying with the benchmark mandates of the OBE and the guidelines of Washington Accord and found that OBE assists institutions to design their program to gain international academic equivalency and accreditation.



Mieow Kee Chana et al, 2022, verified quantitatively and qualitatively a dynamic OBE model by explicitly incorporating the assessment marks into the OBE matrices and found to be effective.

An effective deployment strategy for Outcome Based Education (OBE) was developed with the Maslow's motivational model and ARCS motivational model and was used to complement each other in the deployment of the outcome-based system. The new deployment strategy based on motivational theories (Shreeranga Bhat et al., 2020) proved to be superior in the outcome of the course and adds value to body of knowledge by paving the way forward for new opportunity for engineering education research among the academicians, researchers, and policy makers. Maruti R. Jadhav et al., 2020 discussed the impact assessment OBE in the Indian engineering education through a survey of curriculum design, delivery, assessment, evaluation and reflection and found the observations encouraging.

Deivasigamani et al., 2022, studied the success level of course outcomes and programme outcomes from the four-year degree course needed for graduation from Asian Institute of Medicine, Science and Technology University (AIMST) in Malaysia. The results have demonstrated that graduates have seen the accomplishment of most programme outcomes to be over the expected level and the course outcomes, at a satisfactory level

The conventional outcome-based system under the Washington Accord on the international equivalence of engineering education quality has paved the way for the accreditation of engineering courses in internal and external evaluation processes. Implementation of the optimization model on the course 'Power System Analysis' (Hossein Zeynal et al., 2021) showed the average level of learning achievement, improved from 53.1% to 57.5%.

Research as one of the functions of higher education institution is already part of the responsibility of the faculty members to sustain and support the delivery of quality instruction and development for the organization. Assessing the contribution of each faculty member in research will serve as small building blocks towards the achievement of the university's vision and mission (Jake M. Laguardor, 2015).

3.3 OBE application in Arts and Science Colleges

Janetius, et al., 2017, analyzed the practicality of an OBE model for Arts, Humanities and Social Sciences and concluded that Outcome-based education is the need of the day in the Indian educational system, not only in the field of Engineering but also in Social Sciences because a lack of skills development has been identified in the higher education from many sectors. There is no rationale to restrict OBE to engineering alone when it is easily adaptable to any branch of study. An expressive curriculum and a meaningful teaching-learning process can be easily planned with a slow and steady approach for OBE to be successful rather than an abrupt revamping of the entire existing system.

Srinivasa Rao Songa, 2020 outlined an OBE framework for humanities in view of the different problems faced by Indian Higher Education. He concluded that OBE education is the need of the hour not just in engineering, but also in Humanities, because higher education from many sectors has shown a lack of skill development and especially language skills are huge hurdles among the majority of graduates. A K M Obaydullah et al., 2020, described the concept of outcome based science education (OBSE) highlighting the strong need to move from teacher centric education to student centric education which is imperative to achieve the desired outcome. The OBSE framework should focus on competency building and skill orientation rather than only theoretical knowledge.



4 Conclusion

The literature in this article reviewed highlights the clear and indisputable benefits of implementing Outcome-Based Education (OBE) within any educational framework. The utilization of OBE yields notable results, such as the fostering of essential skills and the establishment of a learner-centric atmosphere, consequently augmenting the overall quality of education. These findings emphasize the effectiveness of incorporating OBE methodologies, as they contribute to the cultivation of core competencies among students and facilitate a shift towards a more student-centered approach to learning. Also the implementation of OBE will undoubtedly contribute to the improvement of the employability skills of graduates and hence strengthen the relationship between academia and industry. Implementing Outcome-Based Education in the education sector which may be a school, college or university, is an essential requirement. It plays a crucial role in elevating educational standards and enabling institutions to gain international recognition through continuous improvement in the long term. Future work on OBE implementation can be carried out with a unified design thinking approach which is a strong empathetic approach that ensures successful implementation of OBE. Design thinking is a 'human-centered' approach that integrates human, business and technology factors in the problem identification and solving process with the key elements that include definition, observation, brainstorming, rapid prototyping, testing, implementation, and feedback. With this design thinking based OBE approach the vision and mission of an institution needs to be thoroughly defined and clearly ideated with perfect alignment at each stage of implementation so that the framework helps us to obtain the desired outcomes of the education system.

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