



## **Studying the Status of Outcome Based Education in Educational Institutions: A Systematic Literature Review**

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**Abstract:** Outcome-based Education (OBE) is an educational approach that focuses on measuring the outcomes or results of learning, rather than just the process of learning itself. OBE has been widely adopted in many countries around the world, particularly in vocational and professional education. The present study focuses on studying the status of OBE in educational institutions, that otherwise practiced traditional and content-based education. The purpose of reviewing the status of OBE in educational institutions is a crucial step in ensuring that students receive a high-quality education that prepares them for success in their future careers. The methodology followed for the present study is a systematic literature review which has covered a range of studies from the year 1996 to 2023. It has examined 41 selected studies from India and the foreign lands to analyze the trends in OBE in educational institutions. Based on this analysis, the present review attempts to report the trend in the implementation of OBE in foreign higher education institutions and those in India along with the identification of research gaps and suggestions for further researches.

**Keywords:** Outcome-based Education (OBE), Educational institutions, Systematic Literature Review, Trends in OBE

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### **1. Introduction**

Outcome-Based Education refers to a system of education that focuses on the learning outcomes framed in advance and assessment of their achievement after curriculum delivery (Spady, 1994). It is basically a paradigm shift in the teaching, learning and evaluation conducted in the educational institutions of the country. The proper implementation of OBE will require thorough changes in pedagogy, curriculum and pedagogy. The introduction of OBE in different education systems of world is aimed at improving the quality of education in schools and higher education institutions. The proponents of OBE advocate that an outcome is a meaningful and successful manifestation of learning experience that takes place at or after the completion point of a set of learning experiences or a segment of curriculum (Shaheen, 2019). This article is expected to provide an updated OBE scenario in educational institutions and is attempting to cover studies on OBE from the year 1996-2023. This would be helpful in contextualizing future studies on OBE both at doctoral and post-doctoral level, besides providing background to them. The theoretical orientation of early OBE was towards behaviorism as reported in the works of experimental psychologists such as Watson, Pavlov, Thorndike, and Skinner whose legacy was a focus on observable behaviors (Morcke, 2013). The basic idea of emphasizing educational objectives has been given in its definitive form by Tyler as early as 1949 (Tyler, 1949). After Tyler, it was Bloom who developed Taxonomy of educational goals in cognitive domain (Bloom et al, 1956). He classified educational goals into knowledge, skills, and attitudes and emphasized that they should be measurable. An exhaustive revival of OBE began in 1980s by William Spady, which was again based on behavioristic theories (Spady, 1988). Spady propounded Outcome-based Education as a means to ensure quality in American School system. Eventually, owing to its success, it was replicated in other parts of world too. It was initially introduced in vocational and technical education and later extended to mainstream academic education as well.

OBE as a system of education is expected to improve content delivery, student performance and teacher satisfaction (Mitra & Gupta, 2020). Introduction of OBE has proven to be an evolutionary process which would

require substantial human and material resources (Nutbeam&Kickbusch, 1998). To make OBE work, institutions will have to be ready for radical restructuring and implementation of out of box solutions (Bratman, 2014). Thus, it would require reform in curriculum design, pedagogy and assessment. Among other things, it would mean framing of intended learning outcomes, making education activity based and linking it with social situations

The rollout of OBE is still in its infancy in many countries of developing world (Ross, 2012). Research could generate evidence which would serve as the basis for practice of OBE. The present systematic literature review will help to find gaps where the research studies are to be conducted. This review is intended to present an overall scenario of the researches conducted in the area of OBE in terms of types of research, educational level and keywords.

Every review seeks to answer certain research questions. In this case, following questions were explored for possible answers and guided the course of review:

RQ1: What is the overall OBE scenario in the education set up of world?

RQ2: How does India stand in the current scenario of OBE?

RQ3: In which level of Education (whether School or Higher Education), maximum number of OBE studies have been conducted?

RQ4: What are the possible research gaps that can be explored in Indian scenario?

### **3. Method & Search Strategy**

A series of published works including research papers, book chapters, and theses relevant to the subject of the paper were perused through systematic review. The primary objective of the paper was to have a broad idea of OBE scenario in Education setup of world. Additionally, the paper also attempts to find out the research gap after perusing the existing studies. The study used Inclusion and Exclusion Criteria for selection of studies to be used for the review. Inclusion and Exclusion Criteria indicate the anticipated benchmarks that are employed for selection and rejection of studies while conducting the review in research. The criteria that were employed included relevance to the subject of study, relation with the research questions and methodological quality. Review papers were not considered for inclusion in the review, the reason being that this paper does not intend to reflect on review reports. Position (introductory) papers were also excluded to avoid duplication of conceptualization of OBE. The various published studies were listed on the basis of their relevance to the broad objective, research questions and title of this paper. The listing of studies was done on the basis of their titles. The studies so listed were subjected to examination of abstracts and conclusions and some were excluded on that basis. It was only after this examination that the next stage filtering of the selected studies was done through study of their full length contents. The studies finally selected after full length examination, were considered for reference throughout the course of this work. The key words employed while executing the search included Outcome based Education, Higher Education, School Education, OBE Perception, OBE Awareness, OBE Implementation etc. The databases that were searched included Google Scholar, Scopus, Web of science, JSTOR, ERIC, Science Direct, and EBSCO. As a result, 50 studies published between 1996 & 2023 were enlisted for the review and 41 studies which qualified the inclusion criteria were selected for final review. The studies finally selected for review are tabulated in Table.

### **Summary of the Reviewed Literature on Outcome based Education from 1996 to 2023**

S. N.	Title	Nature of Research	Year	Level of education	Keywords
1.	An examination of outcome-based education practices, standards, and factors that enhance implementation of OBE	EP	1996	SL	Teacher perceptions, OBE standards, OBE practices
2.	Curriculum Reform in South Africa: a critical analysis of outcomes-based education	DC	1998	TL	Curriculum reform, apartheid schooling
3.	A Comparative analysis of Outcome based Education	CR	2000	SL	Curriculum, Pedagogy, Assessment

	in Australia and South Africa				
4.	The Learning Area Life Orientation within Outcomes-based Education	EP	2000	SL	Life Orientation, Learning area
5.	An Evaluation of the Outcome-based Education Policy in Public Schools in the Empageni region	EV	2002	SL	OBE policy, Implementation, Normative factors
6.	Outcomes-based education and educational reform in South Africa	DC	2002	SL	OBE paradigm, educational outcomes, Quality of education, Workforce demands
7.	The Implementation of OBE in Eastern Cape- a management Perspective at micro level	DC	2005	SL/ TL	Stakeholder perceptions, foundational knowledge, Curriculum design
8.	Evaluating university teaching and learning in an outcome-based model: replanting Bloom	EV	2008	TL	lifelong learning, meta-cognition, pedagogical strategies
9.	Experience on Outcome-Based Teaching and Learning	DC	2009	TL	Learning outcomes, Student performance
10.	Aligning assessment with learning outcomes in outcome-based education	EPL	2010	TL	OBE framework, OBE assessment, Learning units
11.	Teaching Learning enhancement through OBE structure and technology e-learning support	CR	2012	TL	OBE structure, technology-based education, academic performance
12.	Implementation of outcome-based education incorporating technology innovation	CR	2012	TL	technology innovation, OBE grade score, Class size
13.	Overcoming Obstacles to implementing an Outcome-based Education Model: Traditional Versus Transformational OBE	DC	2013	TL	Class size, Learner expectations, Pedagogy, Student motivation
14.	Issues and Challenges in Implementing Outcome Based Education in Engineering Education	DC	2013	TL	OBE Curriculum, Learning Process, Lifelong Learning
15.	Understanding outcome-based education changes in teacher education: evaluation of a new instrument with preliminary findings	EV	2013	TL	Outcome based Innovation, Learner Perception, OBEised Teacher Education

EP:Experimental DC:Descriptive EV:Evaluator SL:School Level TL:Tertiary Level CR:Correlation EPL: Exploratory

16.	Perception and Awareness of Nigerian Students towards Outcome-Based Education	DC	2014	TL	OBE perception, OBE awareness,
17.	Outcome-based Education – The Assessment of Program Educational Objectives for an Engineering Undergraduate	DC	2014	TL	Program Educational Outcomes assessment criteria, Stakeholders' input, Graduate long term attainment rate,

	Degree				
18.	Levels of Awareness on Outcome-based Education among Maritime Students in Misamis University	DC	2015	TL	OBE awareness, OBE instruction, Academic performance
19.	Educators' Attitude towards Outcomes-Based Educational Approach in English Second Language Learning	DC-CR	2016	TL	Educator's attitude, OBE approach, English language teaching,
20.	Implementing Outcome-Based Education (OBE) Framework: Implications for Assessment of Students' Performance	DC	2017	SL	Assessment of Student performance
21.	Students' Perception on Outcome-Based Education (OBE) Implementation: A Preliminary Study in UniKL MSI	DC	2017	TL	Student's perception, OBE implementation, OBE awareness
22.	Awareness on the Advantages and Disadvantages of Outcome Based Education Among Graduating Psychology Students	DC	2017	TL	OBE awareness, OBE advantages, OBE disadvantages
23.	Understanding of Outcome-Based Education (OBE) Implementation by Civil Engineering Students in Malaysia	DC (Quantitative)	2017	TL	OBE awareness, OBE understanding, OBE implementation
24.	Outcome Based Education: Assessment of Understanding in Higher Education Institutions of Rajasthan	DC	2019	TL	OBE understanding among faculty members, OBE understanding based on Gender
25.	Course and Program Outcomes Assessment Methods in Outcome-Based Education: A Review	DC	2019	TL	Writing course outcome (CO's), Writing program outcomes (PO's), Mapping CO's-PO's
26.	Research on effectiveness of Outcome Based Education in the Workplace Communication Curriculum of the undergraduates	EP	2019	TL	OBE Workplace communication competence
27.	Level of Awareness of Outcome-based Education of English Syllabus Designers at Thai Nguyen University	DC	2019	TL	OBE awareness, OBE implementation, respondent demographics
28.	Outcome-based Education: An Outline	DC	2020	TL	program outcomes, program specific outcomes , and course outcomes
29.	Geoscience Curriculum: Approach through Learning Taxonomy and Outcome based Education	DC	2020	TL	Course outcomes, Cognitive levels, Assessment items
30.	Method of Designing and Implementing Outcome-Based Learning in Value Added Courses for Contemporary Skills which	CR (Quantitative)	2020	TL	OBE curriculum design, Designing value added courses (VAC's), VAC effectiveness, Curriculum gap analysis

EP:Experimental DC:Descriptive EV:Evaluator SL:School Level TL:Tertiary Level CR:Correlation EPL: Exploratory

	Enhances the Program Outcomes				
31.	The Importance and Challenges of Outcome based Education – A Case Study in a Private Higher Education Institution	DC (CS)	2020	TL	Quality assurance, Students' performance, Curriculum improvement
32.	Humanities Education Reform Exploration and Practice under Outcomes-based Education	DC	2020	TL	Humanities Education, Pedagogical principles, OBE theory, OBE practice
33.	A Systematic approach for Assessment of Attainment in Outcome-based Education	DC	2021	TL	Assessment system, Outcome attainment, OBE, CBCS
34.	Teachers' perception and experience on outcomes-based education implementation in Isabela State University	MX (Quantitative & Qualitative)	2021	TL	Teacher's OBE perceptions, OBE Implementation, Teacher's OBE experience
35.	Implementation of Outcome-based Education (OBE) in Afghan Universities: Lecturers Voices	DC (Qualitative)	2021	TL	Teacher attitudes, beliefs, Learning outcome, teaching methods
36.	Evaluation Reforms in Higher Education	DC	2021	TL	OBE Implementation process, Understanding Bloom's taxonomy, Preparing Assessment fabrics
37.	Effectiveness of Outcome Based Education (OBE) toward Empowering the Students Performance in an Engineering Course	DC	2021	TL	Students performance, Assessment strategies, Evaluation
38.	Awareness Level: Outcome-based Education (OBE) among Teacher Educators	DC	2021	TL	Awareness Level, Teacher Educator's Qualification, Gender
39.	Impact of Institutional Implementation of OBE assessment: Process vs. Output	CS	2021	SL/ TL	Teacher's behaviour vis-a-vis OBE assessment, Cognitive views of teachers on assessment, Student response to OBE assessment
40.	Learners' attitude towards outcomes-based teaching and learning in higher education	DC-CR	2021	TL	Educator's attitude, OBE approach, English language teaching
41.	Outcome-Based Education in Open Distance Learning: A Study on Its Implementation Amidst the Pandemic	DC (Qualitative)	2022	TL	Psychomotor Domain, Alternative Assessment, Learning Outcomes Achievement, Dropout of Students
42.	Outcome-Based Education Versus Traditional Education: The Perspective Analysis of Teachers	DC (Qualitative Narrative)	2023	TL	Teacher perspectives, Traditional Education system,

**EP:**Experimental **DC:**Descriptive **EV:**Evaluator **SL:**School Level **TL:**Tertiary Level **CR:**Correlation **EPL:**Exploratory

#### **4. Results and Discussion**

A list of 41 studies were reviewed which included 33 research articles, 06 theses and 02 book chapters. Among the studies reported, 39 have been conducted during and after the year 2000. So far as the nature of research is concerned; 31 studies were Descriptive, 04 studies were Correlational, 03 studies were Experimental and 03 studies were Evaluative. The set of variables which the studies dealt with included attitudes and perceptions of students, teachers, and other stakeholders; OBE awareness, OBE understanding, OBE standards, OBE practices, OBE policy implementation, OBE paradigm, curriculum, pedagogy, assessment, lifelong learning, learning outcomes, student performance, technology-based education, class size, learner expectation, student motivation, teacher education, gender perspectives on OBE, workplace communication competence, respondent demographics, program outcomes, program specific outcomes, course outcomes, program educational objectives, cognitive levels, OBE effectiveness, quality assurance, outcome attainment, choice-based credit system (CBCS), teacher behavior, student response, traditional education, curriculum reform, psychomotor domain etc.

In response to OBE movement in other parts of world, India has already rolled out OBE in Engineering and Management education. It is full signatory to Washington Accord 1989, which mandates implementation of Outcome based Education for Engineering programmes. It is in the process of rolling out OBE in different programs of mainstream conventional education and UGC has already come up with Learning Outcome based Curriculum Framework (LOCF) for all the undergraduate programs and many postgraduate programs too. In School Education, every year, National Assessment survey is conducted by NCERT for measuring the learning outcomes related to EVS, Mathematics and Languages for classes 3, 5 and 8.

Amongst the 41 studies; 33 studies have been conducted at Tertiary level which includes University, College and Technical Education; 06 studies have been conducted at School level, 02 studies at School/ Higher Education level. Most of the studies focused on variables like learning outcomes, perception and awareness, curriculum, pedagogy, and assessment in terms of OBE system or approach. The number of studies focusing on variables Teacher's Attitude, Learner Attitude, Teacher Perception, Learner Perception, Teacher Awareness, Learner Awareness, Teacher Orientation, Teacher Experience, and Learning Outcomes are 25 in number. Among the selected studies, not a single study has been conducted on OBE in India, leaving the area completely virgin for research.

Most of the studies reviewed have been conducted in foreign countries. This reveals that there is ample scope for conducting OBE related research in India. The scope of conducting studies at School level is broader compared to the scope at higher level. Only 03 numbers of studies have been conducted in experimental mode leaving more scope to conduct studies using Experimental method of research. With regard to the method of research, mixed method and Case Study method has also been rarely used. The variables that haven't been explored much include curriculum reforms, innovative teaching pedagogies, IT policies and assessment approaches.

Results revealed that if OBE is implemented successfully, it will have a positive impact on both teachers and students. The model of OBE brought from west and implemented without customization, will not work and must be altered as per local situations. OBE learning approach is best suited to students in the science streams in comparison to social science streams. OBE is an eclectic educational philosophy taking the best from previous approaches and framing it in a new visionary system that was appropriate. OBE requires teachers to contextualize its principles to suit particular situations. OBE curriculum demands determination of Learning Outcomes before teaching, and it insists upon introducing a running thread of control across the course content, instructional strategies, learning experiences and methods of evaluation. Re-articulation of higher education in tune with OBE is no more a matter of choice today. Outcome-based assessment provides feedback and informs educators as regards the effectiveness of the teaching and learning practices that they employ in classes. There is a clear relationship between the teaching and learning activities and the stated course outcomes. Effective curriculum alignment is taking place as teachers develop a better defined curriculum focus—teach what they test and test what they teach. People are likely to develop a more positive attitude towards change if it takes place in an evolutionary way, the same being true about OBE as well. For the implementation of OBE to be successful at School level, every principal and teacher should be adequately trained in the curriculum to perform his/her role effectively and efficiently. The learning of OBE is crucial for student's acquisition and mastery of knowledge, understandings, skills and values or attitudes. Establishing an OBE system can be challenging without a proper OBE implementation plan. To make OBE successful, schools need to be substantially reorganized. Consequently, the role of the parents in education will also have to be adjusted. The implementation of the OBE concept needs consideration of the categories of the revised Bloom's Taxonomy, which is essential to the measurement or attainment of outcomes. If the OBE is implemented by HEIs, it will lead to the achievement of goals for all stakeholders involved. OBE provides for a time bound completion of deliverables in humanities as well. The final year students demonstrate a higher level of understanding on OBE implementation compared to the students from the earlier years of study. This indicates that the longer period of study the students were

exposed, the better their understanding of the OBE implementation. In OBE, students realize that they are learners not only inside the classroom but even after their classes. Students develop creativity as they think of possible solutions to societal problems and create innovation to improve the current condition of the field where they are enrolled. Instructors acknowledged that in OBE, motivation is the main factor necessary for students to be engaged in the classroom.

## **6. Conclusion**

The rollout of OBE has now got fillip after its mention in NEP 2020. The word 'outcome' has been mentioned 40 times in NEP document while phrase 'learning outcome' has found mention 20 times. For smooth implementation of NPE 2020, the rollout of OBE in HEI's has become inevitable in order to ensure possibility of offering dual programs in collaboration with foreign Universities under twinning arrangements. In order to address the issue of unemployment, OBE is expected to ensure imparting right knowledge and skills to prospective job seekers. Its rollout would be imperative to prepare youth for Industrial revolution 4.0. Further, it is going to make educational process more democratic and participatory. The concept that was rolled out in developed world around 1980's must be implemented in India as soon as possible. Having already rolled it out in our Central Engineering institutions such as IITs & NITs, we need to extend it to mainstream academic institutions particularly Colleges & Universities, as well. UGC & NAAC have already emphasized upon rollout of OBE in HEI's of country. UGC has in fact already come up with Learning Outcome Curriculum Framework for most of UG courses and few PG courses as well. Rolling out of OBE at all levels of Education is the need of hour and would be an important step towards making India a Knowledge economy as envisaged in NEP 2020.

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