

# OBJECTIVE CUM OUTCOME BASED EDUCATIONAL APPROACH: A PROCESS OF IMPLEMENTATION

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**Abstract:** For the qualitative improvement in the process of education, it is essential that objective cum outcome Based approach needs to be adopted. The Outcome Based Education (OBE) has been recommended strongly in NPE-1986, POA 1992, and in other policies and programmes of education. In the system of Higher Education in India, the National Educational bodies like NAAC, AICTE, NCTE, UGC etc. have also put emphasis on the Outcome Based Approach to Education. In view of this, the Department of Education, Assam Don Bosco University carried out an experimental study on the effectiveness of Outcome Based Educational Approach in relation to the performance of UG and PG students of Education during the Spring and Autumn semesters 2019. The UG and PG students were taught on the bases of Bloom's Taxonomy of the Instructional Objectives and the students were tested module wise by administering formative test and ensuring the learning outcomes of every module of each course of studies. Finally, the UG and PG students of Education performed excellently in their Internal and End Semester assessments

**IndexTerms - Effectiveness, Objective cum Outcome Based Approach, Formative Testing, Internal Assessment Scores, End Semester Assessment Scores, Spring Semester, Autumn Semester.**

## I. INTRODUCTION

Before describing the nature and structure of Outcome Based Education (OBE), it is essential to understand the nature of education system. The educational system intends to bring out cognitive, affective, psychomotor developments in individuals who come under the system. Further it needs to be understood that any system of education possesses three very significant elements, such as: (i) Inputs, (ii) Process and (iii) Output. All educational agencies and their functionaries take care of inputs, processing and outputs. But, the effectiveness of educational system is judged by taking into account the outputs or outcomes. The teaching-learning process is influenced by the richness of inputs, but the main element of education system is outputs or learning outcomes which determine its effectiveness or successfulness. There is no denying the fact that it is the process of education which transforms the society. The world has entered into the 21<sup>st</sup> century which is the century of 'Knowledge Explosion' due to the expansion of science and technology. It is a century of Information and Communication Technology (ICT). Stonier, T and Feignbaum (1983) remarked that the knowledge has grown to that extent which changed the entire fabric of work places. Absolutely a new society has emerged lashing with technology. In the context of it, knowledge has been recognized as a driving force in 21<sup>st</sup> century. International Commissions on Education (ICE) for 21<sup>st</sup> century came out with a document indicating that education had 'a treasure within' and vision for 21<sup>st</sup> century based on four pillars of education such as (i) Learning to Know, (ii) Learning to Do, (iii) Learning to Be, and (iv) Learning to Live Together. ICE (2001) indicated new educational needs and challenges for which a new and transformed system of education was advocated by following the guidelines suggested by NPE 1986, POA 1992, and other educational policies. For Higher Indian System of Education, the National Educational bodies like-NAAC, AICTE, NCTE, UGC etc. have also put emphasis on Objective cum Outcome based Education (OBE). The National Curriculum Framework for Teacher Education- 2009 (NCFTE- 2009) have also recommended some paradigm shifts in the process of education to meet the challenges of 21<sup>st</sup> century. The suggested paradigm shifts are stated as under:

- Shifting from traditional system of Teaching-learning process to objective cum Outcome Based Educational process.
- Shifting from teacher/ teaching centric system to learner/learning centric system.
- Shifting from group teaching to Individualized teaching (Instruction) in the classroom.
- Shifting from conventional method of teaching to modern approaches of teaching and learning to make the educational process Outcome Based in nature.
- Shifting from knowledge (memory) level of teaching and learning to reflective level of teaching and learning.
- Shifting from non-mastery to mastery level of learning.
- Shifting from Norm referenced Evaluation to Criterion Referenced Evaluation.

All these shifts are possible in case one is clear about the meaning and nature of objectives. When there is a question of objectives, here first and foremost one needs to understand the Programme Objectives (POs), like MA (Economics), MA (Education), M.Sc. (Chemistry), B.E. (Electrical), B.E. (Mechanical) etc. All the education programmes have their educational objective which are termed Programme Objectives (POs). For example, MA (Education) is one academic education programme and the objectives of M.A. Education Programme are stated as under:

## Programme Objectives (POs):

- i. To produce the Post-Graduates of Education Discipline who can prove to be educational leaders at the state, national and global levels.
- ii. To produce the competent teacher educators for SCERT, DIETs, and TEIs.
- iii. To produce curriculum designers.
- iv. To produce the Educational Planners.
- v. To create awareness among the students about the upcoming Information Technologies (IT).
- vi. To provide the skills of Educational Evaluation.
- vii. To give training for the construction and standardization of tools to be used in the process of educational evaluation.
- viii. To create human resources for Adult and Non- formal Education centres.
- ix. To create human resources for Environmental Education, Population Education, AIDS Education etc.
- x. To produce researchers who can come out with innovative ideas in the field of education.

Keeping in view these Programme Objectives (POs), the educational programme possesses its curriculum and this curriculum indicates the semester wise courses as stated under:

## Semester Courses:

MA (Education) 1 <sup>st</sup> Semester: C1, C2, C3, C4, C5
MA (Education) 2 <sup>nd</sup> Semester: C1, C2, C3, C4, C5
MA (Education) 3 <sup>rd</sup> Semester: C1, C2, C3, C4, C5
MA (Education) 4 <sup>th</sup> Semester: C1, C2, C3, C4, C5

The MA (Education) has been divided into four semesters and each semester keeps five courses (Papers). Each course of each semester possesses some general objectives or broad objectives and these general/ broad objectives of the course are called as course objectives (COs): for example,

M A (Education) 1<sup>st</sup> Semester: C1: Philosophical Foundation of Education: Course Objectives: After the completion of teaching-learning process, the students will get acquainted with:

1. The nature of education.
2. The Indian Philosophical thoughts of Education
3. The Philosophical thoughts of Western Thinkers
4. The differences and similarities in Indian and Western thoughts of education.
5. The modern Indian thinkers and educational function.

These are the Course Objectives (COs) in general of the Philosophical Foundations of Education which is the Course 1 of M A (Education) 1<sup>st</sup> Semester. Similarly other courses of each semester of the programme possess COs like this. Further each course possesses four/ five modules (Units) of study. For example,

Course 1: Philosophical Foundation of Education possesses four modules (units) and each module (unit) has some specific objectives of teaching/ instruction which are termed as Teaching Objectives (TOs) or Instructional Objectives (IOs). The same specific Teaching Objectives (TOs) are also the objectives of learning on the part of students for this Module 1 of the course 1, therefore the TOs/ IOs are also termed as Learning Objectives (LOs) of the module.

Course 1: Module 1: Nature of Education: after the teaching of Module 1 of the course, the students will be able:

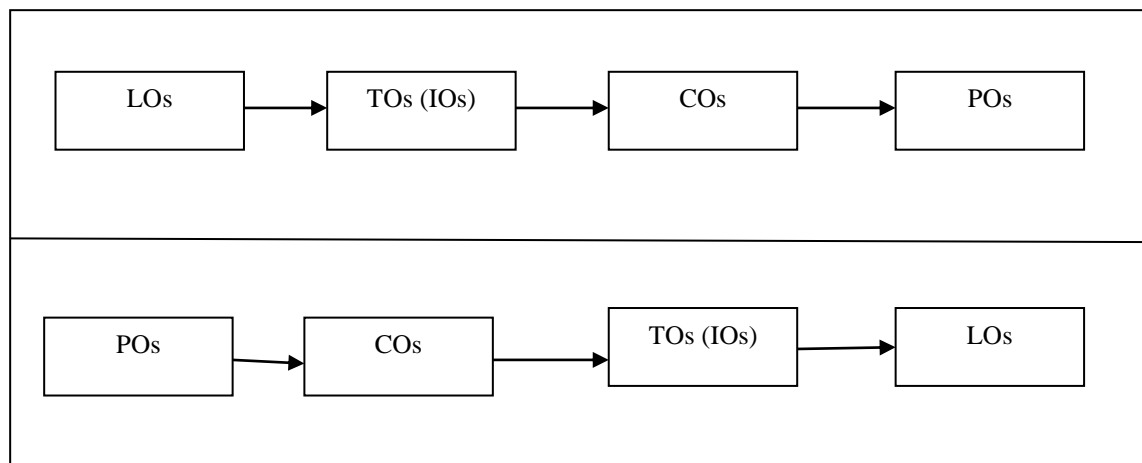
1. To define the term 'Education'. (K)
2. To explain 'Education' as a science. (U)
3. To illustrate 'Education' as a process. (U)
4. To state the meaning of the term 'knowledge'.(K)
5. To analyze the knowledge. (An)
6. To synthesize the concept of knowledge. (Sn)
7. To explain the theories of knowledge. (U)
8. To evaluate the theories of knowledge. (Ev)
9. To apply the theory of knowledge in real life situation. (Ap)
10. To define the term philosophy. (K)
11. To explain the nature of philosophy. (U)
12. To find out the relationship between philosophy and education. (Ap)
13. To state the aims of education. (K)
14. To explain the individual, social, vocational and democratic aims of education. (U)
15. To relate the aims of education with the quality of life. (Ap)
16. To name the different agencies of education. (K)
17. To explain the formal, informal and non-formal agencies of education. (U)
18. To analyze the functions and resources of different agencies of education. (An)
19. To evaluate the effectiveness of formal and non-formal agencies of education. (Ev)

By analysing course content of Module 1 of the Course 1, the teaching Objectives have been formulated in behavioural form by adopting the six categories of Bloom's Taxonomy of cognitive objectives which may be called as Learning Objectives (LOs) of the Module 1 of the course. For every course of each semester, COs, TOs/ LOs need to be threshed out properly and the Teaching- learning process is to be carried on the basis of these specific objectives of the module and it is expected that the teacher has taught objective wise and the students have received instructions properly. At the end of the Module 1, learning outcomes need to be measured through the formative test of the Module 1. This formative test (FT) is also known as diagnostic progress test. The formative test speaks about the progress of students in learning of the module and difficulties faced by some of the students in the process of learning of the module. The formative test is composed of various types of test items like:

- i. Objective type test items
- ii. Very short answer type

- iii. Short answer type
- iv. Essay type
- v. Any other interpretive exercise

At the time of making the formative test, Bloom's Taxonomy is always kept in mind so that the learning outcomes are to be measured in terms of knowledge, understanding, application, analysis, synthesis and evaluation skills of the students pertaining to the Module 1 of the course 1 covered. In this way, the teacher goes with all the modules of the course and ensures the learning outcomes of the students on each module. In case every teacher makes the teaching process objective based and ensures the desired learning outcomes (LOs) of each module of the course ensures the Course Objectives (COs), all COs of all the courses of the educational programme ensure to achieve all the formulated programme objectives. This linkage among the POs, COs, TOs (IOs) and LOs has been shown in the **Figure-1**:



In case, this process of teaching and learning is adopted, it leads to Outcome Based Educational process and this Outcome Based Educational approach ensures the quality of students in terms of their learning of a specified courses.

## 2. CONCEPT OF OUTCOME BASED EDUCATION

United States of America (USA) propagated the concept of Outcome Based Education (OBE). Under the No Child Left Behind (NCLB) Act, Outcome Based Education refers to complete learning on the part of all students. There should not be any student of the class who remains behind in learning. Each enrolled child needs to learn the prescribed course content at mastery level of learning which mean that each and every child is to achieve each and every objectives of the course. **Van der Horst and Mc Donald (1997)** described the Outcome Based Education (OBE) as 'an approach that requires educators and learners to focus their attention on the desired end results, i.e., the outcomes of learning'. Outcome Based Education (OBE) is transformational way of education which is absolutely based on the educational objectives, therefore, the effectiveness of OBE depends upon the clarity and classification of instructional objectives. **Oliver (2002)** opined that the success of Outcome Based Learning system depends on how well it is understood. It means that the teacher need to understand the conceptual framework of OBE and the teachers play a significant role in making the system outcome based in nature. The teachers are expected to be clear about the Programme Objectives (POs), Course Objectives (COs), Instructional Objectives (IOs), and Learning Objectives (LOs), for making the educational process outcome based. In this context, teaching-learning process essentially be objective based. After the completion of teaching-learning process the learning outcomes are assessed. In the reference of it, **Orsmond and Guldenhays (2005)** came out with an opinion that the assessment of outcomes should not be done by adopting conventional system of evaluation, but, broad, clear, scientific and criterion referenced having the coverage of knowledge, comprehension (understanding), application, skills and attitude of students. **Malan (2000)** conceptualized OBE as an eclectic educational philosophy taking the best from previous approaches and framing it in a new visionary system. Learning outcomes refer something what a learner is expected to know, understand or be able to do at the end of the course of his/her learning. The Outcome Based Education (OBE) has its roots in a variety of pedagogical studies. According to **Killen (2000)** an OBE curriculum framework is 'Total Approach' that places learning at the centre of educational process in a way that all decisions are made with the ultimate goal of creating successful learning environment. From this, it is synthesized that Teaching-Learning process needs to be organized in such a manner that the students are able to show the expected outcomes at the end of their learning experiences. For this purpose, **Killen** says that the mechanism of teaching and learning is dominated by having four principles such as: clarity of focus, designing back, high expectations and expanded opportunities. Under the first principle of OBE, it goes with 'clarity of focus' which makes the teacher to work on the successful achievement of learning outcomes of the students. Clarity needs to be about the specific teaching/ learning objectives of the course and these specific objectives make the process to show the desired learning outcomes of the course. The second principle of OBE emphasizes on 'Designing Back' which refers to clear articulation of course level learning outcomes which need to go in tune with the overall outcomes of the programme. This is the principle which speaks about the relationship of Teaching Objectives (TOs) with Learning Outcomes (LOs) and Learning Outcomes (LOs) with Programme Objectives (Pos). The third principle of OBE advocates to establish 'High Expectations' that involve the students deeply in the process of learning and makes them effective and efficient learners. Students are to have more learning which motivates them to go for more learning. The fourth principle puts forward that all the learners need to be provided 'expanded opportunities'. This principle of OBE is associated with individual differences of the learners. All learners are not able to learn in the same way, same thing, and at the same time. Therefore, varieties of opportunities need to be provided so that different learners can have different learning activities as per their suitability for achieving the desired learning outcomes.



Taking the stock of opinions of different scholars and educational agencies at the national and international levels on the Outcome Based Education (OBE), it is quite clear that the teaching-learning process needs to be transformed for qualitative improvement in the learning of students. The review of related studies like- maily, M. M. et.al. (2009), Fanta. F. & Boubachar, I. (2016), Ayyappam, P. et.al. (2019), Rajak, A. et.al. (2019) etc. and paradigm shifts envisaged in NPE 1986, POA 1992, NCFSE 2005, NCFTE 2009, NAAC, AICTE etc. The Assam Don Bosco University decided appropriately to implement the objective cum Outcome Based Educational Approach to teaching-learning process in the Department of Education, during the Spring and Autumn semester 2019 and this experimental study has been stated as under:

### 3. OBJECTIVES OF THE STUDY

The formulated objectives of the study are stated as under:

- i. To identify the course specific objectives and learning outcomes of the courses of UG- 2<sup>nd</sup> and PG- 2<sup>nd</sup> semester of Education. (Spring 2019)
- ii. To identify the course specific objective and learning outcomes of the courses of UG 1<sup>st</sup> and 3<sup>rd</sup> semesters and PG 1<sup>st</sup> and 3<sup>rd</sup> semester of Education. (Autumn 2019)
- iii. To carry out the teaching-learning process basing module wise learning objectives and ensuring the module wise learning outcomes through the administering of module wise formative test.
- iv. To find out the correlation between the Internal Assessment scores and End Semester Assessment Scores of UG and PG students of Education in spring and Autumn 2019.
- v. To find out the differences between the Internal Assessment Scores and End Semester Assessment Scores of UG and PG students of Education in Spring and Autumn 2019.

### 4. HYPOTHESES

Keeping in view the objective ii and objective v, the following hypotheses formulated:

- i. There will be no significant relationship between the Internal Assessment scores and End Semester Assessment scores of UG and PG 2<sup>nd</sup> semester students of Education in Spring 2019.
- ii. There will be no significant relationship between the Internal Assessment Scores and End Semester Assessment Scores of UG and PG 1<sup>st</sup> and 3<sup>rd</sup> semester students of Education in Autumn 2019.
- iii. There will be no significant difference between the Internal Assessment Scores and End Semester Assessment Scores of UG and PG 2<sup>nd</sup> semester students of Education in Spring 2019.
- iv. There will be no significant difference between the Internal Assessment Scores and End Semester Scores of UG and PG 1<sup>st</sup> and 3<sup>rd</sup> semester students of Education in Autumn 2019.

### 5. DELIMITATIONS OF THE STUDY

The present study has been delimited to:

- i. UG and PG 2<sup>nd</sup> semester students of Education.
- ii. The courses: UG 2<sup>nd</sup> (Spring 2019): EDPF0102, EDES0104, EDGE0106 and PG 2<sup>nd</sup> (Spring 2019): EDSF0017, PCRM0010, EDTK0018, EDPC0016, and EDDL0020.
- iii. The courses: UG 1<sup>st</sup> and 3<sup>rd</sup> (Autumn 2019): UG 1<sup>st</sup>: EDTP0103, UG 3<sup>rd</sup>: EDMR0108, EDPE0109. PG 1<sup>st</sup> and 3<sup>rd</sup> (Autumn 2019): PG 1<sup>st</sup>: EDFE0011, EDEP0012, EDTE0013, EDDE0014, EDET0015. PG 3<sup>rd</sup>: EDCI0021, EDTP002, EDTK0023, EDLE0027, EDME0024, EDLI0028.
- iv. The Department of Education, Assam Don Bosco University, Tapesia Campus.

### 6. METHODOLOGY

Methodology is considered a very significant segment of any piece of research work. The successful completion of any research study depends upon the systematic and scientific methodology adopted by the researcher. There are series of items/ components which the researcher needs to take care and those are are stated as under:

- i. **Method:** As the present study is experimental in nature under which the effect of objective cum Outcome Based Education (OBE) approach was to be assessed, therefore, the investigators used one Group Post-test Experimental Design. Further, the nature of data were numerical in nature, so, the quantitative approach remained in focus.
- ii. **Population of the study:** It is the another segment of any study which the researcher needs to understand and select carefully. The present study was delimited to Department of Education, Assam Don Bosco University, Tapesia campus, therefore all the UG 2<sup>nd</sup> and PG 2<sup>nd</sup> semester students of Spring 2019 and UG 1<sup>st</sup> and 3<sup>rd</sup> Semester students of Autumn 2019 were taken under the scope of this study as the population of it.
- iii. **Sample:** As the Department of Education of the University was having a limited number of students in UG and PG classes, so, all the UG students (13Nos.) and 20 Nos. PG students were selected purposively to carry out this experiment.
- iv. **Tools used:** To carry out the experiment, the investigator used the following tools and materials:
  1. Instructional objectives or learning objectives of all the modules of all courses of UG and PG classes listed for making Teaching-learning process Objective cum outcome Based in nature. All listed objectives classified in accordance with Bloom and his associates (1956).
  2. Formative Tests of all the modules of the all the courses of UG and PG developed and used for ensuring learning outcomes of all the courses.
  3. End semester Examination performance of UG and PG students was taken as summative test scores. The question papers of End semester Examination considered as the summative tests.
- v. **Phases of Experiment:** Keeping in view the objectives, hypotheses, and tools, the Department of Education, Assam Don Bosco University get encouraged to try out the Objective cum Outcome Based Education (OBE) Approach in the Department of Education as an experiment. Therefore, it was placed as an agenda item in the Board of Studies (BOS) meeting held on 26<sup>th</sup> November, 2018 in the Department of Education ADBU. The matter was discussed at length and approved to be launched in Spring semester 2019 by taking up PG 2<sup>nd</sup> and UG 2<sup>nd</sup> classes of Education. further, the proposal was placed in Academic council meeting held on 15<sup>th</sup> December, 2018 and the proposal was approved. The experiment was launched in the following phases, w.e.f. 17<sup>th</sup> January, 2019 under Spring 2019.

**Phase I (1) Creation of awareness among the faculty members and students about Objective Based Education (OBE) Approach:**

Before launching the programme, the faculty members and students were oriented about the nature and structure of OBE. The faculty members were made clear about the classification of instructional objectives as prescribed by B. S. Bloom (1956). Further, they were oriented about the writing of instructional objectives in behavioural form. The faculty members were also oriented about the development of formative tests relating to the different modules of the courses under this programme. Similarly the students were also oriented about their learning objectives and testing procedure of using formative tests.

**(2) Courses undertaken during the Spring semester 2019:**

**A. UG 2<sup>nd</sup> Semester (Spring 2019):**

**EDPF0102: Philosophical Foundations of Education.**  
**EDES0104: Education and Society**  
**EDGE0106: Gender Education**

**B. PG 2<sup>nd</sup> Semester (Spring 2019):**

**EDSF0017: Sociological Foundations of Education**  
**PCRM0010: Research Methodology and Statistics in Education**  
**EDTK0018: Theory of Knowledge**  
**EDPC0016: Peace Education and Conflict Management**  
**EDDL0020: Human Development and Learning**

**(3) Courses undertaken during Autumn Semester 2019:**

**A. (1) UG 1<sup>st</sup> Semester (Autumn 2019)**

**EDTP0103: Theories and Principles of Education**

**(2) UG 3<sup>rd</sup> Semester (Autumn 2019)**

**EDHR0108: Human Rights Education**  
**EDPE0109: Population Education**

**B. (1) PG 1<sup>st</sup> Semester (Autumn 2019)**

**EDFE0011: Philosophical Foundations of Education**  
**EDEP0012: Fundamentals of Educational Psychology**  
**EDTE0013: Emerging Trends in Education**  
**EDDE0014: History and Development of Education in India**  
**EDET0015: Educational Technology**

**(2) PG 3<sup>rd</sup> Semester (Autumn 2019)**

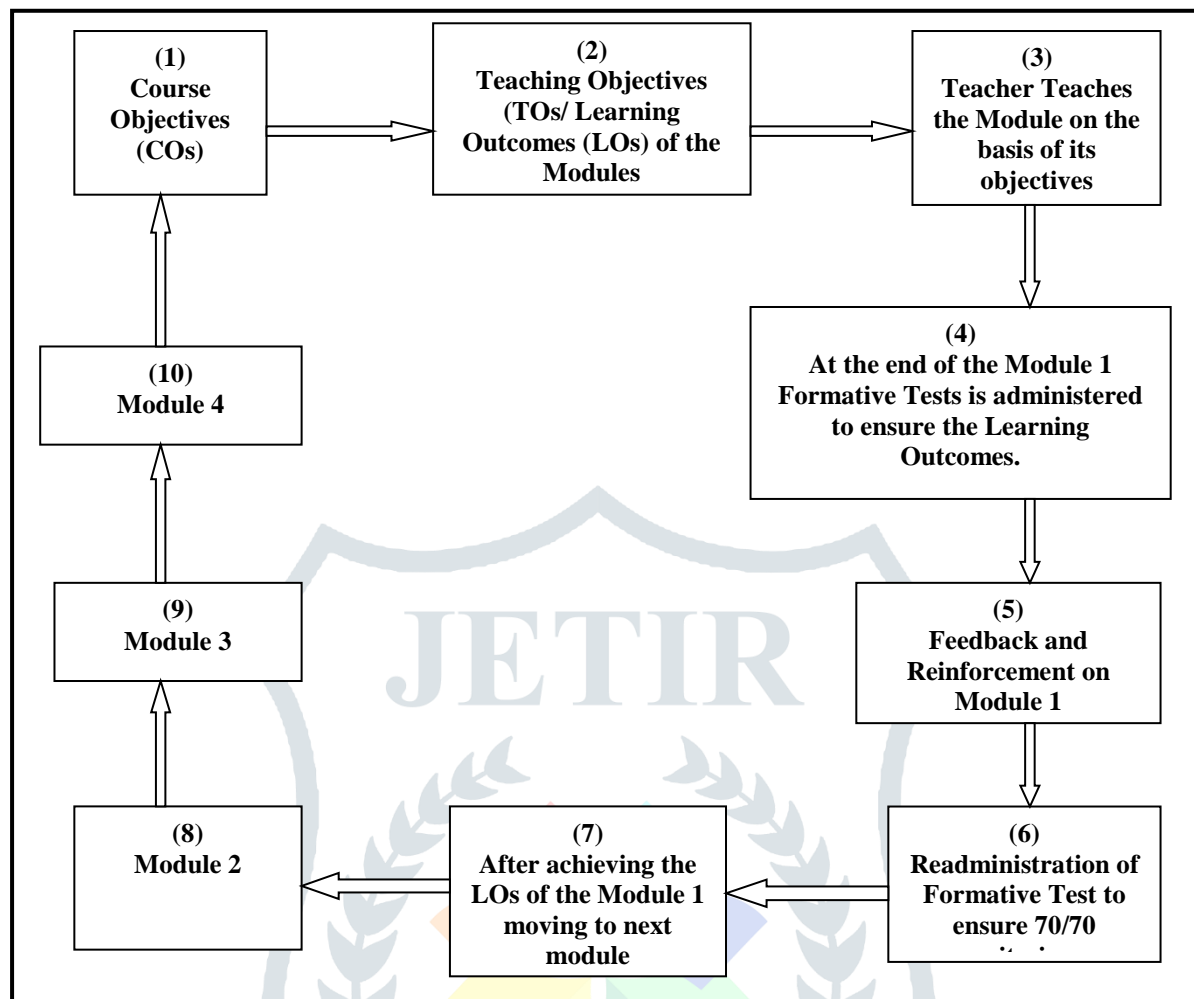
**EDCI0021: Curriculum Development and Instruction**  
**EDTP0022: Principles and Techniques of Teaching and Pedagogy**  
**EDTK0023: Teacher Education**  
**EDLE0027: Life Span Development and Education**  
**EDME0024: Measurement and Evaluation in Education**  
**EDLI0028: Learning and Individual Differences**

**Phase II: Writing Instructional objectives and Development of Formative Tests:**

The faculty members prepared the list of instructional objectives of their respective allotted courses and developed the formative tests for all the modules of the courses by incorporating the varieties of test items like- multiple choice, completion type, true/ false, very short answer (VSA), Short Answer (SA), Essay Type etc. For the preparation of these formative tests, Bloom's taxonomy of cognitive objectives was followed. By administering the formative test at the end of the module, the learning outcomes of the students were ensured and the students who could not achieve the desired level of learning (70%) such students were given some feedback and the formative test was readministered to ensure their learning of the module at desired level.

**Phase III: Carrying out Teaching- Learning Process:**

The Teaching-learning process was carried out by adopting the following model:



**Fig. 1: Section A: Flowchart showing Objective Based cum Outcome Based Approach**

After the writing of the Instructional Objectives and developing the required formative tests, third phase of the experiment was to carry out the teaching-learning process which was commenced w.e.f. 17<sup>th</sup> January 2019 and this semester has been designated as Spring Semester 2019. Each faculty member of the Department of Education took up the teaching work load and began their teaching work by taking the first module of the courses and following the specific objectives of the module. The faculty member remained particular about the learning objectives of the module and at the end of each module, the respective formative tests was administered for finding out the status of learning outcomes of the students. In case, some students left behind in learning of some points of the module, the required feedback was provided and formative test was read ministered to ensure the learning outcomes of the students. This module wise assessment scores of students were recorded properly. The average score of all the formative tests of the course of studies was taken as Inter Assessment Scores (IAS) of the students in Spring and Autumn Semester of the Year 2019. The faculty members carried out teaching-learning process by making it objective based and ensuring the desired learning outcomes during the Spring and Autumn Semester 2019. The Internal Assessment Scores and End Semester scores of the students of Education were taken up for the purpose of analysis and finding out the effect of Objective cum Outcome Based Educational approach on the academic performance of students.

For achieving the objective-4 and testing hypotheses, the investigator computed the coefficient of correlation between the obtained scores of UG and PG 2<sup>nd</sup> semester students in Internal Assessment and End Semester Assessment of various courses of studies of Spring and Autumn Semesters-2019. The Computed coefficient of correlation values of different courses have been put in Table-1 and table-2 respectively

**Table-1: Showing the coefficient of correlation values between the Internal Assessment and End Semester Scores of UG and PG 2nd Semester students of Spring 2019****\*Int. Ass.: Internal Assessment, \*\*ESA: End Semester Assessment**

Sl. No.	Paper Code	EDES0106	ESES0104	EDSF0017	PCRM0010	EDTK0018	EDPC0016	EDDL0020
	*Int. Ass.							
	**ES							
1	EDES0106	0.98(UG)						
2	ESES0104		0.88(UG)					
3	EDSF0017			0.91(PG)				
4	PCRM0010				0.55(PG)			
5	EDTK0018					0.64(PG)		
6	EDPC0016						0.54(PG)	
7	EDDL0020							0.53(PG)

**Table 2: Showing the Coefficient of correlation values between the Internal Assessment and End Semester Assessment Scores of UG and PG 1<sup>st</sup> and 3<sup>rd</sup> Semester students of Autumn 2019.**

Sl. No.	Paper Code	EDTP0103	EDHR0108	EDPE0109	EDFE0011	EDEP0012	EDTE0013	EDDE0014
	*Int. Ass.							
	**ES							
1	EDTP0103	0.87UG-1 <sup>st</sup>						
2	EDHR0108		0.94UG3 <sup>rd</sup>					
3	EDPE0109			0.20UG3 <sup>rd</sup>				
4	EDFE0011				0.82PG1 <sup>st</sup>			
5	EDEP0012					0.50PG1 <sup>st</sup>		
6	EDTE0013						0.55PG1 <sup>st</sup>	
7	EDDE0014							0.71PG1 <sup>st</sup>

**\*Int. Ass.: Internal Assessment \*\*ESA: End Semester Assessment**

For realizing the objectives-5 and testing hypotheses, the investigators computed means, Stand Deviations (SD), Standard Error Difference (SE<sub>D</sub>) and t-values by taking the Internal Assessment Scores and End Semester Assessment Scores of different courses of studies and the computed values have been shown in table-3 and table-4.

Table 3: Summary of Means, SDs, SE<sub>D</sub>, and t-value of Internal Assessment Scores and End Semester Assessment Scores of UG & PG semester students of Spring 2019 Department of Education, ADBU

Semester	Level	Course Code	Variables	N	Mean	SD	SE <sub>D</sub>	df	t-value
SPRING, 2019	UG -2nd	EDGE00106	I.A.S	10	70.30	15.32	7.54	18	0.33
			E.S.A.	10	67.80	16.69			
		EDES0104	I.A.S	10	72.26	12.17	5.36	18	0.55
			E.S.A.	10	69.30	10.54			
	PG- 2nd	EDSF0017	I.A.S	8	70.09	10.13	4.94	14	0.37
			E.S.A.	8	68.25	8.26			
		PCRM0010	I.A.S	8	79.12	3.73	2.41	14	1.26
			E.S.A.	8	76.18	5.19			
		EDTK0018	I.A.S	8	82.12	4.61	2.75	14	1.77
			E.S.A.	8	77.25	5.62			
		EDPC0016	I.A.S	8	80.57	3.49	3.09	14	0.81
			E.S.A.	8	78.06	7.40			
		EDDL0020	I.A.S	8	80.0	6.46	2.88	14	1.34
			E.S.A.	8	76.12	4.04			

\*Internal Assessment Scores= I.A.S.

\* End Semester Assessment Scores=E.S.A

Table 4: Summary of Means, SDs, SE<sub>D</sub>, and t-value of Internal Assessment Scores and End Semester Assessment Scores of UG & PG semester students of Autumn, 2019 Department of Education, ADBU

Semester	Level	Course Code	Variables	N	Mean	SD	SE <sub>D</sub>	df	t-value	
AUTUMN, 2019	UG- 1st	EDTP0103	I.A.S	14	73.53	8.55	4.08	26	1.03	
			E.S.A.	14	69.29	12.0				
	UG -3rd	EDHR0108	I.A.S	12	69.50	10.16	4.79	22	1.085	
			E.S.A.	12	74.70	12.25				
		EDPE0109	I.A.S	10	83.70	13.01	4.85	18	1.36	
			E.S.A.	10	77.10	6.5				
	PG -1 <sup>st</sup>	EDFE0011	I.A.S	11	56.57	11.18	4.88	20	2.17	
			E.S.A.	11	67.18	10.63				
		EDEP0012	I.A.S	11	47.72	12.47	5.71	20	1.51	
			E.S.A.	11	54.36	13.09				
		EDTE0013	I.A.S	11	71.60	8.74	3.33	20	1.19	
			E.S.A	11	75.59	5.92				
		EDDE0014	I.A.S	11	68.22	12.48	5.21	20	1.73	
			E.S.A	11	77.27	4.65				
		EDET0015	I.A.S	11	67.57	7.29	3.12	20	2.00	
			E.S.A	11	73.81	6.22				
		PG-3 <sup>rd</sup>	EDCI0021	I.A.S	7	74.40	12.68	4.07	12	1.41
				E.S.A	7	68.64	13.75			
	EDTP0022		I.A.S	7	73.72	10.08	5.26	12	0.093	
			E.S.A	7	74.21	8.04				
EDTE0023	I.A.S		7	76.25	5.60	3.24	12	0.317		
	E.S.A		7	77.28	5.66					



	PG-3rd	EDLE0027	I.A.S	7	76.78	5.78	4.01	12	0.62
			E.S.A	7	74.28	7.97			
		EDME0024	I.A.S	7	79.99	8.10	4.30	12	0.148
			E.S.A	7	79.35	6.11			
		EDLI0028	I.A.S	7	80.92	4.81	2.69	12	1.35
			E.S.A	7	77.28	4.51			

\*Internal Assessment Scores= I.A.S.

\* End Semester Assessment Scores=E.S.A

## 7. MAJOR FINDINGS

- i. The main aim of the present experimental study was to find out the impact of Objective cum Outcome Based Approach on the internal assessment scores and end semester assessment scores of UG and PG students of Education during the Spring and Autumn semester-2019 in Assam Don Bosco University. Under the preview of this, internal assessment scores and end semester assessment scores were recorded. The coefficient of correlation was computed by making use of Rank Difference Method given by Spearman and the coefficient of correlation values came out to be 0.98, 0.88, 0.91, 0.55, 0.66, 0.54 and 0.53 in case of UG and PG 2<sup>nd</sup> semester students. Similarly, the computed r-values were found 0.87, 0.94, 0.50, 0.71, 0.61, 0.82, 0.84, 0.72, 0.86 and 0.74 in case of UG and PG-1<sup>st</sup> and 3<sup>rd</sup> semester courses of studies. All these computed r-values were found significant and showed a very high and positive relationship in internal assessment scores and end semester assessment scores of UG and PG students of Education in Spring and Autumn semester-2019. This relationship between the internal and end semester assessment scores of the students is indicative of the positive effect of Objective cum Outcome Based Approach.
- ii. Second, the enhancement in internal and end semester assessment scores of UG and PG-2<sup>nd</sup> semester students of Education in Spring semester-2019 was observed and found that there is no significant difference in internal and end semester assessment scores of the students in all courses of studies. The computed t-values of internal and end semester assessment scores came out to be not significant statistically at .05 level of significance and the formulated hypotheses got retained. As the internal assessment scores of students in different courses got enhanced due to the effect of Objective cum Outcome Based Approach accordingly the enhancement was observed in end semester assessment scores of the students in Spring semester-2019.
- iii. Third, the experiment continued in Autumn semester-2019 for UG-1<sup>st</sup> and 3<sup>rd</sup> semester students and PG-1<sup>st</sup> and 3<sup>rd</sup> semester students. The internal assessment scores and end semester assessment scores of UG-1<sup>st</sup> and 3<sup>rd</sup> semester students of Education were recorded and the t-values were computed which were not found significant and the formulated hypotheses got retained. From this it was observed that the internal assessment scores of UG-1<sup>st</sup> and 3<sup>rd</sup> semester students showed high performance and with same pace high performance was recorded in end semester assessment in Autumn-2019. This enhancement of the academic performance of UG students was on account of Objective cum Outcome based Approach. Similarly, the PG-1<sup>st</sup> and 3<sup>rd</sup> semester students demonstrated their enhanced internal and end semester assessment scores in Autumn-2019 because of the implementation of Outcome Based Approach to teaching-learning process.

## 8. EDUCATIONAL IMPLICATION

The experimental study was carried out in Spring and Autumn semester-2019 in the Department of Education by taking up UG and PG-2<sup>nd</sup> semester course, and UG and PG-1<sup>st</sup> and 3<sup>rd</sup> semester courses respectively. It is significant to note that the experiment remained successful by indicating the effect of Objective cum Outcome Based Approach to teaching-learning process. The major findings of the present experimental study have some very significant educational implications and those are stated as under:

- i. This experimental study found out that Objective cum Outcome Based Approach has positive and equal effect on the internal assessment scores and end semester assessment scores of UG and PG students of Education. Hence, the findings of the study creates awareness among the University faculty and students for making the teaching-learning process objective based in nature.
- ii. For making the teaching-learning process objective based, teachers and students need to have idea of taxonomy of instructional objectives as suggested by B. S. Bloom (1956) and his associates. The process of this study makes them clear and its use in practice.
- iii. NPE-1986, POA-1992, and other educational agencies like MHRD, UGC, NAAC, NCTE, NCERT etc advocate for continuous and comprehensive evaluation. The process of this study was based on the specific learning objectives in accordance with Blooms Taxonomy and demonstrates the continuous evaluation of the students in terms of their knowledge, comprehension, application, analysis, synthesis, and evaluation skills by way of using the formative tests module wise over the entire course of studies.
- iv. It creates the habit of providing adequate feedback and reinforcement among the teachers for ensuring the desired learning on the part of the students.
- v. It is important to be aware of the instructional objectives or learning objectives, but more important is to ensure the learning outcomes (LOs), the basic philosophy and efforts of this experimental study remained on ensuring learning outcome of the students in different courses of studies. This mechanism may be adopted across the different Departments of the University.
- vi. The students are not improving their academic performance in internal assessment process, but their academic performance is found as good as their internal assessment scores in any course of studies.

- vii. The study paves a path to have paradigm shift from quantitative system of education to quality education and enhancing the competencies of the students.

## 9. CONCLUSION

In view of all the major findings and Educational Implications of this experimental study, finally it is concluded that the objective cum outcome based educational approach has been found effective in terms of achieving all the specific instructional objectives of all the courses of UG and PG classes taught during the Spring and Autumn Semesters to the students of education in Assam Don Bosco University. In case objective cum learning outcome based educational approach is adopted across the educational institutions of the state/country, it will enable definitely to achieve the goal of quality education and will meet the educational challenges of 21<sup>st</sup> century.

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