

Effectiveness of Training in Enhancement of Understanding of Outcome Based Education Among Faculty Members in Higher Education Institutions

Aanyaa Chaudhary, Prof. Raghuvir Singh

Ph.D Scholar Manipal University Jaipur. VPO Dehmi Kalan, Jaipur-Ajmer Expressway, Jaipur

aanyaa.chaudhary@jaipur.manipal.edu, aanyaa1912@gmail.com

Professor, TAPMI School of Business, Manipal University Jaipur, VPO Dehmi Kalan, Jaipur-Ajmer

Expressway, Jaipur Raghuvir.singh@jaipur.manipal.edu

Abstract - The study aims to investigate how training effects the understanding of Outcome Based (OBE) concept among faculty members of Higher Education Institutions (HEIs). The population for the present study were Faculty Members from HEIs in the state of Rajasthan. Data of faculty members was collected through structured close ended questionnaire. The questionnaire framed consisted of 47 questions on various aspects of OBE concept like-Program level outcomes, Course Level outcomes, Pedagogy, Assessment & Constructivist Alignment. The responses were measured on a 5 point Likert scale. A pre & post study was done on faculty group from various institutions. The faculty members were assessed on their knowledge of OBE concept. After the first assessment a training on the concept was provided to these faculty members and they were assessed again on their understanding. It was observed that there was a significant improvement in the understanding of the concept among the faculty members. It is observed that training does positively influence the understanding of OBE among faculty members in HEIs. This study has implications for the HEIs in enhancing the knowledge of their faculty members on OBE.

Keywords - Outcome Based Education, Training, Higher Education Institutions.

I. INTRODUCTION

Education for centuries has been input driven or teacher centric. Focus has been more on teaching than learning. Students who could not actively participate in the process, just because of the one way approach to teaching activity, relied majorly on memorization and repetition of the content delivered. In the recent decade Education has however undergone major transformation. Focus has shifted from teaching to learning. Educational objectives focus on what a student should have learnt by the end of the course however educational outcome refers to what a student should be able to do/perform at the end of the course. The outcome based education plans backwards. First the skills required by the students at the end of the course are determined and based on that the ways to achieve the same is derived. In this concept "Product defines the process" (Harden et al. 1999) [1].

Ralph Tyler (1949)[2] identified the importance of formulating clearly defined objectives for planning the learning process with focus on what the student should be able

to do at the end of the process. Bloom's Taxonomy (1956) [3] laid down the hierarchy of increasingly complex processes which we want our students to acquire. OBE concept focusses on integration of the outcome goals, pedagogy and assessment to ensure understanding and learning of a particular skill at the end of the program to make the student Industry ready.

In the OBE practice the teachers do not teach they rather facilitate the learning by stimulating a wide range of activities that would ensure achievement of the learning outcomes. It encourages the teacher and the student to share the responsibility for learning. What sort of outcomes should be covered in the curriculum, what should be the pedagogy for instruction delivery and how should the outcomes be assessed, all these issues need addressing.

The education sector in India is experiencing rapid expansion & change. The changes in education sector have emphasized the need to improve teaching making it more outcome based especially in Higher Education scenario so as to make our students Industry ready. To achieve this target of effective teaching the development of outcomes & implementation of the same in effective manner is a matter of concern.

Implementation of outcome-based teaching covers all levels of education with different objectives, from kindergarten to university education, from formal education to continuing education and community education (Abrams, 1995; Donen, 1999; Margaret, 1999) [4].

Harden, R. M. (2007) [5] examined that an OBE concept can be adopted only if Trainers make decision about curriculum on the basis of specified learning outcomes. The reasons for failure of implementation of OBE concept may be a poor staff development programme, with a failure of staff to appreciate the benefits of OBE and a lack of an understanding of how the approach can be implemented in their institution.

The paper intends to assess the understanding of the concept of Outcome based Education among faculty members in Higher education Institutions and the impact of training on the same.

II. LITERATURE REVIEW

Martin et al (1998) [6] stated that the advantage of OBE approach is that it describes a simple method to implement OBE concept at course level. Faculty members can select appropriate measures for their courses and use performance on those measures as diagnostics for improving their courses. They concluded that ideally multiple outcomes should be used and multiple measures of each outcomes must be used.

Eugene et al (2002) [7] studied that outcome based medical education differed from earlier models which simply described clinical rotations without specification of the knowledge, skills or attitude needed for optimal performance. The outcomes movement provides new challenges but also holds great promises for advancing.

Saulnier et al (2008) [8] stated that the paradigm shift from teaching paradigm to learning paradigm has necessitated the change in the assessment strategy also. It states that "authentic assessment is any type of assessment that requires students to demonstrate skills and competencies that realistically represent problems and situations likely to be encountered in their daily work life.

Bourner, T. (1997)[9] opined that without specific learning outcomes discussion on teaching methods would make no sense .He stated that" the range of learning outcomes is not the only factor in choosing teaching methods without reference to identified learning outcomes is like the play Hamlet without the Prince of Denmark.

Nasrallah, R. (2014) [10] found in their study that the dominant teaching approach followed was that of transmission. Faculty members in general are not aware of the concept of Constructive Alignment. The learning outcomes were either from other University's' websites or simply benchmarked.

Laguador, J. M., & Dotong, C. I. (2014) [11] in this study found out that faculty members may possess appropriate knowledge in certain area of the OBE implementation but not being practiced. Continuous participation of the faculty members in training and seminars is highly encouraged to provide them updates of the OBE process. Faculty members with high level of knowledge and understanding on the implementation of OBE have also higher possibility to contribute in the realization of the objectives of OBE through practice.

Barman et al (2014) [12], examined how teachers approached the same educational policy in different ways and that knowledge about teaching–learning play a vital role in how teachers design courses. However, willingness to comply with regulations can override or stimulate teachers' student learning perspective

Mason, M. (1999) [13] in his study states that the best teacher will seek a thoughtful integration of propositional, procedural & dispositional knowledge in their classrooms. The teachers should ask themselves about the purpose of the knowledge that they are teaching i.e. outcomes of their teaching process for success of teaching-learning process.

Fanta et al (2016) [14], examines the effectiveness of an activity-based teaching versus discussion based teaching approaches on a student performance This study assesses the effects of an experiential learning exercise used in undergraduate Principles of Economics classes at the University of Wisconsin Stout and compares the results to those attained when the traditional lecture method was used in other classes. The results lend to support the effectiveness of active-based teaching over the traditional teaching approach. The results indicate that students in the experiential sections experience a statistically significant higher gain in their in-class exercise scores.

Mason et al (2010) [15], developed a methodology for assessing student performance with respect to program outcomes and course objectives. One of the benefits of the methodology is that it has forced us to periodically review our course objectives and how we measure student mastery of each objective using available graded coursework.

R.Sethumadhavan (2013) [16] found in his study that providing training & giving an opportunity to implement the learnt skill will enhance the effectiveness.

Objectives

1. To investigate the effectiveness of training in enhancement of OBE knowledge among faculty members.

Hypothesis

H_a – Training positively impacts the understanding of OBE among faculty members.

III. RESEARCH METHODOLOGY

The population for the present study were Faculty Members from HEI in the state of Rajasthan.

Convenience sampling was used to collect the data of faculty members through structured close ended questionnaire. The questionnaire framed consisted of 47 questions on various aspects of OBE concept like-Program level outcomes, Course Level outcomes, Pedagogy, Assessment & Constructivist Alignment. The responses were measured on a 5 point Likert scale coded as 5 -Strongly agree,4 - Agree,3 –Neither agree nor disagree,2 -Disagree,1-Strongly disagree. Sample consisted of 116 faculty members from HEI in the state of Rajasthan. A pre & post study was done on faculty group. Post the first assessment the group was given training on various aspects of OBE. After the training period the group was assessed again. Paired T test was used to analyze the collected data as above & conclusions drawn.

Reliability:

Table 1: Reliability

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.874	.875	47

The reliability of Questionnaire was tested and Alpha for a sample of 115 faculty members was found to be 0.874

IV. DATA ANALYSIS

Selected test for the data is Paired Sample T-Test.

Paired Sample T-Test basically has four assumptions as under:

- 1) Dependent variable should be measured at the interval or ratio level (i.e., they are continuous)
- 2) Independent variable should consist of two categorical, "related groups" or "matched pairs"
- 3) There should be no significant outliers in the differences between the two related groups.
- 4) The distribution of the differences in the dependent variable between the two related groups should be approximately normally distributed

Table 4: Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 UnderStd_Pre - Understd_Post	-1.392	.706	.066	-1.522	-1.262	-21.252	115	.000

Paired Sample T-Test was applied on the data to study the impact of training on the understanding of OBE by faculty

The data collected is an interval data. The data has been collected from the same group pre & post the training. Hence the first & second assumptions are proved. There are no clear outliers in the data hence fulfilling the third assumption as well. To test the normality of the data Shapiro Wilk test was applied on the data.

Table 2: Normality

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
UnderStd_Pre	.062	116	.200*	.979	116	.062

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Assumed "p" value is 0.05

Ho-Data is normally distributed.

As Table 2 clearly indicates that the calculated "p" value (.062) is greater than the assumed "p" value of 0.05, hence we accept Ho & conclude that the data is normally distributed.

Table 3: Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 UnderStd_Pre	2.81	116	.586	.054
Understd_Pos	4.21	116	.409	.038

From Table 3, it has been observed that the mean value for Understanding of OBE has increased from 2.81 to 4.21 post the training reflecting the increase in the level of understanding of the concept by the faculty members.

members. Assumed level of significance is 5%.Table 4 depicts that the level of understanding shows a significance level of

0.000. The above calculated “t” value is less than the estimated “t” value.

V. DISCUSSION

The present study aimed to investigate how training effects the understanding of the OBE concept among faculty members of HEIs.

The descriptive statistic (Table 3) of the mean of the Understanding of the group is higher post the Training period (M=4.21) as compared to the mean before the training (M=2.81) and this clearly indicates that training positively impacts the understanding of OBE among faculty members, thereby accepting our alternate hypothesis (H_a) in accordance with the findings of R.Sethumadhavan (2013) [16].

The overall understanding of OBE when compared for the Pre & Post training period clearly indicates that there has been an improvement in the understanding post the training.

Due to the means of the two group’s understanding and the direction of the *t*-value, we can conclude that there was a statistically significant improvement in understanding among the faculty. Thus training does positively influence the understanding of OBE among faculty members in HEIs. This study clearly indicates that training can be used as a tool to enhance the knowledge of the faculty members on OBE for effective implementation of the same in HEIs to improve the quality of education being provided to the students.

REFERENCES

- [1] HARDEN, R.M. (1999) Early postgraduate education and the strategy of the dolphins, *Medical Teacher*, 21(4), pp. 365–369
- [2] Tyler, Ralph W. (1949). *Basic Principles of Curriculum and Instruction*. Chicago: The University of Chicago Press. ISBN 0-226-82031-9.
- [3] Bloom, B. S. (1956). *Taxonomy of educational objectives: The classification of educational goals*. New York: Longmans, Green.
- [4] Abrams, J. D. (1995) Making outcome-based education work. *Educational Leadership*. 1995, pp. 30-32
- [5] Harden, R. M. (2007). Outcome-based education - the ostrich, the peacock and the beaver. *Medical Teacher*, 29(7), 666-671.
- [6] Martin, G. S., Kimball, B., & Bush, R. F. (1998). EVALUATING THE SUCCESS OF OUTCOMES-BASED EDUCATION AT THE COURSE LEVEL: A UNIQUE APPLICATION OF THE SOCO SCALE IN A "PROFESSIONAL SELLING" COURSE. *Marketing Education Review*, 8(2), 9-18.
- [7] Eugene N., Lee C. And Famoye F. (2002). Beta-normal distribution and its applications. *Commun Statist Theor Meth* 31: 497-512.
- [8] Saulnier, B. M., Landry, J. P., Longenecker, Herbert E., Jr, & Wagner, T. A. (2008). From teaching to learning: Learner-centered teaching and assessment in information systems education. *Journal of Information Systems Education*, 19(2), 169-174.
- [9] Bourner, T. (1997). Teaching methods for learning outcomes. *Education & Training*, 39(8), 344-348.
- [10] Nasrallah, R. (2014). Learning outcomes' role in higher education teaching. *Education, Business and Society: Contemporary Middle Eastern Issues*, 7(4), 257-276
- [11] Laguador, J. M., & Dotong, C. I. (2014). Knowledge versus Practice on the Outcomes-Based Education Implementation of the Engineering Faculty Members in LPU. *International Journal of Academic Research in Progressive Education and Development*, 3(1), 63-74.
- [12] Barman, L., Bolander-Laksov, K., & Silén, C. (2014). Policy enacted – teachers' approaches to an outcome-based framework for course design. *Teaching In Higher Education*, 19(7), 735-746. Doi:10.1080/13562517.2014.934346
- [13] Mason, M. (1999). Outcomes-based Education in South African Curricular Reform: a response to Jonathan Jansen. *Cambridge Journal Of Education*, 29(1), 137.
- [14] Fanta, F., & Boubacar, I. (2016). EXPERIENTIAL Vs. LECTURE-BASED TEACHING: DOES THE CHOICE OF INSTRUCTIONAL METHOD MATTER?. *Journal Of Economics & Economic Education Research*, 17(3), 60-73.
- [15] Mason, G., & Dragovich, J. (2010). Program Assessment and Evaluation Using Student Grades Obtained on Outcome-Related Course Learning Objectives. *Journal Of Professional Issues In Engineering Education & Practice*, 136(4), 206-214. Doi:10.1061/(ASCE)EI.1943-5541.0000029
- [16] R.Sethumadhavan(2013), effectiveness of training in auto component industry – an empirical study, volume no. 3 (2013), issue no. 02.