

# Implementation of Outcome-Based Education (OBE) at Graduate School: Input for Competency Standard Development

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## ABSTRACT

Universities and colleges envision excellence as a goal by providing their students with the highest quality education. To help fulfil this goal, schools began implementing outcome-based education (OBE) in 2012 with the directive of Commission on Higher Education (CHED). The purpose of this study is to determine the extent of OBE implementation at the Polytechnic University of the Philippines (PUP) Graduate School (GS). The researchers used the descriptive-correlative technique through a survey—utilizing OBE's three (3) main areas: Learning Outcomes, Assessment Evidence, and Teaching and Learning Activities. Descriptive statistics such as mean, standard deviation, and ANOVA were used.

The faculty of GS from PUP, Sta. Mesa, Manila, were regarded as participants for the second semester of academic year 2016-2017. Ninety two (92) out of one hundred five (105) faculty members responded to the study. Moreover, the extent of OBE's implementation for all graduate program is broad in terms of degree—in regard with its three (3) areas—that each graduate program has diverse exposure and preparation. Therefore, graduate instructors should: (1) maximize their capacity in determining the student's performance through a better curriculum—for a better education; (2) should organize an exchange of information to empower them to make adjustments and broadened the purview of OBE implementation.

**Keywords**— *Competency Standard Development, Descriptive-correlational Method, Graduate School Outcome-Based Education, Polytechnic University of the Philippines*

## INTRODUCTION

With the turn of the century, an advent in technology gave way to a more diverse group of individuals. This creates a new market for individuals with far higher standards compared to before and as such, institutions are striving harder to better meet the ever-changing standards of the modern world.

As such, the Philippine education system has introduced different approaches that aim to produce well-efficient, productive and knowledgeable citizens to meet the competitive standards of the modern world. But despite the effort, according to a 2012 report by the Philippine Daily Inquirer, there is still a gap between the need of the industry and the education provided by local colleges and universities. This means that there is still a need for more research on different approaches to teaching and learning in order to better produce graduates that will meet the standard of the industries through quality education provided by schools, rendering the goal of producing globally competitive individuals stagnant.

## **Outcome-Based Education**

Spady (2016) explains the acquisition of knowledge at the end of the course as an outcome to the learner's education—which describes the essence of teaching and learning, i.e. to plan teaching events, and to ascertain the extent of the learner's knowledge. Also he, emphasizes the preparation of schools and universities about their course curriculum to be presented should be well-designed—referring to OBE as a philosophy and a plan to which implements radical and systemic change of learning, for the students' to become ready with their post-school life.

Additionally, Outcome-Based Education addresses the three principal sectors which the instructor should consider for integrated implementation in teaching and learning preparation. These sectors are as follow: the predicted educational results, proof of evaluation, and procedures in teaching and learning.

The Philippine government has attempted variety of approaches in education — from the Basic Education Curriculum (BEC) to Understanding by Design (UBD). In the present circumstances, the country has made a historical shift in its system of education by putting in place the K to 12 Elementary and High School Program and incorporating Outcome-Based Education at the tertiary and graduate level as handed down by the Commission on Higher Education, Memo no. 46 series of 2012.

## **Intended Learning Outcome**

Instructors possess a vital part in the educational process in achieving the best result for the target's acquisition of knowledge. They ought to plan the lessons critically and carefully, bearing in mind how the learners can apparently get the results.

Outcome-Based Teaching (OBE) encompasses how the curriculum is fully prepared to guarantee that the proficiency of the class is obtained (Tucker, 2004). Thus, OBE's objective is to discover amongst the students the changes in the way they think, act, and behave after accomplishing the course's goals and objectives (Butler, 2004).

## **Assessment Evidence**

To effectively measure the outcome of OBE, as is with other forms of educational system, teachers are required to prepare assessment tasks to find out if the students have achieved the goals and objectives of the course.

The main difference and the key to outcome-based assessment is the teacher's ability to provide a realistic simulation or approximation of the setting in which the outcomes of learning will be required or applied. Examples are role playing, gaming, demonstration teaching, and micro-teaching. Outcomes-based assessment utilizes criterion-based standards. These standards provide the yardstick to be used in evaluating the learner's performances by giving description of the different levels of performances that may be expected: most acceptable, very acceptable, acceptable, barely acceptable, and unacceptable. Some examples of assessment tools are observation guides, interview guides, checklists, end of chapter or unit tests, journals, peer critiques, performances or demonstrations, portfolios, rubrics, written assignments, self-assessments, reflection essays, and standardized tests (Navarro, 2015).

Posecion (2015) states that if teachers intend to reform student learning, the method of assessment must likewise be changed which are geared towards teaching them to solve problems. He also cites the features of OBE assessment which can be used in considering the methods of measuring student learning—a) criterion-references, b) emphasizes on student's performance or final output, c) uses varied and frequent assessment techniques, and d) uses both formative and summative assessment.

## **Teaching/Learning Activities**

Instructors should plan for the curriculum for them to assure an outcome-focused course of education. This insinuates that the teacher should first determine the teaching measures that will be instituted to the pupils to encourage meaningful learning. Thus, to ensure that the desired results are obtained, the instructional plan may be engineered following the Know-Do-Reflect-Transfer sequence of instruction (Andrada, 2015).

Furthermore, the OBE simply conveys that education should be purposefully guided, which is what the instructor should be expected to produce from his/her teaching. It is the results that determine what is to be instructed; what and how these are to be evaluated — quality ensured and measured; and how teaching develops or encourages the excellence of the required outcome. Therefore, Andas (2015) recommends that the educators need to concentrate on techniques that will maximize the knowledge accumulated by the targeted pupils. In addition to this, majority of the authors concurred that OBE is the strategy that encompasses sufficient evaluation of planning and training for the learners to attain the required outcomes (Spady, 2015).

In a study undertaken by Lorenzo and colleagues (2016), he observed the readiness and implementation of OBE in the three (3) performing colleges — i.e. the college of Education, the college of Science, and the college of Engineering. Results showed that the faculties are well-prepared for the introduction and implementation of OBE to a large extent. Also, there is a substantial distinction in the willingness and execution of OBE in the three (3) different schools.

Thus, these findings were the encouragement of the Polytechnic University of the Philippines as it ventures on its implementation of OBE.

### **Purpose of the Research**

With the directive of the CHED to adopt the OBE framework to help meet the global standards of quality education, the study aims to find out the extent of implementation of Outcome-Based Education by the Graduate School faculty.

The findings of this research will serve as grounds for the researchers to plan and provide appropriate retooling program, and to develop a proficiency level to accomplish the best and most efficient implementation of OBE in the Graduate Schools.

The aim of the research is to find the sheer scale of OBE being put into practice in the Graduate School. Specifically, it sought answers to the following questions:

1. What is the extent to which the graduate faculty perceives OBE implementation in terms of:
  - 1.1 Learning outcomes;
  - 1.2 Assessment evidence;
  - 1.3 Teaching and learning activities?
2. Is there any distinction or difference in the degree of implementation between and within groups of graduate faculty in OBE?

## **METHODOLOGY**

### **Research Design**

The method used in the research is descriptive method, wherein the quantitative data is gathered through survey questionnaire for determining the extent of the implementation of Outcome-Based Education.

Descriptive method of research was used in the study, wherein the quantitative data were gathered through survey questionnaire to determine the extent of implementation of Outcome-Based Education in a university.

### **Participants**

The study was conducted in the Polytechnic University of the Philippine Graduate School second semester of the academic year 2017-2018. The target respondents for the study were the faculty from twelve (12) different graduate programs who were teaching during the semester. There was a total of 105 faculty teaching in the Graduate School.

All graduate faculty members were considered respondents. However, due to some inconveniences such as their availability and personal reasons and concerns, only 92 faculty members responded to the study. Table 1 below presents the number and percentage of faculty in the grouped/clustered programs where a faculty is teaching.

**Table 1**  
Frequency Distribution of the Respondents per Clustered Programs

CLUSTERED PROGRAMS	Number of Respondents	%
Doctor in Business Administration (DBA) Master in Business Administration (MBA) Master of Arts in Economics (MAE)	35	38.04
Doctor in Public Administration (DPA) Master in Public Administration (MPA)	14	15.22
Master in Information Technology (MIT) Master of Science in Engineering (MSE) Master of Science in Industrial Engineering Mgmt.(MSIEM)	18	19.57
Master in Communication (MC) Master of Arts in Filipino (MAF)	13	14.13
Master in Psychology (MP) Master in Applied Statistics (MAS)	12	13.04
<b>TOTAL</b>	<b>92</b>	<b>100.00</b>

## Instrument

A researcher-made instrument was the main data gathering instrument, adapted and revised from the university study of Lorenzo and Cresencio (2016) on Outcome-Based Education. The questionnaire consisted of two parts: PART I for the profile of faculty which is composed of age, gender, years in teaching service, faculty rank/position, and department/program; and PART II for the assessment of faculty on the extent of implementation of OBE at Polytechnic University of the Philippines, Graduate School.

The questionnaire checklist consists of three identified areas of Outcome-Based Education: (1) learning outcomes (2) assessment evidence, and (3) teaching and learning activities, with fifteen items per area and with a total of 45 items. It was modified with consideration of the concepts and principles from the surveyed literature and studies on OBE.

Extent of Implementation of OBE	Description
1 - no extent	- Is <b>not implementing</b> OBE in the teaching/learning practices.
2 - less extent	- Encountered <b>some difficulties</b> in implementation of OBE in the teaching/learning practices.
3 - moderate extent	- <b>Moderately implementing</b> OBE in the teaching and learning practices.
4 - great extent	- Implementing OBE in the teaching and learning practices to a <b>great extent</b> .
5 - very great extent	- Implementing OBE in teaching/learning practices to a <b>very great extent</b> .

The items in the questionnaire were carefully reviewed by the researcher and content was validated by experts on OBE.

To test the reliability of the questionnaire used in this research, the researcher first conducted a study similar in setting with this study. Additionally, the study used the same sampling procedures and no items in the questionnaire were

changed. However, the research done was isolated to twelve (12) graduate programs of the Polytechnic University of the Philippines. The study was tested to forty-three (43) faculty and showed that the extent of the implementation of OBE is of great extent.

### Data Collection

To facilitate the gathering of data, the researchers asked permission to conduct the study from the Dean of the Graduate School. Upon approval, faculty members from each program were met to discuss the purpose of the study being conducted. Questionnaires were administered to all expected faculty respondents. Retrieval of the questionnaire was facilitated with the assistance of the program chairpersons and student assistants. Data gathered were tabulated, interpreted and analyzed.

### Data Analysis Framework

Data were encoded to facilitate computation using the software, Statistical Package for the Social Sciences (SPSS). The following statistical tools were used. Mean and standard deviation were used to identify the assessment of faculty on the extent of OBE implementation. Analysis of variance (ANOVA) was used to test for the difference on the extent of OBE implementation between and within groups of respondents.

## RESULTS AND DISCUSSIONS

This section presents the findings on the extent of implementation of OBE and the difference between assessments by program.

It is to be recalled that there are three indicators of OBE in the study: learning outcomes, assessment evidence, and teaching and learning activities. Each of the categories has 15 items. The means and interpretations are shown in the succeeding tables. The faculty from the twelve (12) programs have rendered their assessment on the extent of implementation of OBE.

### A. Extent of Implementation of Outcome-Based Education

Table 2 below shows the assessment of the faculty on the extent of implementation of OBE with regard to Learning Outcomes, Assessment Evidence, and Teaching and Learning Activities

**Table 2.1**  
**Mean Distribution of the Extent of OBE Implementation**  
**Among the Graduate Faculty According to Learning Outcomes, Evidence of Assessment, and Teaching and Learning Activities**

**Table 2.1**  
*Correlations Among and Descriptive Statistics for Key Study Variables*

	<i>Learning Outcomes</i>	<i>Mean</i>	<i>Verbal Interpretation</i>
a.	Starting the lesson with the end in mind of what the students can perform successfully.	4.03	Great Extent
b.	Defining outcomes or learning goals that students will demonstrate at the end of every learning experiences.	3.98	Great Extent
c.	Designing a curriculum with clearly-established outcomes.	4.03	Great Extent
d.	Making planning, teaching, and assessment decisions linked to the outcomes to be achieved.	3.98	Great Extent
e.	Expecting a total development in cognitive, affective, and psychomotor levels of students.	3.98	Great Extent
f.	Aiming at helping students to achieve high standards to promote successful learning.	4.03	Great Extent

g. Helping students achieve outcomes through proper planning.	4.05	Great Extent
h. Having high but achievable expectations of student's performance	3.97	Great Extent
i. Integrating student's learning to real life situations.	4.03	Great Extent
j. Giving students a flexible time frame to attain goals.	4.08	Great Extent
k. Planning the lesson with the end in mind.	4.04	Great Extent
l. Identifying what learners can actually do after learning a particular lesson.	3.98	Great Extent
m. Having high expectations for all students.	4.01	Great Extent
n. Giving students more than one chance to learn important things until they achieve the desired outcomes taking into account their learning rates and style.	3.97	Great Extent
o. Following guidelines on how to teach OBE when engaging in classroom practices to achieve desired results.	3.96	Great Extent
<b>Overall Mean</b>	<b>4.01</b>	<b>Great Extent</b>

**Table 2.2**  
*Correlations Among and Descriptive Statistics for Key Study Variables*

<i>Assessment Evidence</i>	<i>Mean</i>	<i>Verbal Interpretation</i>
a. Preparing the assessment plan that defines how the learning outcomes will be monitored and evaluated.	3.88	Great Extent
b. Organizing the assessments to make sure that students' learning ultimately happens.	4.01	Great Extent
c. Using performance-based assessments such as role playing and simulations to get a more comprehensive feedback of student performance.	3.96	Great Extent
d. Giving diagnostic, formative, and summative as a means of giving feedback for learning improvement	3.98	Great Extent
e. Making the assessment procedures fair, comprehensive and explicit.	4.01	Great Extent
f. Emphasizing the learner's mastery of the lesson most especially on problem solving and life-situational activities.	3.88	Great Extent
g. Using varied assessment techniques frequently.	3.89	Great Extent
h. Using authentic assessment such as project and portfolio making to make students perform real-life tasks.	3.82	Great Extent
i. Using multiple indicator of quality to measure the varied skills and abilities of students.	3.88	Great Extent
j. Focusing on the demonstration of knowledge, skills, and values learned.	3.98	Great Extent
k. Regarding assessment as criterion-referenced by measuring the students work with the set criteria.	3.93	Great Extent
l. Making assessment procedures valid and reliable by assessing what are intended to be assessed and by giving consistent results.	3.92	Great Extent
m. Involving students in establishing the standards by which their work or products will be evaluated.	3.96	Great Extent
n. Allowing students to practice self-assessment and revisit past performances so as to their performance.	3.93	Great Extent
o. Using the rubric as a rating system to determine the student's level of performance in a given task.	3.89	Great Extent
<b>Overall Mean</b>	<b>3.93</b>	<b>Great Extent</b>

**Table 2.3**  
*Correlations Among and Descriptive Statistics for Key Study Variables*

<i>Teaching and Learning Activities</i>		<i>Mean</i>	<i>Verbal Interpretation</i>
a.	Organizing the educational process considering all the essentials for students.	4.04	Great Extent
b.	Creating desirable teaching and learning environments that would bring the desired changes in the students.	4.11	Very Great Extent
c.	Increasing level of challenge to which students are exposed.	4.07	Great Extent
d.	Making lessons future-focused by giving a direct link to the real world.	3.97	Great Extent
e.	Using media and other materials to support and maximize learning.	3.98	Great Extent
f.	Using varied activities for creative and meaningful learning.	3.99	Great Extent
g.	Providing teaching methodologies that consider the needs of each student.	3.96	Great Extent
h.	Choosing the teaching method and the learning activities that could best achieve desired outcomes.	4.01	Great Extent
i.	Ensuring that each activity, inside and outside the classroom produce the desired results.	3.98	Great Extent
j.	Using different learning strategies such as: a) cooperative learning, b) experiential learning, and c) problem solving to demonstrate proficiency of students in a variety of modalities.	4.01	Great Extent
k.	Designing a curriculum for the achievement of higher learning.	3.86	Great Extent
l.	Engaging students in the learning process through active learning and participation.	4.17	Very Great Extent
m.	Sharing power or ideas between teacher and students.	4.03	Great Extent
n.	Creating an environment that motivates and allows students for independent learning.	4.11	Very Great Extent
o.	Facilitating learning more than teaching.	4.13	Very Great Extent
<b>Overall Mean</b>		<b>4.03</b>	<b>Great Extent</b>

Table 2.1 to 2.3 shows that the implementation of OBE with regard to Learning Outcomes, Assessment Evidence, and Teaching and Learning Activities shows a grand mean ( $M=4.01$  for *Learning Outcomes*,  $M=3.93$  for *Assessment Evidence*,  $M=4.03$  for *Teaching and Learning Activities*), indicating that the implementation of OBE in terms of the three (3) areas mentioned is to a Great Extent.

**Table 2.4**

*Difference on the mean and verbal interpretation of the three (3) sectors of OBE.*

<b>OBE Sectors</b>	<i>Mean</i>	<b>Verbal Interpretation</b>
Learning Outcomes	4.01	Great Extent
Assessment Evidence	3.93	Great Extent
Teaching and Learning Activities	4.03	Great Extent

It can be gleaned from the findings that the graduate faculty have a clear grasp of the Learning Outcomes when it comes to implementing the **OBE**. The graduate faculty affirm and follow the statement of Butler (2004) that OBE embodies the idea that the best way to learn is to first determine what needs to be achieved which is also the main principle of the father of OBE, Spady (2004).

For assessment evidence, findings reveal that the graduate faculty have also a clear understanding on the implementation of OBE with regard to assessment. The findings affirm to the statement of Posecion (2015) which states that reforming student learning is preparing the method of assessment that is geared towards teaching students to solve problems. Measuring student learning is considering criterion-reference and varied assessment techniques both in formative and summative assessment.

On the other hand, for Teaching and Learning Activities, findings reveal that the graduate faculty is implementing the teaching and learning activities aligned to OBE which assert the idea of Andrada, (2015), that in order to ensure that the desired outcomes will be the target or focus of the instruction, the instructional plan may be designed following the Know-Do-Reflect/Understand-Transfer sequence.

Overall, OBE is favored by the faculty of the Graduate School. This is also true to the statement of Malan (2000) on OBE implementation wherein OBE is effectively implemented internationally.

### Comparing the Extent of OBE Implementation

One of the problems discussed in the study is the difference on the extent of implementation within the grouped graduate programs. The extent of OBE implementation has three areas namely; the learning outcomes, assessment evidence, and teaching and learning activities. The succeeding tables present the findings on the test of difference within the grouped graduate programs on their extent of implementation as perceived by the graduate faculty themselves.

#### A. Difference on the Extent of Implementation of OBE with Regard to Learning Outcomes, Assessment Evidence, and Teaching and Learning Activities

**Table 3.1**

*Test of Difference on Extent of OBE Implementation of the Grouped Programs*

LEARNING OUTCOMES					
Group Programs	M (SD)	f-value	p-value	Decision	Interpretation
DBA/MBA/MAE	3.88 (0.89)	6.559	0.000	REJECT HO	The difference is significant
DPA/MPA	4.37 (0.55)				
MSIT/MSE/MSIEM	3.56 (0.32)				
MC/MAF	4.60 (0.34)				
MP/MAS	3.92 (0.38)				
ASSESSMENT EVIDENCE					
Group Programs	M (SD)	f-value	p-value	Decision	Interpretation
DBA/MBA/MAE	3.82 (0.87)	7.517	0.000	REJECT HO	The difference is significant
DPA/MPA	4.33 (0.46)				
MSIT/MSE/MSIEM	3.37 (0.79)				
MC/MAF	4.62 (0.30)				
MP/MAS	3.85 (0.43)				
TEACHING AND LEARNING ACTIVITIES					
Group Programs	M (SD)	f-value	p-value	Decision	Interpretation
DBA/MBA/MAE	3.94 (0.79)	5.818	0.000	REJECT HO	The difference is significant
DPA/MPA	4.34 (0.42)				
MSIT/MSE/MSIEM	3.65 (0.44)				
MC/MAF	4.54 (0.25)				
MP/MAS	3.93 (0.40)				

Table 3.1 presents the significant difference on the extent of OBE implementation within the grouped programs with regard to the learning outcomes, assessment evidence, and teaching and learning activities. Regarding learning outcomes, OBE yields an  $f$ -value of  $F=6.559$ ,  $p=0.000$ , making the interpretation difference significant, rejecting the  $H_0$ . Out of all the programs, MC/MAF yielded a higher mean ( $M=4.60$ ,  $SD=0.34$ ), concluding that with regard to the learning outcomes, OBE is prevalent in MC/MAF's learning outcomes. The programs that were least successful in implementing OBE in terms of learning outcomes are MSIT/MSE/MSIEM ( $M=3.56$ ,  $SD=0.32$ ).

As for evidence of assessment, OBE implantation showed an  $f$ -value of  $F=7.517$ ,  $p=0.000$ , making the interpretation of difference significant, rejecting the  $H_0$ . Out of all twelve (12) programs, MC/MAF yielded the highest mean ( $M=4.62$ ,  $SD=0.30$ ), showing that with regard to the implementation of OBE for evidence of assessment. The programs that implemented OBE the least regarding the evidence of assessment are MSIT/MSE/MSIEM ( $M=3.37$ ,  $SD=0.79$ ).

Finally, for teaching and learning activities, an  $f$ -value of  $F=5.818$ ,  $p=0.000$ , interpreting the difference significant, rejecting the  $H_0$ . The programs that were most successful in implementing OBE regarding teaching and learning activities



are MC/MAF ( $M=4.54$ ,  $SD=0.25$ ), and the least successful in implementing OBE in teaching and learning activities are the programs MSIT/MSE/MSIEM ( $M=3.65$ ,  $SD=0.44$ ).

**Table 4**

*Test of Significant Difference on Extent of OBE Implementation of the Grouped Programs*

Group Programs	$M$ ( $SD$ )	f-value	p-value	Decision	Interpretation
DBA/MBA/MAE	3.88 (0.83)	7.580	0.000	REJECT $H_0$	The difference is significant
DPA/MPA	4.35 (0.43)				
MSIT/MSE/MSIEM	3.53 (0.41)				
MC/MAF	4.59 (0.27)				
MP/MAS	3.90 (0.38)				

Table 4 presents the significant difference on the extent of OBE implementation within the merged group programs.

The test yields an  $f$ -value of  $F=7.580$ ,  $p=0.000$ , yielding a significant difference in the interpretation, rejecting  $H_0$ . Out of all graduate programs, MC/MAF yielded a higher mean ( $M=4.59$ ,  $SD=0.27$ ) while MSIT/MSE/MSIEM yielded the lowest mean ( $M=3.53$ ,  $SD=0.41$ ).

Table 4 reveals the result of the test of difference on the extent of OBE implementation within the grouped programs.

## CONCLUSIONS AND RECOMMENDATIONS

With the findings of this study, it is concluded that six (6) of the graduate programs (i.e., DBA, MBA, MAE, MAS, MSIT, MSE and MSIEM) were the least in implementing OBE in its respective curricula. As such, the researchers would like to recommend that further research be conducted to check if there is a work-around for these 6 programs to better implement OBE despite the difficulty it poses.

Basing on the conclusion and findings as well, it is also recommended that the graduate faculty should sustain their great extent of OBE implementation and discover ways to improve their preparation and readiness particularly in: following guidelines on how to teach OBE when engaging in classroom practices to achieve desired results; using the rubric as a rating system to determine the student's level of performance in a given task; and designing a curriculum for the achievement of higher learning.

Since graduate faculty have higher appraisal of their extent of OBE implementation, and with the differences on their extent of implementation with regard to learning outcome, assessment evidence, and teaching and learning activities, administrators and graduate faculty may organize information exchange together with other faculty for them to be attuned to different trends and issues regarding OBE. Likewise, the Graduate School can organize for this information exchange to be extended to other colleges and universities in the Philippines.

With the limited programs offered in the Graduate School, this research was not able to fully look into other programs that are not offered in the university. This poses as a limitation and a weakness for the study as there could be other graduate programs not being offered in the university that can easily integrate OBE in its curriculum. The researchers suggest that future researchers look into other programs not being offered in the Graduate School of the Polytechnic University of the Philippines to see how successful are other programs in implementing OBE.

The researchers also suggest further study on the following: a) assessing the level of readiness in OBE and extent of OBE implementation of faculty in the Graduate School of other universities as an extension of this study; and b) assessment of the understanding of OBE concepts and principles in the different educational institution.

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