# The Implementation of Outcome-Based Education in a State University

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## ABSTRACT

Higher educational institutions are encouraged to implement the Outcome-Based Education to prepare instructors to be competitive and produce graduates who are ready to meet the global job needs. To determine the level of implementation of the Outcome-Based Education (OBE) in Central Philippines State University, the researcher employed the sequential explanatory mixed-method design which involves two phases: the quantitative followed by qualitative. The quantitative data were collected through a validated survey instrument, while the qualitative data were gathered from the participants through an in-depth semi-structured interview which culled out their experiences on the implementation of the Outcome-Based Education. The findings of the study revealed that Outcome-Based Education standards were moderately implemented in the university. This means that the learning experiences of students and the teaching methodology could hardly develop their skills to attain the intended learning outcomes. Qualitatively, the results yielded different themes that brought forth an eidetic insight that the OBE implementation is collaborative and value-laden effort: bridging theory and practice of the academic community. The research findings were used as a basis for designing the proposed CPSU-Operational Plan using the Approach, Deployment, Learning, Integration (ADLI) model that can be adopted and implemented by the University.

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## INTRODUCTION

Outcome-Based Education (OBE) has been accepted and favored internationally as a model to restructure education in many countries (Malan, 2000). The globalization brings change from a teacher-centered paradigm to a learner-centered one within a lifelong learning framework that conforms with the existing international standards (UNESCO, 2015). The implementation of Outcome-Based Education focuses on a framework and organizes the curriculum around predetermined and clearly defined student outcome-based learning on competencies comprised of the required knowledge, skills, and attitude based on real-life situations (Biggs, 2014; Tam, 2014). The curriculum is designed to ensure the alignment of contents, delivery, activities, and assessment to facilitate students' attainment of specific intended learning outcomes (Pang, Ho, & Man, 2009). It underscores a learning-based method focused on what students know and can do as a result of their learning experiences. It is a process that involves the restructuring of the curriculum, learning activities, and assessment and reporting practices in education that reflect the achievement of higher order learning and mastery of tasks rather than the accumulation of course credits or units (Rahman et al., 2016).

Specifically, the Commission on Higher Education (CHED) in the Philippines has mandated all higher educational institutions to adopt an outcome-based education approach to teaching and learning through CHED Memorandum Order (CMO) No. 46, Series of 2012, on the Policy and Standard of Enhanced Quality Assurance (QA), known as Philippine Higher Education Outcome-Based and Typology-Based Quality Assurance.

The shift towards OBE among the higher educational institutions is persistent due to the demand to equip graduates with competencies at par with international standards, which is indicative of the favorable outcome in their professional practice and their ability to demonstrate greater global mobility. Moreover, OBE is an educational exercise to carry out adherence to the Philippine Qualifications Framework (PQF) (Villanueva et al., 2017).

Central Philippines State University (CPSU)- Main Campus adopts the OBE framework since school year 2013 for all its programs, and it is measured through the output and performance of students. Hence, the researcher was prompted to investigate how far the implementation of OBE approach would

bridge the gap between the use of accustomed curriculum/methodology and the learning experiences of students with different needs and different orientations.

The research findings are essential for designing a proposed CPSU-Operational Plan using Approach, Deployment, Learning, Integration (ADLI) model that can be adopted and implemented by the University.

## OBJECTIVES OF THE STUDY

This study seeks the level of implementation of the Outcome-Based Education (OBE) among the seven colleges of Central Philippines State University-Main Campus for Academic Year 2017-2018. Specifically, the study aims to find out the level of implementation of the OBE as assessed by the instructors as a whole and when they are grouped according to academic classification: a) Professional; b) General Education; and as assessed by the students as a whole and when grouped according to year level. This study further aims to determine the significant difference in the OBE implementation as assessed by the students when they are grouped according to year level, and as assessed by the students and instructors. Moreover, it attempts to develop a complete, clear, and articulate description and understanding of the participants' experiences in the implementation of OBE at CPSU-Main Campus.

### Theoretical Framework

This study is anchored on Jean Piaget's Constructivism Theory which has a wide influence on the teaching and learning process in the educational system, especially in the pursuit of students' logical and conceptual growth. Instructors encourage students and help them acquire knowledge from their experiences. Teachers must emphasize the vital role of experiences in producing knowledge and in helping students make meaning through connections in the education of students (Carpendale, 2013). Students develop their abilities and express knowledge in real life. Additionally, this study is supported by the Behaviorism Theory that focuses on objectively observable behaviors and discounts any independent activities of the mind. Behavior theorists define learning as nothing more than the acquisition of new practice based on environmental conditions (Baum, 2017). In this context, OBE is linked with this theory because it focuses on students' achievement of outcomes as they must demonstrate performance through their behavior and actions. Students should be able to

apply the knowledge and skills they have gained in the classroom in their daily activities and even outside the classroom situation.

**Plan, Do, Check, and Act Cycle.** The schematic diagram of this study is illustrated in Figure 1 using the Plan, Do, Check, Act (PDCA) cycle for continuous improvement. The PDCA Cycle is a systematic series of actions wherein the organization is in the constant state of the driving process of improvement. This involves a focus on linear and incremental improvement within existing processes. Introduced by Dr. Edward Deming, this is also known as the Deming wheel or Deming cycle (Deming, 2000).
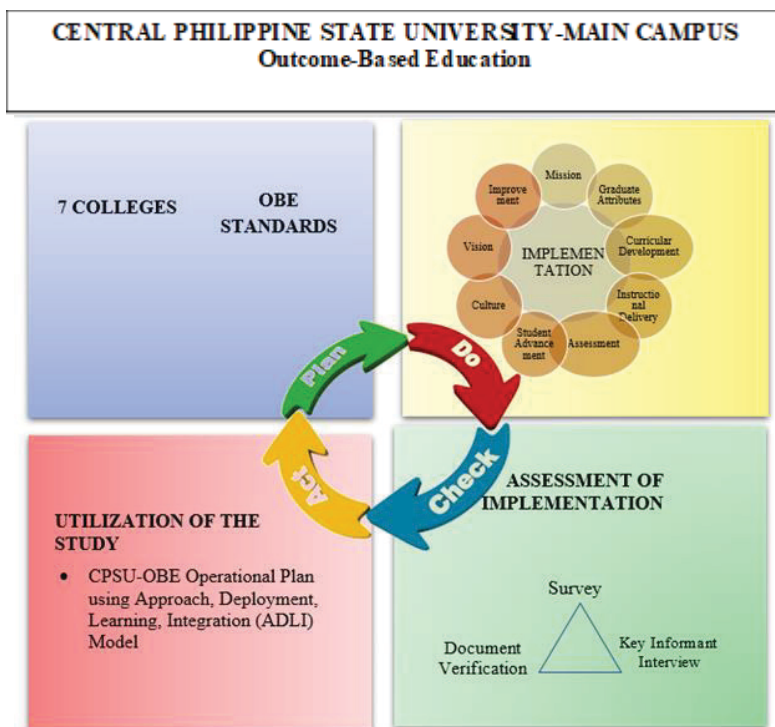


Figure 1. Schematic diagram of the study

The cycle begins with the Plan. This involves identifying the issues on the implementation of Outcome-Based Education standards which aim for the employability and life-long learning skills of the students.

The Do refers to the components of the plan that are put into action. In this case, it is the implementation of the OBE standards which include the mission, graduate attributes, curricular development, instructional delivery, assessment, student advancement, culture, vision, and improvement (Spady, 1994).

The Check is the assessment and monitoring stage of the outcomes to determine the progress and success or areas for improvement. The assessment of the implementation entails the gathering of data from various sources such as survey questionnaire, document verification of assessment tools, syllabus, checklist and rubrics, and key informant interview.

Lastly, the Act is the action or the integration of learning generated by the entire process. Results of this study were the basis in designing a CPSU-OBE Operational Plan using the Approach, Deployment, Learning, and Integration (ADLI) Model, indicating the functional strategies to continually implement the OBE approach and to comply with CMO 46, s. 2012, known as the Philippine Higher Education Outcome-Based and Typology-Based Quality Assurance.

## METHODOLOGY

### Research Design

The study applied the sequential explanatory mixed-method design, which involves two phases: the quantitative followed by qualitative (Creswell & Creswell, 2017). The design started with the collection and analysis of quantitative data, which was the priority for addressing the study questions. The first phase was followed by the subsequent collection and analysis of qualitative data. The rationale of this method is that the researcher needs to collect quantitative data while the previous analysis provides a general representation of the implementation of Outcome-Based Education Standards at the CPSU academic community by CHED Memo No. 46, Series of 2012. In this research design, the researcher considers two or more variables that are not manipulated and establishes a formal procedure to compare to arrive at the conclusion that one is better than the other if the significant difference exists. By the goal of the study, the researcher is directed to the interesting aspects, properties, or attributes that must be noted if differences occur among variables.

Quantitatively, the researcher used the descriptive-comparative method to assess the level of implementation of the OBE standards among the CPSU academic community.

Qualitatively, the phenomenological approach was used to gather information about the lived experiences of the participants in the implementation of OBE. This approach is based on a paradigm of personal knowledge and context (Salice & Schmid, 2016). It attempts to develop a complete, clear, and articulate description and understanding of the participants' experiences in the implementation of OBE at CPSU-Main Campus.

**Respondents of the study**

For the quantitative phase of the study, the participants were the 17 general education instructors, 55 professional instructors representing the total population, and 857 students representing the total population of 1137 from the first year to fourth year levels of seven colleges and the fifth year level of the CPSU College of Engineering. This was done by selecting the sample participants using chance methods or random numbers.

Qualitatively, maximal variation was the basis in selecting the 15 participants from the instructors and 10 students that were selected by academic year level per college from the first year to fourth year, and fifth year for the College of Engineering, representing the highest and lowest means and forming the key informants.

**Measures**

This study used an adapted instrument based on Network for Outcome-Based Schools (NOBS) developed by Dr. William Spady. It is composed of nine areas namely: mission, graduate attributes, curriculum development, instructional delivery, assessment, student advancement, culture, vision, and improvement (Spady, 1994). The three-point Likert scale was used to indicate their assessment on the level of implementation on OBE standards because this is the implementation of the CHED Memorandum Order no. 46, series of 2012.

Qualitatively, the researcher used document verification to gather data. The in-depth semi-structured interview is the most common data source in qualitative research (Lichtman, 2013). It is a method of gathering information which can be very productive because the researcher can pursue specific issues that may lead to focus and constructive suggestions.

To establish the validity of the quantitative instrument, the researcher subjected the questionnaire to content validation using the criteria suggested by Good & Scates (1972). In this study, the researcher subjected the instrument to a pilot-test for culture-bias free reliability which resulted in 0.94. Thus, the instrument is reliable.

On the qualitative phase, the researcher applied the important criteria of the naturalistic inquiry trustworthiness. Trustworthiness is composed of founding credibility, conformability, dependability, and transferability (Golafshani, 2003; Lichtman, 2013). Credibility pertains to the believability of the research findings in a sense that they must be an accurate reflection of a phenomenon being investigated from the perspective of the participants (Creswell & Creswell, 2017; Leedy & Ormrod, 2015). Reliability was established through the use of efficient recorder and manual transcriptions, and desirable environment for a one-on-one discussion. For ethical considerations, the researcher assured all participants that all information would be treated with full confidentiality and would be handled with utmost prudence. To ensure the confidentiality of the identity of the participants and their individual responses, the accomplished questionnaire was disposed of through shredding.

**Data Treatment**

The mean was employed to determine the level of implementation of Outcome-Based Education among the seven colleges in the Central Philippines State University-Main Campus as assessed by the instructors and students when they are taken as a whole and when they are grouped according to academic classifications, and year level respectively. Sample t-test was used to determine the significant difference in the level of implementation of the OBE standards as assessed by instructors and students. Furthermore, ANOVA was used to determine the significant difference in the level of implementation of the OBE standards as assessed by students when they are grouped according to year level, while the recursive textual data analysis was used in the qualitative phase. The purpose was to cull out insights from the narratives of the in-depth interviews of the key informants by employing coding, categorizing, and identifying concepts that were used to aid the researcher to attain an in-depth, holistic understanding of the phenomenon.

## RESULTS AND DISCUSSION

**Quantitative Data**

The data in table 1 shows the level of implementation of Outcome-Based Education as assessed by the general education and the professional education instructors. Among the nine (9) areas of the Outcome-Based Education, the professional education instructors observed that the outcomes related to the mission statement (m=2.65) have a higher level of implementation than the

rest of the standards. On the other hand, the general education instructors observed that the outcomes related to vision (m=2.60) have the highest level of implementation.

Furthermore, the professional instructors observed improvement outcomes as the least implemented (M=2.24) while the general education instructors observed that the category of student outcomes is the least implemented. Despite the differences in mean scores, all standards have been observed to be moderately implemented. The data, however, show that outcomes related to vision and mission statement are evidently practiced across seven colleges of CPSU-Main Campus. This implies that CPSU-Main Campus has almost achieved its vision and mission to be the center of excellence attuned to global diversity that provides quality research, instruction, production and extension programs responsive to the local and global challenges and demands.

As a whole, the level of implementation of OBE, as assessed by the CPSU instructors, is moderate, with a mean of 2.47. This means that the instructors are at the average level in teaching the intended learning outcome. They need support from the administration for the full implementation of OBE practices. This agrees with the result of the study of Mekonen (2012) that the success of OBE implementation depends on the support of the administration particularly in giving the needed resources to be nourished such as training and seminars. According to Guico & Dolor (2013), the challenge on the implementation of OBE lies on how the higher institution provides the relevant approach and support to teaching that will address those aspects that bear upon teaching and learning.

Table 1. The level of implementation of OBE standards as assessed by instructors according to academic classification

| OBE Standards | Prof Ed (n=55) | Gen Ed (n=17) | Mean (n=72) | Interpretation |
|---|---|---|---|---|
| Mission Statement | 2.65 | 2.53 | 2.62 | Moderate |
| Graduate Attributes | 2.47 | 2.45 | 2.47 | Moderate |
| Curriculum | 2.58 | 2.52 | 2.57 | Moderate |
| Instruction | 2.53 | 2.56 | 2.54 | Moderate |
| Assessment | 2.60 | 2.55 | 2.59 | Moderate |
| Students | 2.41 | 2.39 | 2.41 | Moderate |
| Culture | 2.25 | 2.42 | 2.29 | Moderate |
| Vision | 2.44 | 2.60 | 2.48 | Moderate |
| Improvement | 2.24 | 2.42 | 2.28 | Moderate |
| As a Whole | 2.46 | 2.50 | 2.47 | Moderate |

The data in Table 2 show a moderate (m=2.38) implementation of OBE areas as assessed by the students when they are grouped according to year level. This implies that the learning experiences of students could hardly develop their skills to attain the intended learning outcomes. It also connotes that the first year to fourth year students had experienced higher level OBE practices than the fifth year Engineering students. This means that the engineering students need to be trained with the new technology and the curriculum designed for them must be reviewed. This agrees with the findings of Macatangay (2013) that the existing curricula must be reviewed in line with the outcomes approach. According to Woldetensae (2007), it will be necessary for the review process to confirm that the curriculum does provide opportunities for the development of the desired learning outcomes and that sufficient provision is made for the outcomes to be demonstrated and assessed.

Table 2. Level of Implementation of OBE Standards among Year Level

| Year level | n | Mean | Interpretation |
|---|---|---|---|
| Fifth Year | 19 | 2.05 | Moderate |
| Fourth Year | 267 | 2.32 | Moderate |
| Third Year | 353 | 2.44 | Moderate |
| Second Year | 79 | 2.49 | Moderate |
| First Year | 139 | 2.38 | Moderate |
| As a Whole | 857 | 2.38 | Moderate |

Table 3 shows the ANOVA result on the significant difference among the levels of implementation of OBE areas when grouped according to year level. This means that the differences in the means are true and not due to sampling selection. Furthermore, Scheffe post hoc test shows that there is a significant difference existing between first year and fifth year, second year and fourth year, second year and fifth year, third year and fourth year, third year and fifth year, as well as fourth year and fifth year. Furthermore, it implies that each year level had the attainment of specific intended learning that corresponded to curricular training. Each year level has its own skill that needs to be developed. The result of the study supported the idea of Pang et al. (2009) that Outcome-Based Education is designed to ensure the alignment of contents, delivery, activities, and assessment to outcomes.

Table 3. The significant Difference in the level of Implementation of the OBE Standards of the Seven Colleges of CPSU-Main Campus as assessed by the Students

| Year Level | Mean | F-value | p-value | Interpretation |
|------------|------|---------|---------|----------------|
| Fifth Year | 2.05 | | | |
| Fourth Year | 2.32 | | | |
| Third Year | 2.44 | 12.819 | 0.000 | Significant at 0.05 alpha level |
| Second Year | 2.49 | | | |
| First Year | 2.38 | | | |

With regard to the findings presented in Table 4, a significant difference is visible between the assessment of students and instructors in the level of implementation of Outcome-Based Education practices with a p-value of 0.035 which is lesser than 0.05 level of significance. Due to varied exposure and experiences of instructors and students, they differ in the assessment of OBE implementation. Instructors, being part of the implementers, believed that they implement at a higher level compared to the students' assessment because of their experience and exposure to the seminars and conferences. Instructors play an important role in the implementation of OBE. In the same way, Meskelu (2010) stressed that the implementation is largely dependent on proper physical and human resource which are the teachers and the learning environment.

Table 4. The Significant Difference in the Level of Implementation of OBE Standards of the Seven Colleges as assessed by the Teachers and Students

| Classification | Mean | T | p-value | Interpretation |
|----------------|------|---|---------|----------------|
| Students | 2.38 | | | |
| | | -2.109 | 0.035 | Significant @ 0.05 alpha level |
| Teachers | 2.47 | | | |

## Qualitative Data

The following insights were developed from the interview transcriptions based on the research question, "What insights, meanings, and inspirations emerge from the experiences of the instructors and students in the implementation of Outcome-Based Education?"

### Theme 1: Basic attitude towards building self-confidence

Students acquire healthy levels of self-confidence. They are better equipped to face the stress of school and college education. Students with self-confidence pay more attention in class, get along better with their peers and have a more focused and inquisitive attitude (Miller, 2015).

Liz and Raffy reflected that they were able to conquer their shyness and was able to build self-confidence from speaking and other classroom activities.

Liz revealed that she learned to be comfortable and was able to build self-confidence to speak in front of the class because of her involvement in practical activities such as extemporaneous and impromptu.

"I feel comfortable now when I am asked to speak in front of many people. I think it started when I start performing the tasks assigned to us in the classroom." -Liz

"From the day one of our oral exam, I was so shy but I was able to cope with it since, every day, we have time to speak in the class." -Raffy

### Theme 2: Knowing and experiencing

Performance is measured through the output or the learning outcomes of the students (Dubickis & Gaile-Sarkane, 2017).

Ron and Shane revealed that they learned many things from their performance and practical output.

*"I experienced firing, fingerprint identification, comparison of pellets and bullets, and set an example for the gauge of a shotgun."-Shane*

*"I learned about castration, injection, milking an animal, getting semen, breeding of animal, making the research proposal, identifying diseases of animals, how to cure different diseases, and how to plant crops. I can use what I have learned to put into practice as a future agriculturist."- Ron*

### Theme 3: Quality education as the pillar of success

According to Albright (2015), quality learnings start with the teachers. Teachers are on the frontlines of the campaign to achieve quality education for all every single day. The participants, teacher Dino and student Jane, believed that the implementation of the OBE in the classroom depends on the effectiveness of the teacher to teach.

*"OBE rely much on the technical part of the teacher to teach. For example, in Agriculture, if I am teaching organic sugarcane production, I must know how to harvest sugarcane." -Teacher Dino.*

*"OBE helps me build my future because of my hands-on learning." - student Jane.*

The themes come up into an eidetic insight that the Implementation of Outcome-Based Education is a ***collaborative and value-laden effort, bridging theory and practice of the academic community.***

## CONCLUSION

The Outcome-Based Education is moderately practiced in Central Philippines State University. This means that students' learning experiences and the teaching methodology could hardly develop their skills to attain the intended learning outcomes. Hence, there is a need to have an Outcome-Based Education (OBE) operational plan to update and monitor the curriculum with the current trends of the industry.

## RECOMMENDATIONS

It is recommended that the Central Philippines State University should utilize the Operational Plan for continuous and sustainable monitoring of the implementation of the Outcome- Based Education.

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