Status of the Implementation of Outcomes-Based Education in the Allied Medicine Programs

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ABSTRACT

The transition of instruction to outcome-based education (OBE) in teaching and learning at tertiary education level has become an important issue among Higher Educational Institutions (HEI's) in the Philippines. The education system has struggled to achieve student learning through curriculum alignment and instruction. The main purpose of the study is to determine the status of the implementation of outcome-based education and the challenges of teachers in the allied medicine programs of LPU schools. This study used a descriptive method of research wherein quantitative data were gathered by survey questionnaire. There were 203 students and 53 faculty members from the College of Allied Medicine were included in the study. The research methods involved survey questionnaires and interviews. The findings revealed that the current status of OBE based on the teachers' experience was fully implemented while based on the students' experience OBE was partially implemented in the allied medicine programs. There were four main indicators that need to be addressed for the full implementation of OBE namely: portfolio checking, portfolio feedback, use of instructional materials and the use of variety of teaching methods and strategies. These concerns may bring implications to teaching effectively and efficiently. In addition, the management should provide faculty development program with appropriate training and workshops to fully understand the OBE and develop effective teaching and learning.

Keywords: *Allied Medicine, Assessment, Content Knowledge, Instructional materials, Outcome-based education, Pedagogical practices*

INTRODUCTION

Over the years, teachers have encountered drastic changes in the educational system. The rapid change worldwide because of the development and evolution of science and technology resulted to a well-equipped graduate. From time to time, there is a need for transformation of teaching strategies, policies and guidelines, grading system, evaluation of students and disciplining the students in order to prepare graduates for global labor market and improve employability. Many would say that students are tagged as *21st century learners*. They need a unique approach of teaching, so they can learn and develop holistically.

The education system has struggled to achieve student learning through curriculum alignment and instruction. Schools tried to investigate factors that predict students' success and implement teacher trainings in various frameworks and disciplines. There was also the insistence to move from the traditional teacher-centered approach to being student-centered. For a time, this concept of student-centeredness is branded as innovative, and a novel improvement in teaching. Therefore Tondeur (2012), proposed that pre-service training for teachers should include technology use, which has become a waterloo for some teachers, specifically in science.

Particularly, the rapid changing world is driven by technology and economy. The production of qualified and well-prepared professionals is necessary to meet the demand of the employers. In order to adapt and responds to the challenges of modern society the Higher Education Institutions (HEI's) are redesigning the academic framework.

Meanwhile, with the transition from teacher-centered instruction to learner-centered instruction the primary focus of education nowadays is the learning outcomes. It is noted by Faizah (2008), as he

cited Fauozi et al (2003), in his study that the outcomes-based education (OBE), must have clear and observable learning outcomes. The outcomes are the measurable actions and performance that can be demonstrated by students after the learning experience.

According to Killen (2000), OBE can be viewed into three different ways: 1) as a theory of education; 2) as a systematic structure for education, or 3) a classroom practice. A detailed explanation of OBE theory was developed. Outcome-Based Education define as clearly focusing on the systematic educational system and curriculum alignment to produce ideal graduates to be competent and successful at the end of their learning experiences. This means that students should learn what is important and needed based on the competencies in organizing the curriculum, instruction, and accurate assessment to make sure this learning can be achieved. In addition, the study of Chan (2016), mentioned that there is a definite impact of the instruction, active learning and formative assessment on student's learning outcomes. The study indicated that performance assessment is known as outstanding method which increases the students' attention towards learning.

In order to cope with the current trend in education system, the Lyceum of the Philippines University is thereby committed to implement the outcome-based education in its system. Further, the goal of the institution is to provide quality and industry-driven environment for instruction and develop globally competitive learners, with the outcome-based education, monitoring of teaching and learning processes, and quality assurance as the key strategies.

The College of Allied Medicine programs pursued OBE orientation since SY 2014-2015. Determining the appropriate teaching and learning outcomes may be quite challenging for science teachers that handle core science subjects in different medical programs since they had been used to traditional norms. They are expected to integrate OBE in their instructional practices to promote more active, authentic and experiential learning.

In this study, the researcher focused on the challenges faced by the science teachers in implementing OBE. While OBE highlighted the student-centered learning, the actual implementation of OBE is still not manifested in the classroom settings. According to Lam (2016), that the successful implementation of OBE demands high cost and standard of student learning outcomes and active involvement of stakeholders- students, faculty, employers, parents and others. Despite the high cost, the OBE offers students the opportunity to develop employability skills.

Objectives of the Study

This paper aimed to investigate the status of OBE based on the teachers' and students' experiences on the implementation of outcome-based education.

The study desired to answer the following specific objectives: 1) determine the status of the OBE implementation based on teachers' experience; 2) determine the status of OBE implementation based on the learners' experience; and 3) compare the difference between teachers' and students' experience of the OBE implementation.

METHODOLOGY

The study employed the quantitative design to achieve the purpose of the study by explaining the challenges and status of implementation of OBE among science teachers. The respondents of the study were teachers and students from the College of Allied Medicine of Lyceum of the Philippines University (LPU) schools in CALABARZON namely Cavite, Laguna and Batangas. The total population of fifty-five (55) faculty members and two hundred three (203) third year level students were randomly selected.

This study used a descriptive survey questionnaire to obtain the data. The questionnaires' reliability was determined using Cronbach Alpha and the reliability coefficient index of 0.83 was obtained. The survey questions are about the perceptions of teachers' and students' respondents on the implementation of OBE in the classroom. Each of the variables is composed of 10 item survey questions

for the participants with respect to the status of implementation of outcome-based education. The questionnaires were administered, and consent forms were discussed for ethical considerations. Mean, standard deviation and T-test were used in statistical analysis.

RESULTS AND DISCUSSIONS

Table 1 presents the status of OBE implementation based on the teachers' experience among LPU schools. It is shown in the table that the highest weighted mean of 3.57 among ten indicators pertained to the indicator "I use of variety of teaching strategies in my class". The second highest mean obtained 3.53 which described in the indicators "I give activities, projects, and assignments are aligned to the outcomes. Similarly, with the indicator "If my students get a low grade, I review the student's portfolio and diagnose the problem" with a weighted mean of 3.53. The third highest mean obtained 3.50 which is found in the indicator "I use a variety of instructional materials aligned in the teaching and learning activities" and I use rubrics and checklist as my assessment tools". All the three highest weighted mean interpreted as "Always" which means that the teachers perceived to always apply a variety of teaching strategies, teaching activities and use different instructional materials and assessment tools. The result revealed that the LPU teachers are highly regarded on the pedagogical practices, teaching processes and assessment. These are also part in the framework of OBE.

The lowest weighted mean which obtained 3.17 pertained to the discussion of OBE syllabus format most particularly to Performance Indicator (PI) and Assessment and Evaluation. The second lowest mean which obtained 3.48 also presented in the OBE syllabus which focused on Student Outcomes (SO), Course Intended Learning Outcomes (CILO's), Teaching and Learning Activities (TLA). Also, the indicator that tells on the explanation of learning outcomes to the students resulted to the lowest mean of 3.48. This indicates that the verbal interpretation "Often" to the corresponding lowest weighted mean tells that the teachers often experienced to discuss the OBE syllabus and explained the learning outcomes. This revealed that the teacher follows the format of OBE syllabus because of the template provided but there is no clear understanding of the OBE instruction. Based on the interviews, the concern of the teachers is primarily the clear definition of outcomes-based education. They lack understanding of instructional and curriculum planning especially the new faculty. This is probably the main reason why teachers hesitate to explain entirely the essence of the syllabus in their students. Teachers profile is also a factor being observed because most teachers are young and lack background in education units. They have more clinical and hospital experience than teaching experience. This indicates that it is essential to prepare the novice teachers and involve them in the curriculum and lesson planning.

Although, teachers claimed that there was short-term training that were patterned to OBE model but failed to cascade the clear definition and principle of OBE to every member of the stakeholders such as administrators, teachers, students, parents and industry partners, they must engage themselves in the curriculum framework of OBE to effectively implement the outcomes-based syllabus. It is safely decided that a series of training and workshops can improve the teachers in designing syllabus which have a clear direction to OBE. Faculty development program supports teaching improvement, effectiveness, and enhance the knowledge, behavior, and skills of the teachers (Lancaster, 2014). The program must be supported by the management and academic leaders of the institution.

Table 1. Status of OBE implementation according to teachers' experiences

	Mean	SD	Adjective Ratings	Verbal Interpretation
I discuss to my students the OBE syllabus format.	3.358	0.381	Often	Partial Implementation
Student Outcomes (SO)	3.481	0.505	Often	Partial Implementation
Course Intended Learning Outcomes (CILO's)	3.481	0.505	Often	Partial Implementation
Performance Indicator (PI)	3.173	0.734	Often	Partial Implementation
Teaching-learning activities	3.481	0.505	Often	Partial Implementation
Assessment tools	3.173	0.810	Often	Partial Implementation
I use different instructional materials aligned in the teaching-learning activities.	3.500	0.505	Always	Full Implementation
I check and analyze the student's portfolio whenever I evaluate their work.	3.539	0.541	Always	Full Implementation
I regularly use rubrics on assessing the academic performance and skills of my students.	3.519	0.542	Always	Full Implementation
I teach the content topic which is aligned to the student outcomes and performance indicator.	3.519	0.505	Always	Full Implementation
I explain learning outcomes to my students before the start of my class discussion.	3.481	0.505	Often	Partial Implementation
I use variety of teaching strategies in my class.	3.577	0.499	Always	Full Implementation
I give activities, projects and assignments to my students aligned to the student outcomes.	3.539	0.541	Always	Full Implementation
If my students get a low grade, I review the student's portfolio and diagnose the problem.	3.539	0.503	Always	Full Implementation
I use rubrics and checklist as my assessment tool for quality improvement of my instruction.	3.500	0.542	Always	Full Implementation
Composite Mean	3.507	0.271	Always	Full Implementation

The composite means of 3.48 is equivalent to "Often" which indicates that the OBE implementation is often observed in the classroom based on the teachers' experience. Although teachers provide general orientation in OBE through the alignment of instruction, teaching methods and assessment, the full understanding of OBE is not evident. The conceptual framework of OBE is not merely clear to the stakeholders and how OBE carry out in the allied medicine program.

Table 2 presents the status of OBE implementation based on the learners' experience. The result showed that the highest weighted mean among ten indicators obtained 3.43 which indicates the activities,

projects, and assignments were aligned to the student outcomes. The second highest mean obtained 3.43 which indicates the teaching content aligned to learning outcomes and the teachers' regular use of rubrics in assessment. While the third highest mean obtained 3.37 showed in the discussion of OBE syllabus particularly on the area of assessment and evaluation. This indicates that the highest means have a verbal interpretation described as "Often" which means that the indicators are often experienced in the classroom perceived by the students. This explained that the teachers' content and teaching activities are aligned together. There is a clear definition of the area of assessment and evaluation because teachers provide direct assessment such as quizzes, recitation, and practical examination.

On the other hand, the lowest weighted mean of 3.00 indicates the checking of students' portfolio as one of the major concerns of students in the implementation of OBE. The second lowest mean which gained 3.04 demonstrated in the reviewing and checking of teachers on students' portfolio to diagnose the students. Using portfolios can be both a learning and assessment tool by giving students guide on how they will be assessed or giving feedback on their learning tasks. There is a need to highlight the importance of measurement and evaluation. Assessment procedure and evaluation tools must be valid and reliable to measure the learning outcomes of the students (Mohayadin, 2008). In addition, based on the study oF Bono (2017) that the use of rubrics and in-class feedback helped the students to feel less anxious about exams and obtained higher grades.

The third lowest mean presented in the table obtained 3.26 which pertained to the use of instructional materials. The verbal interpretation of the three lowest weighted means described as "Often" which means that the students often observed and experience the indicators such as the checking, reviewing students' portfolios and use of a variety of instructional materials. Based on the group survey and interviews among teachers, the students are required to have portfolios; however, due to the teacher-student ratio, the checking and assessment of students' performance become crucial. They have lack of time in giving feedback to the learning tasks. Classes with overcrowded students would make the effort in giving attention to individual learners especially during a practical performance. According to teachers' respondents, if the number of students exceeds the ideal number per classroom, the learner-centered approach can never be implemented. As a result, the composite means of 3.29 that is equivalent to "Often" which indicates that the OBE implementation in the classroom is often observed based on the students' experience. This is similar concern in the study of Ahkmadeeva (2013) which found out that the large class size reported as the greatest problem when it comes to engagement on students and insufficient resources in the implementation of OBE. Another challenging part in assessment and evaluation is the standardization and lack of knowledge which limit the student's way of reasoning in the rubrics. These limitations provide misconception between student's expectation and teacher's intention of using a rubric (Matshedisho, K. R., 2020).

The students described that OBE is a new curriculum that focus on the desired outcomes. They were satisfied by the teaching and learning provided by their teachers, however, the need for assessments was not strictly implemented. For example, the checking and reviewing of students' portfolios are not consistently practiced. According to the study of Dreissen (2007), which he emphasized that there should be a robust integration of portfolio in the curriculum and tutor-support is essential to consider portfolio to be effective in medical education. Another study proved that rubrics were found to be most effective when used as part of assessment strategy if the student were engaged in the design and implementation (Cockett, A., & Jackson, C., 2018). Nevertheless, it is important to note that appropriate and reliable rubrics and assessment procedures are significant in the evaluation of students' portfolio.

Table 2. Status of OBE implementation according to learners' experiences

	Mean	SD	Adjective Ratings	Verbal Interpretation
My teacher discuss to my students the OBE syllabus format.	3.342	0.582	Often	Partial Implementation
Student Outcomes (SO)	3.370	0.694	Often	Partial Implementation
Course Intended Learning Outcomes (CILO's)	3.310	0.665	Often	Partial Implementation
Performance Indicator (PI)	3.355	0.691	Often	Partial Implementation
Teaching-learning activities	3.296	0.697	Often	Partial Implementation
Assessment tools	3.379	0.689	Often	Partial Implementation
My teacher uses different instructional materials aligned in the teaching-learning activities.	3.266	0.695	Often	Partial Implementation
My teacher checks and analyzes the student's portfolio whenever he/she evaluate their work.	3.000	0.867	Often	Partial Implementation
My teacher regularly uses rubrics on assessing the academic performance and skills of the students.	3.389	0.690	Often	Partial Implementation
My teacher teaches the content topic which is aligned to the student outcomes and performance indicator.	3.389	0.630	Often	Partial Implementation
My teacher explains learning outcomes to my students before the start of the class discussion.	3.281	0.755	Often	Partial Implementation
My teacher uses variety of teaching strategies in his/her class.	3.286	0.729	Often	Partial Implementation
My teacher gives activities, projects and assignments to students aligned to the student outcomes.	3.434	0.710	Often	Partial Implementation
If the students get a low grade, my teacher reviews the student's portfolio and diagnose the problem.	3.044	0.846	Often	Partial Implementation
My teacher uses rubrics and checklist as his/her assessment tool for quality improvement of his/her instruction.	3.315	0.770	Often	Partial Implementation
Composite Mean	3.275	0.534	Often	Partial Implementation

Table 3 shows that there are four main indicators that resulted to have significant difference when compared the teacher's experience and learner's experience with regards to their perception on the status of implementation of OBE in the classroom. The indicators which have a p-value of 0.00 are found to be in the indicator 3 which stated about portfolio checking and indicator 9 portfolio feedback. Based on the self-assessment of teachers, it is found out to be high because they regularly used the portfolio and rubrics in their evaluation of clinical performance and practical test. However, this is rated lowest by the students

probably because they are not fully aware of grading criteria and feedback report which enhances the student's self- evaluation and self-esteem. The data supported the study of Mc Mullan et.al (2003), that portfolios are used as assessment on how students developed professionally and personally, and where further learning is needed. It was also stated in the study of Dahviyanti, W. N. G., & Iskandar, I. (2019) that portfolio assessment improved the expository writing performance of students and got positive motivation to progress the students writing performance.

Table 3. Difference on the status of OBE implementation between teachers' and learners' experience

	Teachers' Experience		**Learners' Experience**			
	Mean	SD	Mean	SD	p-value	Interpretation
I discuss to my students the OBE syllabus format.	3.481	0.505	3.342	0.582	0.279	Not Significant
Student Outcomes (SO)	3.481	0.505	3.370	0.694	0.086	Not Significant
Course Intended Learning Outcomes (CILO's)	3.173	0.734	3.310	0.665	0.096	Not Significant
Performance Indicator (PI)	3.481	0.505	3.355	0.691	0.074	Not Significant
Teaching-learning activities	3.173	0.810	3.296	0.697	0.065	Not Significant
Assessment tools	3.358	0.381	3.379	0.689	0.853	Not Significant
I use different instructional materials aligned in the teaching-learning activities.	3.500	0.505	3.266	0.695	0.024	Significant
I check and analyze the student's portfolio whenever I evaluate their work.	3.539	0.541	3.000	0.867	0.00	Significant
I regularly use rubrics on assessing the academic performance and skills of my students.	3.519	0.542	3.389	0.690	0.208	Not Significant
I teach the content topic which is aligned to the student outcomes and performance indicator.	3.519	0.505	3.389	0.630	0.169	Not Significant
I explain learning outcomes to my students before the start of my class discussion.	3.481	0.505	3.281	0.755	0.072	Not Significant
I use variety of teaching strategies in my class.	3.577	0.499	3.286	0.729	0.007	Significant
I give activities, projects and assignments to my students aligned to the student outcomes.	3.539	0.541	3.434	0.710	0.321	Not Significant
If my students get a low grade, I review the student's portfolio and diagnose the problem.	3.539	0.503	3.044	0.846	0	Significant
I use rubrics and checklist as my assessment tool for quality improvement of my instruction.	3.500	0.542	3.315	0.770	0.105	Not Significant
Status of OBE	3.507	0.271	3.275	0.534	0.003	Significant

The teacher-student relationship is crucial to holistic assessment using portfolio. This means that both teachers and learners must be transparent on the requirements and how students are being evaluated by their teachers. Moreover, there is a need for training on the requirements and use of portfolio.

Another indicator which have a p-value <.000 and considered with significant difference are found in the indicator 2, " the use of variety of instructional materials aligned in the teaching and learning activities" and indicator 7 " the use of variety of teaching strategies in the class". This pertains to the pedagogical practices and teaching styles. Students today are diverse and traditional teachers may find it difficult to achieve the teaching and learning process. Teachers should not be left behind in various unique approaches on how to teach the 21st century learners. Based on the study of Jeyapalan (2016), suggested that variety of teaching methodology such as live demonstrations, followed by lectures and group discussions will enhance the retention of knowledge and memory of students in pre-clinical practice. Moreover, students have different personalities, attitude and needs. There will be an increased intrinsic motivation and more effort takes place if the students can make their own learning. The study of S.P. Mchunu and S.N Imenda (2015), that traditional approach produced a significant lowest score on the post-test as compared to OBE and the blended interventions.

Thus, the results are indication that the status of OBE in the allied medicine revealed with significant difference in the four main points namely; portfolio checking, portfolio feedback, use of instructional materials and use of variety of teaching strategies and methodologies. These are inputs that need to be addressed regarding the challenges of teachers in relation to the implementation of OBE.

CONCLUSIONS AND RECOMMENDATION

The findings revealed that teachers from the College of Allied Medicine lack understanding of instructional and curriculum planning especially the new faculty. They have more clinical and hospital experience than teaching experience. This indicates that it is essential to prepare the novice teachers and involve them in the curriculum and lesson planning. Moreover, the limited access and instructional materials conclude that the LPU system should emphasize on training with the use of information and computer technology and improve the laboratory materials for experimentation and actual demonstration needed particularly in the allied medicine courses. The use of variety of teaching methodologies and appropriate assessment tools like checking and reviewing portfolio were mentioned also as challenges of teachers in the implementation of OBE. The survey data presented in the study stated that there is a significant difference between the teachers' and students' perspective in relation to the extent implementation of OBE. There are four main variables that play a critical role in the status of implementation of OBE in LPU schools namely: variety of teaching methods and practices, use of instructional materials, portfolio checking, and reviewing portfolio to diagnose low performance students.

These concerns may bring implications to teaching effectively and efficiently. The school administrators should give attention on the problems and challenges encountered by the teachers and most especially the students. The school academic leaders shall support an intensive training and provide faculty development program for science teachers. Continuous monitoring of OBE implementation for both students and teachers through interviews, self-assessment and classroom observation by the program heads and academic leaders of the allied medicine programs is highly recommended.

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