# Understanding the Essence of the Outcomes-Based Education (OBE) and Knowledge of its Implementation in a Technological University in the Philippines

Asia Pacific Journal of Multidisciplinary Research Vol. 5 No.4, 64-71 November 2017 P-ISSN 2350-7756 E-ISSN 2350-8442 www.apjmr.com

Marie Fe D. De Guzman<sup>1</sup>, Domingo C. Edaño<sup>2</sup>, Zenaida D. Umayan<sup>3</sup>
<sup>1,3</sup> College of Teacher Education, <sup>2</sup>Graduate School, Ramon Magsaysay
Technological University, Zambales, Philippines
<sup>1</sup> mariefedeguzman2016@gmail.com

Date Received: August 3, 2017; Date Revised: October 17, 2017

Abstract - The paper offers discussions of the result of adoption of Outcomes-Based Education (OBE)by the Ramon Magsaysay Technological University (RMTU), Zambales most especially on the aspect ascertaining the extent of understanding of the essence of OBE and the knowledge of OBE implementation. The study was conducted during the first semester of 2015 among the 272 faculty members. The research is descriptive and quantitative. Using the weighted mean, it was found out that the faculty members manifest a great extent of understanding of outcomes-based education primarily the active participation of students in the learning activities, however, faculty members' perception indicated a moderate extent of understanding on the minor role played by the educators in the teaching-learning situation and planning activities that focus around the learners. The faculty members reported a great extent of knowledge of the outcomes-based education mainly the use of different techniques to assess student learning, though there is a moderate extent of knowledge on curriculum alignment and mapping and construction of Program Educational Objectives (PEOs) of the different Colleges. The areas of the outcomes-based instruction which were proposed to be offered for faculty development were seminars and trainings in the syllabus preparation-OBE format, on the utilization of student-centered strategies and on curriculum mapping.

**Keywords:** Essence of OBE, Implementation, Faculty Development, Knowledge of OBE, Outcome-Based Education

# INTRODUCTION

Exploring new ways for designing tertiary education is a worldwide pursuit. There is a need for tertiary education to provide both professional knowledge/skills and all-round attributes to the graduates so as to enable them to face the diversified yet global demands of the 21<sup>st</sup> century society. The attention now of different institution of higher education in different nations are on students learning outcomes and assessment. This has received increasing calls since 1980's in many countries such as USA, UK and Australia.

Outcome-based education is the main thrust of the Higher Education Institutions in the Philippines today. The OBE comes in the form of competency-based learning standards and outcomes-based quality assurance monitoring and evaluating spelled out under the Commission on Higher Education (CHED) Memorandum Order (CMO) No. 46, s. 2012 [1]. The outcomes provide details against which the graduates

of the curriculum can be measured and facilitate the quality-assurance process [2]. The approach of instruction is student-centered, assessment is competitive, and the classroom is where teacher facilitates and students take priority over the acquired knowledge and developed skills.

OBE is being recognized as the most important educational component of societies with a knowledge-based economy. In the case of Canadian higher education, Hejazi [4] revealed that the institution started to show a significant shift toward this new course in order to stayglobally competitive. In the Philippines, Llanes [5] stated that when TIP implemented the OBE/OBTL, the actions the institution took were dissemination of the nature of the OBE, alignment and mapping of the curriculum, assessment of output aspect and improvement of quality of instruction. Data gathered for Liu's [6] study pointed to the conclusions that the implementation of OBE has been integrated into on-

going practices such as program development and review, and curriculum mapping and renewal. Laguador and Dotong [7]stressed the necessity of a comprehensive knowledge and understanding of outcomes-based education in order to realize its objectives when applied. Borsoto et al. [9] on the other hand stressed that the assistance of the administration particularly affording the needed resources to sustain the implementation of the outcomes-based education is noteworthy for its success.

The success of the implementation of the OBE depends heavily on educators, hence, compete understanding and knowledge of OBE are vital [10]. Killen [11] claimed that OBE can lead to students' success in learning because it encourages teachers to be well prepared. According to Ramoroka [10], the features of OBE guide the teachers in ways that they can show authority over the process and the approach.

What RMTU really needs now is a full and complete understanding and knowledge by the implementers of the essence of the OBE and its application in classroom instruction.OBE in RMTU started in 2014 and like many other universities in the country and in Asia faces challenges and decisive transformation to meet the demands of global standards. The introduction of the OBE in RMTU resulted in many issues and concerns such as major shift of the teaching practices from the traditional and different beliefs and assumptions of the OBE's value to the system and the graduates. Davis [2]raised that implementation of the OBE approach demands some changes in the school's system and requires intensive planning activities. Liu[6] argued that the major challenges encountered during implementation include faculty buy-in and the time commitment required of faculty members to get involved in OBErelated practices and faculty members' educational beliefs about OBE can act as an enabler or a challenge for OBE implementation.

Despite the challenges and adjustments, RMTU has an obligation to ensure that its educational programs excel in all aspects and respects. In so doing, the researchers believe that understanding of the essence of the OBE and knowledge of faculty members in terms of its implementation in the University are important steps and first to be taken into consideration.Berg [12] stressed that an institution should be positive and open for changes and outcomes-based education is one of the

innovations in education and absolutely one essential part of the changes.

In a way, the result of this study would serve as monitoring tool on the status of the implementation of the OBE in RMTU. School heads would be more informed if educators are able to deal with changes or need more assistance. If it necessitates support, further guidance and trainings can be offered to them. Crucial to this is giving them clear guide of what is to be taught. Administrators may also deliberate on how to reshape the structure of the school in support on the integrated nature of the outcomes-based curriculum.

The faculty members of the different Colleges of RMTU on the other hand, would be more mindful that various teaching methods have to be identified and applied to help the learners achieve intended outcomes. In general, the outcomes-based approach guides implementers in the selection of suitable instructional strategies, development and utilization of a wide range of assessment criteria and making decisions whether the learner has achieve the outcome or not.

The Students on the other hand would be provided with the opportunities to learn better considering their learning styles and abilities to help achieve intended learning outcome. As the curriculum is well planned towards student progression, learners' performance would become more efficient.

# **OBJECTIVES OF THE STUDY**

The aim of the study is to investigate the educators' understanding of the essence and knowledge of implementation of the Outcomes-Based Education (OBE) in the Ramon Magsaysay Technological University (RMTU), Zambales.

Specifically, it is the intention of the study to identify the degree the faculty members understand the essence of the OBE; to ascertain the extent the faculty members are knowledgeable of OBE's implementation in the Institution; and to find out what areas of outcomes-based instruction to be offered for faculty development training.

# **METHODS**

This study utilized descriptive research design and quantitative in its analysis. Calmorin and Calmorin [13] pointed out that descriptive method provides essential knowledge for the measurement of all types of quantitative research. This study was conducted in all the seven (7) Campuses of RMTU, Iba, Zambales, Philippines. The appraisal of the understanding of the

essence and knowledge of implementation of the OBE were solicited from the implementers/faculty members. Two hundred two (272) or 100% of the total population of the RMTU faculty members served as the respondents of the study. In research terminology, population is defined as all members of any well-defined class of people, events or objects. All available faculty members of the different colleges of RMTU were selected as respondents.

This research study used survey instrument that measured the participants' understanding of the essence of the outcomes-based education and the knowledge of its implementation. The instrument was researcher-made. Prior to that, the researchers conducted extensive review of literature and studies in OBE which form the source of the survey checklist specifically of Laguador and Dotong [7] and Ramoroka [10]. The survey checklist contain 23 key items/indicators which had two parts (Essence of the OBE and Knowledge of the Implementation of the OBE). Answers of the respondents are within a scale ranging from 5 (very great extent) to 1 (no extent). There were 9 items added to the survey instrument on the areas of outcomes-based instruction for faculty development training. A set of subject matter experts reviewed and checked the indicators/items for clarity and directedness to minimize the occurrences of misinterpretations. A pilot test was conducted with the 15 Instructors/Professors from the Laboratory High Department. RMTU, Iba, Zambales. Philippines. According to Cyrus [14], apilot project will afford the researcher a way to check that the research instrument is dependable, free from vagueness and can be easily accomplished.

The approval of the distribution of the survey checklist was secured from the University President and Campus Directors of the seven campuses. The survey checklist was administered by the researcher personally to the respondents. The secrecy of their responses was emphasized. The information, figures and data which were collected from the survey checklist were analyzed, interpreted and summarized accordingly. Weighted mean was used in the interpretation on the extent the respondents' understand the essence of the OBE as well as knowledge of OBE implementation.

# RESULTS AND DISCUSSION

Table 1 shows the extent of understanding of RMTU Faculty on the essence of the Outcomes-Based Education (OBE).

Table 1. Extent of Understanding of the Essence of Outcomes-Based Education

Outcomes-Dased Education						
	Indicators	AWM	VI	Rank		
1.	Teaching is focused always on	3.56	GE	13		
	the outcomes					
2.	Minor role played by the	3.32	ME	15		
	educators in the					
	teaching-learning situation					
3.	Plan activities that focus	3.38	ME	14		
	around the learners					
4.	Active participation in the	4.08	GE	1		
	learning activities					
5.	Learners searchinformation for	4.07	GE	2.5		
	themselves					
6.	Learners' understanding is	3.90	GE	11		
	essential in OBE					
7.	Learners must construct their	3.82	GE	12		
	own knowledge					
8.	OBE focuses on what the	3.93	GE	9		
	learners' must produce					
9.	Outcomes keep learners focus	3.92	GE	10		
	in the activity					
10.	High expectations for learners	3.95	GE	7		
	to do well in class					
11.	OBE encourages group work	4.03	GE	6		
	and teamwork					
12.	OBE focuses on the learners in	4.05	GE	4.5		
	totality					
13.	OBE emphasizes lifelong	4.07	GE	2.5		
	learning					
14.	OBE caters for the learners'	4.05	GE	4.5		
	attitude and values					
15.	OBE focuses on the career that	3.94	GE	8		
	a child is to pursue					
	Overall Weighted Mean	3.87	GE			

Indicator 4 stated as "Active participation in the learning activities" (4.08)and with interpretation of great extent. It was revealed that the faculty-respondents manifested a great extent of understanding that the essence of OBE is about active engagement and involvement in the classroom. Ramoroka [10] argued that in outcomes-based education, each learner should be allowed enough to show his/her potentials and be provided the most suitable condition for effective learning to occur. Kuh, et al. [15] revealed that an institution that advocates active learning indicate an improved academic performance of the students and perceived educational benefits.

Indicator 5 stated as "Learners search information for themselves" and indicator 13 stated as "OBE emphasizes lifelong learning" obtained a computed AWM of 4.07 (rank 2.5) and both indicators with

verbal interpretation of great extent. The faculty-respondents reported a full understanding of the essence of OBE is to allow and encourage the learners to explore and search knowledge for themselves and OBE is towards developing lifelong learners. Kember [16] acknowledged that perhaps the most important learning outcome is that students learn how to learn for themselves. Rajaee et al. [17] stressed that OBE solicits from the students to develop and acquire traits of self-directedness, ingenuity and autonomy. Rajaee et al. [17] stated that the course planning necessitates the inclusion of the needs of the students to be lifelong learners.

A great level of understanding was manifested among the faculty-respondents on indicator 12 specifying that the essence of OBE focuses on the learners in totality (4.05). There is a great extent of understanding that teaching and learning process should provide an excellent education for all students. The faculty-respondents also have a great extent of understanding for indicator 14 stating that the essence of OBE is to cater for the learners' attitude and values (AWM=4.05, rank 4.5). This condition can be developed if there is an acceptable teacher-student relationships. Kember [16] emphasized that a profound interaction between teacher and students is vital to a smooth teaching and good teacher and student relationship.

The faculty respondents fully understand that the essence of OBE is to encourage group work and teamwork (Indicator 11, 4.03) and there is a high expectations for learners to do well in class (Indicator 10, 3.95). These indicators were ranked 6<sup>th</sup> and 7<sup>th</sup> respectively. The faculty-respondents understand well that in the outcomes-based environment, learners are expected to be involved in group task/work and continuously improve their performance.

OBE focuses on the career that a child is to pursue (3.94), on what the learners' must produce (3.93) and while teaching is focused always on the outcomes (3.56) with a verbal interpretation of great extent respectively. The faculty-respondents understand that the essence of OBE gives attention on what profession/occupation the learner has to follow, on learner's output and on outcomes. Hejazi [4] inferred that this approach allows the learners to play essential role in the learning process and introduces strategic educational planning that is aimed at achieving results. Bouslama et al. [18] stated that the true measure of education is how learning empowers further achievement.

There is a great extent of understanding among the faculty-respondents on item 9 indicating that in OBE, the outcomes keep the learners focus in the activity (3.92). The essence of OBE is an active classroom with dynamic instruction wherein learners are involved to produce outputs and products and help improve the quality of learning. Nicholson [19] stressed that teachers plan and employ active instructional setting by allowing the students to be involved in the process. The faculty-respondents understand greatly that learners' understanding is essential in OBE (3.90) and learners must construct their own knowledge (3.82), ranked 11 and 12 respectively. The faculty members greatly understood that OBE instruction considers significantly the learners' understanding and the quality the exits among learners. The faculty members also indicated a great extent of understanding that OBE is towards guiding learners to discover, to construct and to create knowledge. Hence, OBE allows the development of self-directed learners. Perkan Zeki and Sonyel [20] recognized that students learn how to enquire, verify, draw perception and apply what have learned. There is a moderate extent of understanding among the facultyrespondents that in OBE, planning activities that focus around the learners is an educator's task and responsibility (3.38) and minor role played by educators in the teaching-learning situation (3.32), ranked 14 and 15 respectively. In OBE classroom, learners have to be viewed as active individuals. This is true in a classroom wherein teachers plan and execute activities because knowledge can also be shaped through actual experiences. Moreover, OBE classroom is not predominated by traditional methods of teaching. OBE favored instruction which is learnercentered and learner-controlled where in students can influence the content, activities, materials and paces. Ramoroka [10] stressed that teachers are guide for their learners to successfully pursue and achieve the intended goals, therefore, learners have to be given the most important role in the teaching and learning process and for Frey and Fisher [21], a shift from being the authority of the instructional process to student autonomy of learning.

The overall weighted mean computed on extent of understanding the essence of the Outcomes-Based Education (OBE) was 3.87, with verbal interpretation of Great Extent. There is a great extent of understanding of the essence of Outcomes-Based Education among the faculty members of RMTU.

Table 2 shows the extent of knowledge of outcomes-based education implementation.

Table 2. Extent of Knowledge of Outcomes-Based

**Education Implementation** 

	Indicators	AWM	VI	Rank
1.	Curriculum alignment and	3.36	ME	7.5
	mapping			
2.	FormulatesProgram	3.36	ME	7.5
	Educational Objectives			
3.	Identifies outcomes the	3.71	GE	5
	learners need to achieve			
4.	Develops higher order	3.76	GE	3.5
	thinking			
5.	Creates a healthy and	3.76	GE	3.5
	conducive environment			
6.	Uses direct and indirect	3.65	GE	6
	assessment			
7.	Assesses learning outcomes	3.85	GE	1
	in different techniques			
8.	Utilizes student - centered	3.78	GE	2
	approach			
	Overall Weighted Mean	3.65	GE	

There is a great extent on assessing the learning outcomes in different techniques (3.85). The facultyrespondents' level of knowledge in using different assessment techniques for course learning outcomes is of great extent. This also signifies that faculty members in OBE instruction uses varied, relevant and effective measures appropriate to the learning outcome. Moreover, the respondents consider that there is no single best type of assessment and assessment should be aligned with learning outcomes. This result is consistent with Laguador and Dotong's [7] finding indicating that there was a great awareness of the respondents in the different techniques in assessment under the OBE which include guizzes, projects, activities and exercises. Caguimbal et al. [22] found in their study that a clearly defined assessment standards and where in both teachers and students are knowledgeable on how assessment are utilized are ultimate gains of outcomes-based education.

There is a great extent on utilizing the student-centered approach (3.78). The respondents know for a great extent that the teaching and learning process in the OBE utilize of student-centered approaches. Parallel to this result was the finding of Laguador and Dotong [7] indicating that the respondents manifest a great extent of knowledge in terms of how learner

centered approach is utilized during the teaching process.

There is a great extent on developing the higher order thinking (3.76). There is a great extent of knowledge among the faculty-respondents that in OBE, appropriate questioning technique towards development of learners' higher order thinking should be utilized. The process of teaching and learning is towards promotion students' critical thinking capacity. The faculty-respondents also manifested a great extent of knowledge on indicator 5 which specified that in the OBE, healthy and conducive environment (3.76) should be created. The respondents are aware that classroom environment and school resources should be suitable to outcomes-based instruction and learning.

A great extent of knowledge among the facultyrespondents in terms of identifying the outcomes the learners need to achieve (3.71) and uses direct and indirect assessment (3.65), ranked 5<sup>th</sup> and 6<sup>th</sup>. The faculty members reported a great extent of knowledge that with OBE, it is essential to identify outcomes for learners to achieve and the assessment methods of various skills, knowledge and attitudes. Findings signify that the respondents are fully aware that during instructional planning, identifying outcomes the students need to prepare and accomplish at the end of instruction have to be considered. Moreover, respondents also reported great extent of knowledge that students' skills, knowledge and attitudes have to assessed using appropriate direct conventional and alternative) and indirect (e. g., observations) assessment tools. Rajaee et al. [17] stated that learning outcomes must be clearly explained and presented to students allowing them to set a realistic perception of what they can do, can produce and can achieve.

Indicators 1 stated as "Curriculum alignment and mapping" and 2 stated as "Formulates Program Educational Objectives" gained the least computed average weighted mean of 3.36, ranked 7.5 and with verbal interpretation of moderate extent respectively. There is a moderate extent on the knowledge among the faculty-respondents on curriculum alignment and mapping which should be developed to facilitate curriculum reform/revision. There is also a moderate extent of knowledge among the faculty-respondents in terms of formulation of Program Educational Objectives (PEOs). Findings could mean that the respondents need more opportunities to further their familiarity in PEO making which are achievable and

assessable. Data gathered by Liu [6] study point to the conclusion that the focus of active OBE implementation is defining learning outcomes and developing strategies to ensure students achieve them.

The overall weighted mean computed on extent of knowledge of implementation of the outcomes-based education was 3.65, with verbal interpretation of Great Extent. The faculty members of RMTU reported a great extent of knowledge of OBE implementation.

Table 3. Frequency and Rank Distribution on the Proposed Areas of Outcomes-Based Instruction for

**Faculty Development Training** 

	Indicators	f	Rank
1.	Workshops for curriculum	190	3
	mapping		
2.	Formulation of learning	173	5
	outcomes using Bloom's		
	Taxonomy		
3.	Seminars and trainings in the	205	1
	syllabus preparation – OBE		
	format		
4.	Seminars and workshops on	199	2
_	student-centered strategies	45.0	
5.		176	4
	students' outputs and		
	competencies	1.7.4	0
6.	Techniques for higher-order	154	9
7	thinking skills	1.61	_
7.	Seminars and trainings on the	161	6
0	update of the OBE	150	7
8.	Table of Specification	158	/
0	preparation of evidence of	156	8
9.	Documentation of evidence of	130	0
	the OBE implementation		

Table 3 shows the frequency and rank distribution on areas of Outcomes-Based Instruction proposed by the faculty-respondents of RMTU for faculty development training.

Faculty-respondents proposed indicator 3 stated as "Seminars and trainings in the syllabus preparation-OBE format" (205, rank 1). The result implies that the faculty-respondents need more skillful planning and understanding of the connection between objectives and learning outcomes in the making of a syllabus-OBE format. There were 199 (rank 2) faculty members who proposed indicator 4 stated as "Seminars and workshops on student-centered strategies". More training on learner-centeredness of instruction was proposed by the faculty-respondents. Rajaee et al. [17] argued that while teaching approach appropriate for OBE is learner-centered, however,

utilization of its methods and strategies depend on teacher's preference who implements and does the direct instruction and dissemination of knowledge to learners. Ramoroka [10] stressed that among the aims of OBE is to make the teaching more learner-centered. In the OBE, varied teaching strategies and techniques have to be utilized so as to solicit more students' engagement.

RMTU faculty members proposed indicator 1 stated as "Workshops for curriculum mapping (190, rank 3). Workshops of this activity was suggested by the faculty-respondents. Harden [23] pointed out that the curricular objectives for the OBE are presented in detail. Thus, the planning process and implementation is somewhat complicated and hard to manage both by the teachers and the students. Indicator 5 stated as "Alternative assessment of students' outputs and competencies" was proposed by 176 (rank 4) faculty members. The respondents are aware that there are skills and performances of students which cannot be assessed formally and whether assessment tools really describe levels of achievement, thus further training to be familiar or to have mastery on this aspect was proposed. Mohayidin et al. [24] synthesized that valid and reliable assessment procedure and approaches to evaluate the output and performances of the students is a significant step in producing quality graduates. One seventy three (173, rank 5) faculty members of RMTU proposed indicator 2 stated as "Formulation of learning outcomes using Bloom's Taxonomy". This suggests that in the preparation of course syllabus in OBE, Bloom's Taxonomy has to be well-thought-out by the faculty-respondents.

Other areas proposed by the respondents to be offered as faculty development training were indicator (7) stated as "Seminars and trainings on the update of the OBE" (161, rank 6), indicator 8 "Table of Specification preparation" (158, rank 7) and indicator 9 stated as "Documentation of evidence of the OBE implementation" (156, rank 8). The faculty members of RMTU recognize the necessity to be updated in the OBE. Indicator 6 stated as "Techniques for higher-order thinking skills" was proposed by 154 faculty members and was ranked 9<sup>th</sup>. The faculty members of RMTU realized the need to develop upon their students HOTs. Mohayidin et al. [24] recognized that teaching should focus and aimed at learners' acquisition of higher order thinking skills.

It is evident that RMTU faculty are aware that they need trainings on the presented areas for

outcomes-based instruction and also mindful of the benefits of these trainings.

# CONCLUSION AND RECOMMENDATION

The full implementation of Outcome-Based Education (OBE) in Ramon Magsaysay Technological University (RMTU), Zambales is a priority, hence, it necessitates a full understanding and knowledge of the OBE by the implementers.

On the result of the degree of understanding of the essence of the OBE, it is revealed that the faculty members manifest a great extent of understanding primarily the active participation of students in the learning activities, however, faculty members' moderate perception indicate a understanding on the minor role played by the educators in the teaching-learning situation and planning activities that focus around the learners. On the result of the degree of knowledge of OBE implementation, the faculty members reported a great extent of knowledge primarily the use of different techniques to assess student learning, though there is a moderate extent of knowledge on curriculum alignment and mapping and construction of Program Educational Objectives (PEOs) of the different Colleges. The areas of the outcomes-based instruction which were proposed to be offered as faculty development were seminars and trainings in the syllabus preparation-OBE format, on the utilization of student-centered strategies and on curriculum mapping.

In essence, OBE is a working-backwards with students as the center of the instructional and learning setting. It aims for the development of every student's competencies and talents. Moreover, OBE is quality system of an institution, to ensure that all programs are well designed and deliver appropriate outcomes. On the other hand, the role of the faculty members is crucial and vital factor for the success of OBE. involvement Teamwork, faculty and faculty ownership are solicited from them. Therefore, faculty should be deeply engaged and supported from the onset in the leadership of any effort toward outcomesbased learning and in the institution's policy-making decision process.

Based on the aforementioned findings, it is suggested that the school administrator fully support faculty professional development like continuous participation in trainings and seminars on the updates of the OBE and processes such curriculum mapping and syllabus preparation. Assistance should be

provided to all faculty members to learn all the aspects of the outcomes-based education, assessment processes and learner centeredness of instruction. Moreover, all Colleges of RMTU should also conduct relevant researches which can provide strong empirical data of OBE implementation, utilization and effectiveness as well as problems encountered.

The study is limited to appraisal of the essence of OBE and knowledge of implementation in one particular university of the Philippines. The study therefore is not generalizable to all higher education institution in the Philippines. The researcher suggests afollow-up study which may focus on the status and impact of the implementation and adoption of an outcomes-based approach in the university that would include the views, insights and experiences of the faculty, administrators/managers and other personnel.

#### REFERENCES

- [1] Collantes, N. E., (2014). Outcomes-Based Education. February 12, 2014
- [2] Davis, M. H. (2003). Outcome-Based Education, Educational Strategies, International Journal of Educational Development. (2009). p1-6. Retrieved from http://www.utpjournals.com
- [3] CHED Handbook on Typology, OBE, and Institutional Sustainability Assessment (2014). Available online http://www.ched.gov.ph.
- [4] Hejazi, B. M. (2011). Outcomes-Based Education (OBE): A Transformational Perspective on Quality and Mobility in Higher Education. Community College Leadership Program. OISE/U of T. p1-30. January 2011. Retrieved from http://www.jfn.ac.lk.
- [5] Llanes, C. C., (2014). Adoption of Outcomes-Based Education in the Philippines: The T.I.P. Experience. Technological Institute of the Philippines 938 Aurora Blvd., Cubao, Quezon City, Philippines. Retrieved from http://conference.ntu.edu.sg.
- [6] Laguador, J. M. & Dotong, C. I., (2014). Knowledge versus Practice on the Outcomes-Based Education Implementation of the Engineering Faculty Members in LPU College of Engineering, International Journal of Academic Research in Progressive Education and Development. Vol. 3, No. 1:63-73. DOI: 10.6007/IJARPED/v3-i1/640.
- [7] An, I. L. (2012). Impact of Outcome-Based Education Instruction to Accountancy Students in an Asian University, Asia Pacific Journal of Education, Arts and Sciences Vol. 1, No. 5:48-51. November 2014. Retrieved fromhttps://goo.gl/HThXJd.
- [8] Borsoto, L. D., Lescano, J. D., Maquinot, N. L., Santorse, M. N., Simbulan, A. F., and Pagcaliwagan, A. M. (2014). Status of Implementation and Usefulness of Outcomes-Based Education in the Engineering

- Department of an Asian University. Lyceum of the Philippines University, Batangas City. International Journal of Multidisciplinary Academic Research. Vol 2 No. 4:14-23.
- [9] Ramoroka, N. J. (2007). Educators' Understanding of the Premises Underpinning Outcomes-Based Education and Its Impact in the Classroom Assessment Practices. University of Pretoria. Development of Curriculum Studies.p. 14-71.
- [10] Killen, R. (2000). William Spady: A Paradigm Pioneer. Associate Professor Roy Killen Faculty of Education and Arts, University of Newcastle, Australia, p. 1-21. Retrieved from http://www.learningtolearn.sa.edu.au.
- [11] Berg, D. (2003).Outcomes-Based Assessment: Challenges for the Teaching of Criminology. Department of Criminology Ann-Louis de Boer Centre for Academic Development University of Pretori. 2003. Acta Criminologica Vol 13(2):1-2. Retrieved from https://goo.gl/WwMtkF
- [12] Calmorin, L.P. & Calmorin, M. A. (2002). Methods of Research and Thesis Writing. Rex Book Store, Inc, Sampaloc, Manila.
- [13] Cyrus, J. D. (2006). Pre-Service Teacher's Perceptions Of Student-Centered Approach to Integrating Technology in Content Areas. A Dissertation in Instructional Technology. Submitted to the Graduate Faculty of Texas Tech University. p.89-96. Retrieved from https://repositories.tdl.org.
- [14] Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J. (2008). Unmasking the Effects of Student Engagement on First-Year College Grades and Persistence. The Journal of Higher Education, 79(5), 555-560. September/October 2008. Retrieved from http://www.yorku.ca.
- [15] Kember, D. (2005). Best Practice in Outcomes-Based Teaching and Learning at the Chinese University of Hong Kong. Centre for Learning Enhancement and Research 302, Academic Building 1, The Chinese University of Hong Kong, p. 5-11. Retrieved from https://www.cuhk.edu.
- [16] Rajaee, N., Junaidi, E., Taib, S.N.L., Salleh, S.F. & Munot, M.A. (2013). Issues and Challenges in Implementing Outcome Based Education in Engineering Education Malaysia Sarawak, Universiti. International Journal for Innovation Education and Research www.ijier.net.Vol.1-04.

- [17] Bouslama, F., Lansari, A., Al-Rawi, A., and Abonamah, A. A. (2003). A Novel Outcome-Based Educational Model and its Effect on Student Learning, Curriculum Development, and Assessment. Zayed University, Abu Dhabi, UAE. Journal of Information Technology Education Volume 2:203-213. 2003. Retrieved from https://goo.gl/ighu1Z
- [18] Nicholson, A. C. (2010). Comparison of Selected Outcomes Based on Teaching Strategies that Promote Active Learning in Nursing Education. University of Iowa. Iowa Research Online, p 128-132. http://ir.uiowa.edu
- [19] Perkan Zeki, C. & Sonyel, B. (2014). Pre-Service Teachers' Perceptions of the Student Centered Learning Approach through a Metaphoric Perspective. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi [Hacettepe University Journal of Education], 29 (1): 211-221. Retrieved fromhttp://www.efdergi.hacettepe.edu.
- [20] Frey & Fisher D. (2006). Program Research: A Gradual Release of Responsibility Model.Retrieved fromhttp://www.glencoe.com.
- [21] Caguimbal, D. A., Delacion, D. C., Medina, A. O., Mendoza, M. S., Mendoza, R. J. M., Sanchez, M. M. (2013). Level of Awareness of the Maritime Students on the Outcomes-Based Education. Asia Pacific Journal of Education, Arts and Sciences | 1(5), 1-12
- [22] Harden, R. (2007). Outcome-Based Education: The Future is Today. International Virtual Medical School (IVIMEDS), Dundee, UK. p. 626-628. Informa UK Ltd. Retrieved from http://www2.paeaonline.org
- [23] Mohayidin, M. G., Suandi, T., Mustapha, G., Konting, M. M., Kamaruddin, N., Man, N. A., Adam, A., & Abdullah, S. N. (2008). Implementation of Outcome-Based Education in Universiti Putra Malaysia: A Focus on Students' Learning Outcomes. International Education Studies, Vol. 1 No. 4:147-152 (November, 2008). Retrieved from http://www.ccsenet.org

#### **COPYRIGHTS**

Copyright of this article is retained by the author/s, with first publication rights granted to APJMR. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creative.commons.org/licenses/by/4.