

World Maritime University

The Maritime Commons: Digital Repository of the World Maritime University

World Maritime University Dissertations

Dissertations

10-28-2023

Investigating the outcomes-based education (OBE): a case study using the Philippine maritime education and training (MET) system

Emma Lyn P. Pabutawan

Follow this and additional works at: https://commons.wmu.se/all_dissertations



Part of the [Environmental Policy Commons](#)

This Dissertation is brought to you courtesy of Maritime Commons. Open Access items may be downloaded for non-commercial, fair use academic purposes. No items may be hosted on another server or web site without express written permission from the World Maritime University. For more information, please contact library@wmu.se.

DISSERTATION

**INVESTIGATING THE OUTCOMES-BASED
EDUCATION (OBE):**

**A CASE STUDY USING THE PHILIPPINE MARITIME
EDUCATION AND TRAINING (MET) SYSTEM**

EMMA LYN P. PABUTAWAN

A dissertation submitted to the World Maritime University in partial fulfilment
of the requirements for the award of the degree of Master of Science in
Maritime Affairs


2023

Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature):


.....

(Date):

25 September 2023
.....

Supervised by:

Prof. Inga Bartusevičienė
.....

Supervisor's affiliation:

.....

Acknowledgements

I would like to express my sincerest gratitude to all of the people who helped in realizing this dissertation and to this wonderful journey in WMU.

To my supervisor, Dr. Inga Bartusevičienė, my heartfelt thanks for all the guidance and inputs you have shared with me.

My sincere appreciation to all MET professors, Prof. Michael Ekow Manuel, Prof. Momoko Kitada and Prof. Johan Bolmsten, and to Teacher Anne Pazaver for your very insightful advises and lessons all throughout the programme.

My utmost appreciation to those who supported me in applying for WMU, Atty. Jean Ver P. Pia, our mentor Presca Lee B. Lugo, to my previous and concurrent head in EAD, STCW Office which I consider my guidance councilors Ms. Madiline Joanna Galve and Ms. Josephine Castillo, to Atty. Jabeth Sena Jepath A. Dacanay for your warm thoughts and financial support, to our “kuya” Herbert Nalupa for your support in any ways you can especially when we arrived first in Malmo.

To my Examination and Assessment Division Family especially to Neil Patrick Patam, you serve as my right arm in the Philippines for my data gathering, thank you so much for your kind words and moral support as always.

To Wallenius Marine especially to Capt. San Win, my utmost gratitude for granting me the full fellowship funding, without your support this opportunity will be impossible.

To my METcellence class of 2023, Beauty, Sichu, Jerry, Elgene, Fathema, Kul, Tirth, Gift and my sister from the other mother Margie, this journey wouldn't be the same without your presence and support.

I would like also to extend my warmest gratitude to the people whom I met here in WMU who turns out to be my second family “Mom” Fei Duatin your motherly care and your inspiring words which I learned and helped me a lot through this WMU journey.

To Taka, I will always be grateful for your presence in my life and for your practical comments as well keeping me and Margie sane when things are worst. To our “Cong/Kuya” Sir Jethro Padama, for your unwavering support and for being good leader for the whole Philippine Crew of S2023, to all my fellow Filipino from the Philippine Coast Guard (PCG) whom I shared good food and good laughter, Ma’am Lyn, Sir Orly, Sir Anthony maraming salamat at isang saludo po sa inyu! To my fellow MARINA WMU S2023 Sir Gerico and Alrina, thank you for a new found friendship and your moral support, I have never felt alone through you guys.

To my fellow “Asian Crew” Shin and Thiti from Thailand, Daiki from Japan, Vuth and Rith from Cambodia, Anne and Henry from Vietnam, you guys made this journey exceptional and extraordinary. To Tebogo, thank you dear for your warm friendship and being cheerful as always. To my fellow WMU Choir S2023 members I have enjoyed performing with you on stage.

To all WMU faculty and staffs, thank you for your warm support in helping us student in any possible ways.

To my Kimsyi, this is all for you, to my “Mama” Emma, my sibilings Azerfa, Abdul, Husain and Sharifa thank you for your support in all means you can.

Most of all to our Lord, you have been my guiding way towards this life, I believe that your plans are greater than mine. Thank you for showering me with blessings, allowing me to meet new people and for your unending kindness and grace you have bestowed me all throughout this life.

ABSTRACT

Title of Dissertation: **Investigating the Outcomes- Based Education (OBE): A case study using the Philippine Maritime Education and Training (MET) System**

Degree: **Master of Science**

The Outcomes-Based Education (OBE) had been a trend of learning approach over the last four decades. The approach that is highlighted is based on learner autonomy and self-directed learning. This is different from the traditional educational model, which puts more emphasis on what educators teach than on what students learn. This research study aims to investigate the OBE by looking at the OBE Principles using the context of the Philippine Maritime Education and Training (MET) System, the Bachelor of Science in Marine Transportation (BSMT) programme in particular. The researcher has employed two methods which are narrative literature review and a semi-structured interview whereby nine (9) Maritime Higher Education Institutions (MHEIs) in the Philippines participated.

Based on the results of the narrative literature review and semi structured interview it was determined that OBE is a pedagogical strategy that provides students with a comprehensive structure for achieving the required qualifications for professional endeavors. It focuses on supporting learners in attaining the highest level of competence through strategic planning, instructional delivery, and evaluation strategies. The implementation of OBE facilitates student mobility and provides a comprehensive understanding of essential competencies. Key OBE elements include the Operating paradigm, two key purposes, three key premises, four Operating Principles, and five generic domains of practice.

In the maritime sector, OBE is used in the curriculum development of MHEIs in the Philippines. The Philippine education system has undergone a transformation through the integration of OBE concepts into curriculum development, teaching methods, assessments, and equipment utilization. The OBE approach places emphasis on establishing clearly defined student competencies as learning outcomes, with a particular focus on outcomes-driven education. The implementation of OBE is challenging due to its time-consuming nature and the need for faculty members to adjust to pedagogical features. Quality management systems and ongoing improvement methods are crucial for higher education institutions to ensure compliance with standards and facilitate continuous improvements. In conclusion, higher education institutions in the Philippines have adopted OBE principles to enhance the quality of maritime education, yielding favorable results for students and aligning with industry demands.

KEYWORDS: Outcomes-Based Education, Maritime Education and Training,

Table of Contents

Declaration	ii
Acknowledgements	iii
ABSTRACT	v
Table of Contents	vi
List of Figures	viii
List of Abbreviations	ix
Chapter 1. Introduction	10
1.1 Background	10
1.2 Problem Statement	11
1.3 Research Aims and objectives	11
1.4 Research questions	12
1.5 Research methodology and methods	12
1.6 Dissertation Outline	13
Chapter 2. Review of Related Literature	14
2.1 Defining Outcomes Based Education (OBE)	15
2.1.1 Elements of OBE	16
2.1.2 Constructive Alignment.....	18
2.1.3 Advantages and Disadvantages of OBE.....	19
2.2 OBE and its Application to Education System	20
2.2.1 European Credit Transfer and Accumulation Systems (ECTS).....	21
2.2.2 Washington Accord	22
2.3 Competence-Based Education	23
2.4 The STCW Convention, 1978, as amended and the OBE	24
2.5 The Philippine MET System	24
Chapter 3. Research Methodology	26
3.1 Methodological Rationale and Process	26
3.2 Selection of participants	28
3.3 Instrumentation and Data Collection	30
3.3.1 Narrative Literature Review	30
3.3.2 Semi-Structured interview	31
3.4 Ethical consideration	34
Chapter 4. Research Findings	35
4.1 Narrative Literature review results	35
4.1.1 Role and Significance of OBE in the current education systems.....	35
4.1.2 Main Characteristic of OBE as applied in MET	36
4.2 Results of the Semi-structured interviews	37
4.2.1 Main Themes Frequency from the Semi-Structured Interviews.....	37
4.2.2 “Input” Theme Frequency	38
4.2.3 “Process” Theme Frequency	39

4.2.4 “Output” Theme Frequency	41
4.2.5 Other Identified Themes	42
Chapter 5. Analysis and Discussions	44
5.1 Input.....	45
5.1.1 STCW Convention	45
5.1.2 National Regulatory Requirements	45
5.1.3 MHEI’s Institutional Policy and Commitment	46
5.2 Process	46
5.2.1 Prepare	46
5.2.2 Implement	49
5.2.3 Evaluate	49
5.3 Output	50
5.3.1 Passing Rate.....	50
5.3.2 Employability	50
5.3.3 Positive Feedback from the employers	51
5.3.4 Competent Graduates	51
5.4 Quality Management System (QMS)	52
5.5 Continual Improvement.....	52
5.6 Other identified themes	52
5.6.1 Advantages	53
5.6.2 Disadvantages.....	54
5.6.3 Challenges and experiences of MHEI’s.....	55
5.7 Chapter summary.....	55
Chapter 6. Conclusion and Recommendation	58
6.1 Research Conclusions	58
6.1.1 What is the role and significance of the OBE in the current education systems?.....	58
6.1.2 What are the main characteristics of OBE in education as applied in MET?	58
6.1.3 How and to what extend the OBE principles are reflected in MET curricula in the Philippines?	59
6.2 Recommendations	60
6.3 Limitation of the study and future research recommendations	61
References	62
Appendix A: Matrix of Narrative Literature review on Role and significance of OBE in the current education systems	66
Appendix B: Matrix of Narrative Literature review on Characteristics (Elements) of OBE in Education as applied in MET	69
Appendix C: Approved Semi-Structured Interview Questionnaire	72

List of Figures

Figure 1	The OBE Pyramid	16
Figure 2	Methodological Research Study Approach.....	27
Figure 3	Process of conducting Narrative Literature Review	31
Figure 4	Step by step process in conducting the Thematic Analysis	33
Figure 5	Role and Significance of OBE in the current education systems	36
Figure 6	Characteristic of OBE as applied in MET	37
Figure 7	Main Themes	38
Figure 8	Input Theme.....	39
Figure 9	Process Theme.....	40
Figure 10	Prepare Theme.....	41
Figure 11	Output Theme.....	42
Figure 12	Emerging Themes	43
Figure 13	Process Map.....	44

List of Abbreviations

OBE	Outcomes-Based Education
MHEI	Maritime Higher Educational Institutions
LO	Learning Outcomes
TLA	Teaching and Learning Activities
CO	Course Outcomes
MET	Maritime Education and Training
STCW	Standards of Training, Certification and Watchkeeping
ECTS	European Credit Transfer System
WA	Washington Accord
CHED	Commission on Higher Education
MARINA	Maritime Industry Authority
WMU	World Maritime University

Chapter 1. Introduction

1.1 Background

“Learning outcomes represent one of the essential building blocks for transparent higher education systems and qualifications” – (Adam, 2004 P.3)

The Outcomes-Based Education (OBE) had been a trend of learning approach over the last four decades. The approach highlighted is centered around learner autonomy and self-directed learning, as opposed to the conventional educational model that prioritizes the input provided by educators rather than the learning outcomes achieved by students. OBE includes *“competence-based education”, “criterion-referenced learning” and “mastery learning”* (Spady, 1983; Brady, 1994 as cited by Harden, 1999). This new idea led to the paradigm shift in higher education, in which the focus shifts from teaching to learning (Barr and Tagg, 1995 as cited in Kaliannan et al., 2012). This is evident from a shift of trends in education in more countries like all parts of the European Countries, the United States of America (USA), Australia and many others including the Philippines and others which adapted OBE into their education system.

The education and training in the maritime sector likewise shifted from traditional seafaring training to outcomes-based focused education which is more suitable since the maritime education and training is more inclined in the acquisition, and application of practical skills.

Likewise, the International Legal Framework for MET, is the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention), 1978, as amended, which sets the minimum standards for knowledge, understanding and skills, that are necessary to obtain certificates of competence on board merchant sea-going ships. The said requirements must be met in order to obtain a Certificate of Competency (Lušić et al., 2019).

While on the other hand, Philippines, as one of the signatory Party to the STCW Convention, it is therefore having the responsibility to adhere with the standards specifically in ensuring the alignment of the education and training set by the Convention.

Focusing on the Philippine education specifically on the maritime, one of the tools used in the MET system is the OBE. The OBE is also adopted and implemented in the Philippines since 2012 in the tertiary education (CHED, 2023a). While, the actors that are involved in developing the standard of curriculum and implementation in the Maritime Education are the Commission on Higher Education (CHED), the Maritime Industry Authority (MARINA), and the Maritime Higher Education Institutions (MHEIs). These three are mandated by the national law in the Philippines, to ensure that the standard of the STCW Convention and the outcomes are appropriately implemented.

Further, in terms of implementation of the OBE in the Philippines, Roxas (2018) emphasizes that it is important to acknowledge that these systems are not exempted from potential issues and problems.

Thus, the primary objective of this research study is to provide an insightful contribution to the Philippine MET system. Specifically, the study aimed to offer valuable insights into the practicality of the OBE approach and its potential for enhancing the existing education system.

1.2 Problem Statement

Bearing in mind that OBE was adopted in the Philippine MET system, there is no existing study investigating its function as applied in MET as well as how and to what extent the OBE principles are reflected in the MET curricula.

1.3 Research Aims and objectives

The research aimed to investigate the Outcomes-Based Education by looking at the OBE Principles using Philippine MET System, the Bachelor of Science in Marine Transportation (BSMT) programme in particular, thus, the objectives of this research were formulated in concurrence with its research aims as follows:

1. To explore OBE and its role in the MET system; and
2. To investigate how the OBE is applied in the MET System;

1.4 Research questions

The proposed study desires to answer the following research questions to achieve its aims and objectives:

1. What is the role and significance of OBE in the current education systems?
2. What are the main characteristics of OBE as applied in MET?
3. How and to what extent OBE principles are reflected in MET curricula in the Philippines?

1.5 Research methodology and methods

A qualitative methodological approach consist of a narrative literature review and semi-structured interview was adopted in this study.

Primary and secondary data were used in the study. The secondary data used were from the existing relevant literatures such as peer-reviewed journal articles, published books, including those from the digital repository of the World Maritime University (WMU). All these documents were analyzed to answer the research question numbers 1 and 2. On the other hand, to address research question number 3, the researcher employed semi-structured interviews to nine (9) MHEIs that served as a case study to examine how OBE principles are reflected in MET system in the Philippines.

The approval of the WMU Research Ethics Committee was obtained prior the collection of data. In view of this, this study focused on the Philippines setting, therefore the researcher adhered to the requirements as to data privacy and other related laws in line with gathering of personal information.

This research covered an entire discussion of the methodological approach and specific procedures in the third chapter.

1.6 Dissertation Outline

This dissertation consists of six chapters. Chapter 1 provides an overview of the study, including the contextual background, the formulation of the problem statement, the research aims and objectives, and the research questions that are posed. This chapter also addresses the methods employed in the present investigation. Moreover, the subsequent section of this study is Chapter 2, which encompasses the comprehensive examination of the pertinent literature. This chapter elucidates the conceptualization and key principles of OBE, along with its constituent aspects and its implementation across diverse educational frameworks, including the European Credit Transfer and Accumulation System (ECTS) and the Washington Accord. Similarly, including in the literature review is describing the STCW Convention as one of the international legal framework for the MET. Also, this chapter provides understanding of the advantages and disadvantages of OBE. As a result, it acts as a theoretical framework to establish the basis for arguments and to seek solutions to research questions 2 and 3. The research methodology is outlined in Chapter 3, where a comprehensive description of the methodology employed and the procedures for data collection are explained. This is accompanied by a methodological framework that visually represents the research study, as well as a discussion on the limitations of the study. Chapter 4 provides description of the research findings and analysis and discussion derived from the narrative literature review and the results of semi-structured interviews. These findings are presented in the form of pictures and graphs, which are discussed in this section. Chapter 5 presents the analysis and discussion of the findings derived from the semi-structured interviews. Additionally, it offers a summary of the illustrations provided in order to address the study question. The last chapter, Chapter 6, provides the conclusions and offers recommendations based on the research conducted.

Chapter 2. Review of Related Literature

It is deemed necessary to explain the concept of OBE and its significance to the education system in order to provide a clearer comprehension of this study and its current applicability in the education. According to William Spady, who is considered the “father” of OBE and is cited in Bartuseviciene (2023), *“an OBE curriculum means beginning with a clear picture of what is important for students to be able to do, and then organizing the curriculum, instruction, and assessment to ensure that this learning occurs”*. In the same way, Davis (2003) discusses that *“in an outcomes-based education as suggested by harden and colleagues means the product defines the process”*. Similarly, OBE can be summed up as results-oriented organization of curriculum and is a complete opposite of input-based education, where the emphasis is placed on the educational process and that are willing to embrace any outcome. In simple terms, OBE is a *“needs-driven”, “outcomes-driven”, “design-down approach”* that expresses outcomes and levels of outcomes, shifts the focus from teaching to learning, and provides a framework with broad outcomes (Khanna & Mehrotra, 2019).

Meanwhile, Killen (2004) emphasized the benefits of OBE wherein it gives administrators some control over the results of education while giving teachers a lot of freedom in choosing the content and methods that will help their students reach those goals. On the other hand, Evarado (2020) mentioned that this approach is regarded by stakeholders as student-centered and constructive, serving as a response to the pursuit of quality learning. As a result, students are positioned at the core of educational planning, ensuring alignment with the institution's vision, mission, and goals.

This chapter aimed to provide a comprehensive discussion of the basic concepts and essential principles underlying OBE. Furthermore, the fundamental components of the subject and its practical implementation in various educational systems, such as the European Credit Transfer and Accumulation System (ECTS), the highly regarded Washington Accord, and the essential International Standards of Training, Certification, and Watchkeeping for Seafarers (STCW Convention), will be explored.

2.1 Defining Outcomes Based Education (OBE)

The OBE approach is based on a fixed of wide-ranging, aspirational aims designed to prepare learners for successful careers after education. OBE is based on the idea of "success for all students," and it tries to improve on ways where only a small number of students usually do well (McNeir, 1993). In line with the concept, OBE is a transformation from teaching specific knowledge content or syllabi to assuring the development and achievement of specific competences by learners (Bartuseviciene, 2023). Similarly, Davis (2003) agreed that as a result, is what a student should be able to do by the end of a course to show what they have learned. Accordingly, the fundamental process of the OBE is the learning outcomes. Khanna & Mehrotra (2019) pointed out that the learning objectives are a way to reach the program's general goals or aims. The goal is not just to reach the learning outcomes. It uses a method called "design-down and deliver-up," which flips the curriculum on the top by starting with the goals of the whole educational program. In similar, Chae (2009) describes OBE in the medical education as a pedagogical strategy that emphasizes the acquisition of competencies, prioritizing the result rather than the education process itself. When planning lessons, teachers organize learning to students what they need to know to show that they have met these pre-set goals. Moreover, Watson (2008) as cited in Mohayidin et al. (2008) emphasized the importance of learning outcomes, which can be used as a standard to measure the success of the institution. Likewise, this learning outcomes, defined as the acquisition of new abilities or skills that were previously lacking represent the transformative changes that individuals undergo as a direct consequence of engaging in a learning process.

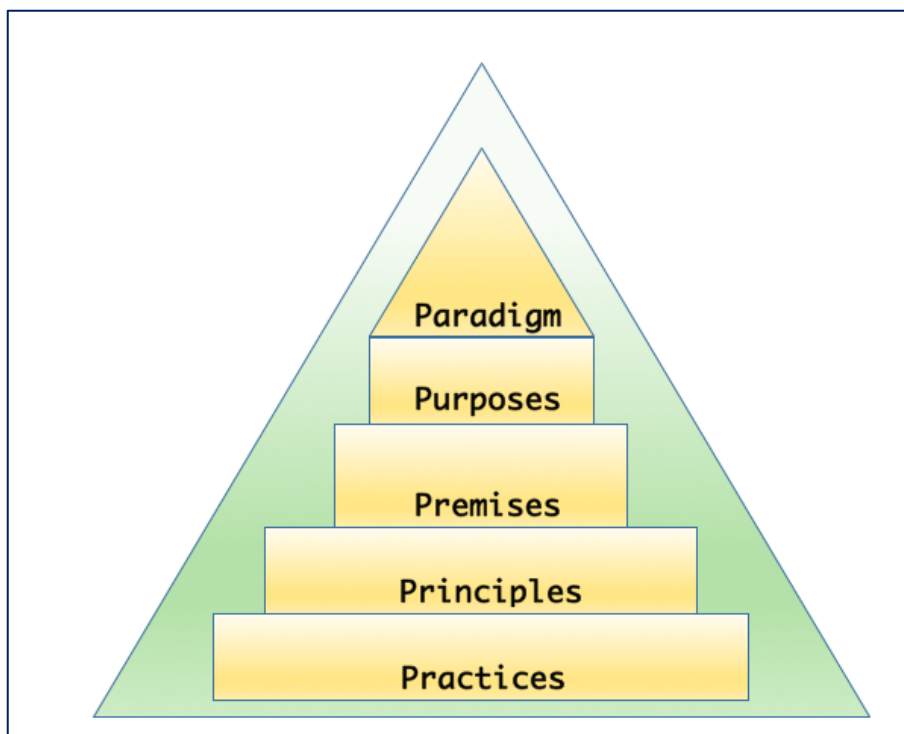
On the other hand, according to Castillo (2014), there are two fundamental categories of outcomes from any educational system. The first type consists of performance indicators such as completion or graduation rates, results of licensing examinations, post-course employment rates, etc. The second type is typically expressed in terms of what students or graduates know, can do, or are like as a consequence of their education. This second category of outcomes is typically implied when OBE is examined. In similar, Tshai et al. (2014), discussed that OBE framework primarily emphasizes two categories of outcomes, namely academic performance in coursework and examinations, as well as post-graduation employment prospects.

2.1.1 Elements of OBE

The "OBE Pyramid" as shown in Figure 1, begins at the top, according to Spady (1994), the key OBE elements are the Operating "Paradigm", two (2) key "Purposes", three (3) key "Premises", four (4) Operating Principles, and five (5) generic domains of Practice.

Figure 1

The OBE Pyramid



Note. Adapted from *Outcomes based education: Critical issues and answers*, by Spady, W. D., 1994, Arlington: American Association of School Administration.

.1 OBE Paradigm

Spady (1994) talks about the OBE model by focusing on the OBE's most important parts. OBE paradigm is a way of thinking and acting that is based on the idea that what students learn and whether they learn it well are more important than when and how they learn it. From a bigger picture point of view, this approach to schooling changes the way the system works by putting "achieving results" above "providing services." The OBE model believes that all students will be able to learn

well when they leave the system.

.2 OBE Purposes

In addition, as stated in the elements, the OBE has two (2) essential purposes, which reflect its essential *"Success for all students and staff"* philosophy, according to Spady (1994) are the following:

1. Making sure that all students have the information, skills, and character traits they need to be successful after they leave school.
2. Organizing and running educational institutions so that every student can achieve and maximize these outcomes.

In brief, for these two goals to be met, the system needs to put students' future performance skills first and set up a way of working that is focused on success. They don't agree with the idea that students with different talents or skills should have different lessons and learning chances, leaving some students permanently behind and others permanently ahead. Instead, educational institutions are expected to fulfil their responsibility to equip all students with the skills and attributes necessary to confront the challenges outside the classroom. In addition, this is intended to imply that schools will need to modify their operations in order to fulfil this obligation.

.3 OBE Key Assumptions and or Premises

Considering the two (2) key purposes of the OBE, Spady (1994) as cited by Gouws (2007) formulated three assumptions on which the OBE is based, namely that all *"learners can learn and succeed, but not on the same day or at the same time"*, *"that successful learning promotes even more successful learning"*, and *"that schools control the conditions that directly influence successful school learning"*. In addition to emphasizing this point, Spady (1994) emphasizes *"that what and whether learners learn effectively is more essential than when they learn"*.

.4 Principles of OBE

In order to achieve the two purpose and three premises of the OBE and to put it on action the following are the four key principles of OBE developed by Spady and Marshall (1991) as cited in Castillo (2014):

1. “*Ensure clarity of focus*” on important outcomes. The outcomes are where curriculum creation and teaching begin, what they should be centered on, and what they should be leading up to. Curriculum, instruction, evaluation, and credentials are all carefully matched to the desired outcomes' criteria and processes.
2. “*Design down from the desired outcomes*”. Curriculum and instructional design should always start with the end result, on which everything is focused and depends, and work backwards to make sure that all the parts of a good result are there.
3. “*Emphasize high success expectations for everyone*”. Students should be expected to do well on outcomes and should get credit for their success whenever it happens. The amount of difficulty of the outcomes should be high.
4. “*Provide increased opportunity and support for academic achievement*”. In both designing lessons and giving them, time should be seen as a variable resource, not a set rule, so that different students' learning rates and abilities can be taken into account. Teachers should give students many chances to learn what they need to know and successfully show what they've learned.

2.1.2 Constructive Alignment

The outcomes-based approach necessitates that the curriculum addresses both the knowledge that needs to be acquired and the behavior that needs to be cultivated (Castillo, 2014). Thus, the learning outcomes, tasks for teaching and learning, and assessment must all be in line with the learning outcomes.

As described by Biggs and Tang (2013), the first step towards attaining constructive alignment is for the teachers to clearly state not what they will teach but what they want to happen as a result of her teaching. This is demonstrated by the Intended Learning Outcome (ILO), which is a statement of what the student should be able to do and how well. However, when students participate in lectures, receiving rather than

producing is their primary activity. Consequently, Teaching Learning Activities (TLAs) need to be made that force students to apply, invent, come up with new ideas, diagnose and solve problems, and do whatever else is expected of them upon graduation. Similarly, Assessment Tasks (ATs) reveals not how well students have received knowledge are required, but how they can apply it in academically and professionally acceptable ways, such as problem-solving, experiment design, and client communication.

In addition, Castillo (2014) outlines three (3) stages for the constructive alignment, taking Biggs & Tang's discussion into account. The following are the steps:

1. Determining the learning outcomes.
2. Selecting learning and instructional activities that facilitate student development.
3. Selecting appropriate assessment activities that allow the student to demonstrate achievement of the appropriate level of outcomes.

2.1.3 Advantages and Disadvantages of OBE

Despite the positive feedback of OBE in the educational society, according to Davis (2003), OBE is a controversial concept. Its critics assert that OBE aims to instill values rather than skills and knowledge, and that it forces students to conform through behavior modification. In addition, even its supporters acknowledge that implementing OBE will be time-consuming and fraught with obstacles. McKernan (1993), as cited in Davis (2003), doubts many of OBE's underlying assumptions, arguing that the premise itself, teaching with a specific outcome in mind, contradicts the liberal concept of education as knowledge induction. He argues that viewing knowledge as a means to an end precludes the possibility that educational experiences are valuable in and of themselves.

However, according to Malan (2000), OBE has many advantages, as indicated by its transformational approach. It shows the whole country that education is a means to an end, not an end in itself. It gets rid of disorganized, hands-off planning, management, and teaching practices in education and replaces them with strategic, results-oriented planning. In addition, to be successfully educational practitioners,

students, and parents must fulfill their respective responsibilities for OBE. In the learning process, learners must assume greater accountability and partake actively. In many schools, this will presumably contribute to the restoration of a culture of learning. On the other hand, a significant acceptance challenge in implementing OBE in all of these environments presents. Ultimately, for both teachers and students, a transmission approach is simpler.

Iloanya (2019) also highlighted that with outcome-based education, there is a clear picture of what is important for learners to be able to do, and the curriculum, teaching, and testing are all set up to make sure that learning happens in the end. Consequently, Chae (2009) emphasized that this approach to education fosters a collaborative environment between faculty and students, promoting shared responsibility for the learning process and providing guidance for assessment. As a result, it emerges as an attractive and efficacious strategy for reforming medical education. Further, Asim et.al (2021) have mentioned that OBE is implemented in the field of education due to its ability to effectively concentrate and structure all components within an educational system around the essential skills and knowledge that every student should possess upon completing their learning journey

Finally, it is imperative that the concept of reliable and valid evaluation for educators in the field of education be more aligned with the task of designing and overseeing learning environments. Following the completion of secondary education or higher education, it is imperative for parents, as well as the broader community, to exercise their democratic prerogative in order to safeguard the unassailable quality of education and guarantee that children are well equipped for the challenges of life (Malan, 2000).

2.2 OBE and its Application to Education System

Higher education has undergone significant transformation on a global scale, transitioning from a traditional curriculum that focused on specific subjects and was centered around teachers, with a didactic approach. This shift has resulted in the adoption of a curriculum that is more learner-centered, emphasizing the needs and preferences of the learners. This new approach is characterized by flexibility,

interactivity, integration of knowledge, competency-based assessments, and an emphasis on desired outcomes. Moreover, this learner-centered curriculum empowers students by granting them ownership of their own learning process (Khanna & Mehrotra, 2019). Hence, this section examines different educational system and/or mechanisms for implementing OBE on a global scale.

2.2.1 European Credit Transfer and Accumulation Systems (ECTS)

The European Credit Transfer System (ECTS) was set up in 1989 as part of the Bologna Process so that students could transfer credits they earned while studying abroad into credits that would work toward their degree when they went back to their home school. Similarly, by easing the process of recognizing qualifications and study periods, the ECTS supports the design, description, and delivery of programs, enables the integration of different types of learning in a lifelong learning context, and facilitates the mobility of students (ECTS Users' Guide, 2015).

As discussed by Kennedy (2006) in his book *Writing and Using Learning Outcomes Practical guide*, one of the contributions of learning outcomes to the Bologna action lines is the establishment of a credit system. From a system for recognizing study at foreign institutions to a Credit Transfer System that takes into account all learning – not just study overseas the ECTS has evolved.

Moreover, predicated on the principle that 60 credits represent the annual workload of a full-time student is mechanism of the ECTS system. In the ECTS Users' Guide (2005), the position of learning outcomes in the credit system is explicitly stated *"Credits in ECTS can only be obtained after successful completion of the required work and appropriate assessment of the learning outcomes achieved"* (ECTS Users' Guide, 2005, p.4). Adam (2004), cited in Kennedy (n.d.), appropriately summarizes the situation: *"Credits expressed in terms of learning outcomes are a powerful way to recognize and quantify learning achievement from different contexts"*; they also provide an effective structure for relating qualifications. The potential to significantly efficacy of ECTS as a genuine pan-European system is adding of the learning outcomes dimension.

Also, the ECTS User's Guide (2015) stipulates that ECTS places the student at the

center of the learning process by using learning outcomes and work- load to create and deliver curriculum.

In addition, using points makes it easier to make flexible learning paths and keep track of them. This gives students more freedom and responsibility. ECTS helps meet more EHEA goals because it is based on results:

1. It promotes a higher rate of completion and a wider participation in lifelong learning by making it easier to recognize prior learning and experience and fostering a higher level of completion and participation.
2. It makes the link between training programs and societal needs stronger and improves communication with everyone, including the workplace and society as a whole.
3. It makes it easier for people to move around within a school or country, from one institution to another, from one country to another, and between different educational sectors and ways of learning (like formal, non-formal, informal, and work-based learning).

2.2.2 Washington Accord

According to Shaheen (2019), OBE approach places a reform of engineering education that has been widely acknowledged as influential in the Washington Accord (WA), its main objectives is to provide students with the essential attributes required for a career in the field of professional engineering.

The Washington Accord of 1989 is an agreement between foreign groups that are in charge of accrediting engineering degree programs. It states that the programs accredited by these bodies are essentially the same and recommends that graduates of programs accredited by any of the signatory bodies be recognized by the other bodies as having met the educational requirements to practice engineering (Turhan et al., 2015).

In similar, the WA is a collaborate between national organizations that give external accreditation to tertiary education programs whose graduates are ready to work as professional engineers. Signatories check each other's accredited programs on a

regular basis to make sure that they are mostly the same and that their results match the released graduate attribute exemplar for professional engineers. Graduate traits are the same for all engineering fields and all professional engineers, and they have been improved over the past 10 years (Washington Accord Booklet, 2014).

Consequently, the graduate attributes that were agreed upon by signatories of the Washington Accord apply to the schooling of professional engineers in all areas of engineering. They organize the information, skills, and attitudes that graduates need to have. The graduate attributes have been improved for more than a decade, and in 2013, the signatories chose them as the model (or reference point) against which their own accreditation standards will be judged for substantial equivalence. Also, the graduate attributes are meant to help signatories and provisional members make outcomes-based standards for accreditation that they can use in their own areas.

2.3 Competence-Based Education

Khanna et al., (2019) found that traditional curriculum is exam driven and instruction driven, with no clear expectations of performance and no evaluation/defined measures of effectiveness.

While on the other hand, Competency-based education was implemented in the United States at the end of the 1960s in response to concerns that students were not being taught the skills necessary for post-school success. Further, Van der Horst & McDonald (1997:10-11) as cited in Malan (2000), stated that a Competency-based education is based on six critical components as follows:

1. Specific learning outcomes with regard to the necessary skills and proficiency
2. Standards for Assessment
3. A flexible time frame to master these skills
4. Diverse pedagogical activities to facilitate learning
5. Evaluation based on criteria of the required outcomes
6. Certification based on the demonstrated achievement of objectives
7. Flexible programmes to ensure optimum learner guidance

2.4 The STCW Convention, 1978, as amended and the OBE

The International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), 1978, as amended, is one of the most important developments in the evolution of the maritime education system, and its adoption was one of the most crucial steps along the path (Lušić, et al., 2019).

In addition, the STCW Convention, 1978, as amended, intended to determine mandatory minimum standards for levels by defining competences as outcomes of the expertise and training. In addition to this, it established obligatory minimum requirements to be met, with the goal of ensuring that maritime workers kept their level of expertise and continued to improve their knowledge (Manuel & Baumler, 2020).

Relative to this, the table of competences in the STCW Convention functions as a reference guide for the Maritime Education and Training in developing their curriculum, while in the case of the Philippines, the OBE approach is utilized to achieve the desired results, namely seafarer competence.

2.5 The Philippine MET System

In the Philippines, many higher education institutions have moved their attention and efforts to the implementation of the OBE system at the school level. This is because of the need to standardize education systems and procedures (Macayan, 2017). In the same way, the CHED in the Philippines supported this shift from a teaching- or instruction-centered model to a learner- or student-centered model in higher education, where course content is created based on learning results. The expected outcome of higher education programs is the development of learning competencies (Castillo, 2014). Relative to this, CHED even issued a Memorandum Order (CMO No. 46, s. 2012) entitled "Policy- Standard to enhance quality assurance in Philippine Higher Education through an Outcomes-Based and Typology-Based QA" to emphasize the need for the implementation of OBE (Macayan, 2017).

It was also given emphasis by Roxas (2018), that in order to cultivate proficient seafarers and remain competitive on the global stage, CHED and MARINA have

enforced the adoption of OBE across all maritime institutions. The aforementioned framework is comprised of competency-based assessment learning standards and outcomes-based quality assurance monitoring and evaluation, as outlined in CHED Memorandum Circular (CMO) No. 46, s. 2012. This novel system is purported to possess the capability to enhance the competence of future seafarers or students in accordance with the requirements set forth by the STCW Convention. Then after, MHEIs have been adopting the OBE system to transform their curriculum.

Chapter 3. Research Methodology

This Chapter outlines the methodology applied in this study. As can be recalled, this study aims to investigate the Outcomes-Based Education by looking at the OBE principles using MET system. Furthermore, it seeks to explore the OBE and role in the MET system and to investigate how it is applied in the MET system. In this context, the researcher posed the subsequent research questions:

1. What is the role and significance of OBE in the current education systems?
2. What are the main characteristics of OBE as applied in MET?
3. How and to what extent OBE principles are reflected in MET curricula in the Philippines?

3.1 Methodological Rationale and Process

The researcher employed a qualitative research methodology that is in aligned with the research objectives. Creswell (2012) asserts that an essential attribute of a qualitative research design involves actively engaging in an inquiry with the objective of cultivating a comprehensive understanding of a significant phenomenon.

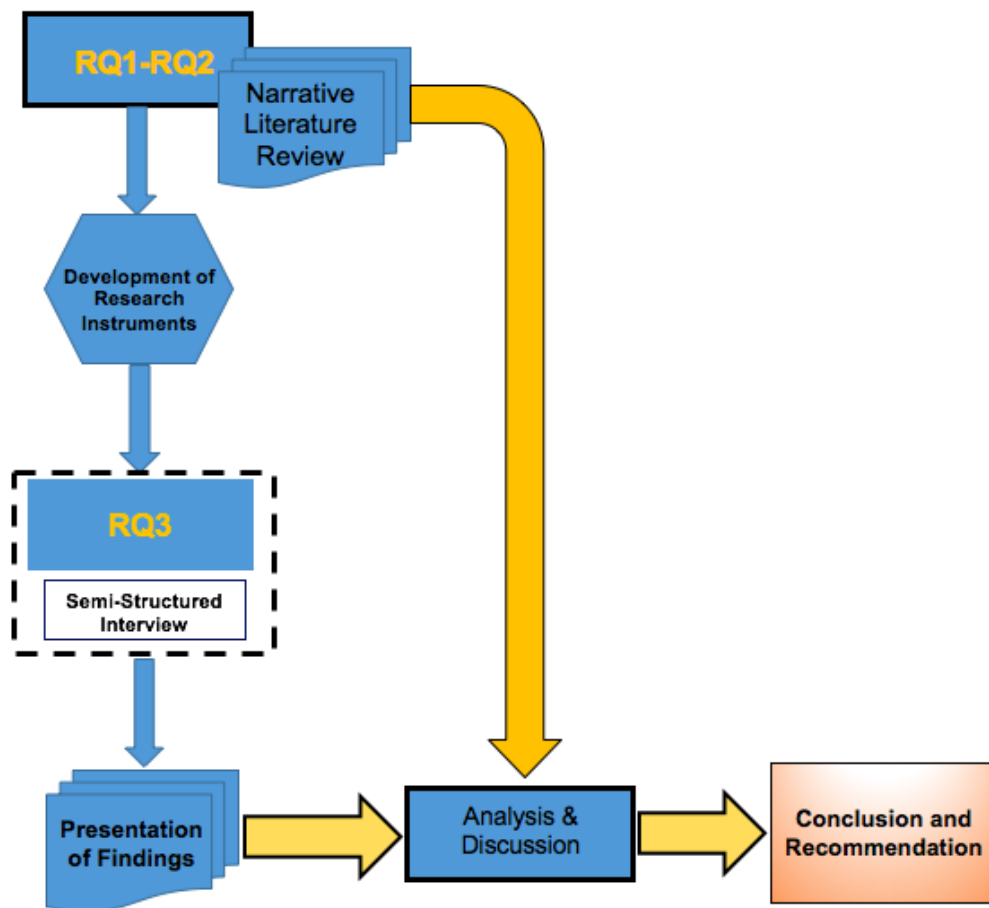
The initial phase of the research employed a narrative literature review to investigate research questions 1 and 2. A narrative literature review is one of the most common forms of literature reviews used in academic research Hartika et al. (2023). Consequently, this research method uses less formal ways to organize and analyze the literature, but it has a better chance of giving readers a broad overview and up-to-date information about a research area related to the topic Dixon-Woods et al. (2005) as cited in Saz-Gil et al. (2021). Further, this form of analysis can be beneficial for recognizing themes, theoretical perspectives, or common concerns within a certain research discipline or methodology or for identifying components of a theoretical notion (Ward, House, & Hamer, 2009 as cited in Snyder, 2019). Moreover, this phase of the study aims to provide valuable insights into the significance of outcomes-based education and its integration in the various education system and in MET.

In the next stage of this research study, the researcher employed a semi-structured interview to address research question number 3. According Doody & Noonan (2013)

as cited in Griffée (2005) in qualitative research, interviews are commonly employed as a means of data collection due to their perceived ability to facilitate natural conversation and the participants' freedom to respond in their own words. Shown below on Figure 2, is the methodological approach to this research study which illustrates the whole process from the narrative literature reviews, semi-structured interview analysis, interpretation of data and arriving into conclusion and recommendation.

Figure 2

Methodological Research Study Approach



3.2 Selection of participants

The researcher employed purposive sampling to determine the respondents of the study. The Purposive sampling according to Creswell (2014) is commonly employed method in qualitative data collecting, wherein individuals are deliberately picked based on their direct experience with the key phenomenon under investigation.

In this research, the representatives of the nine (9) MHEIs were interviewed. They represent all of the three (3) regions of the Philippines. Seven (7) MHEIs came from Luzon, one (1) MHEI came from Visayas and another one (1) MHEI from Mindanao. Likewise, the nine MHEIs are composed of government owned and privately owned institutions which are all offering the BSMT Programme. Further, to enhance the validity and reliability of the interviews, Table 1 outlines the overall characteristics of the nine MHEI's without exposing their particular identify in order to maintain their anonymity. Moreover, for purposes of this study, the researcher has assigned the name of the MHEI's as MHEI 1, 2, 3, 4, 5, 6, 7, 8, and 9 respectively.

Table 1

Profile of the Interviewees

Assigned Fictitious Name	Participants Profile
MHEI 1	<ul style="list-style-type: none">• A Curriculum Developer• Involved in the development of the course syllabus as well as instructional materials• Belongs to a private institution
MHEI 2	<ul style="list-style-type: none">• Assigned at the Administration Office• A concurrent Head of Deck Department• Belongs to a private institution
MHEI 3	<ul style="list-style-type: none">• Dean of the College of Maritime, which directly oversees the entire maritime programme in the institution

Assigned Fictitious Name	Participants Profile
	<ul style="list-style-type: none"> • Assigned to ensure the implementation of the OBE in their institution • Belongs to a private institution
MHEI 4	<ul style="list-style-type: none"> • Assigned as Academic Coordinator which is responsible for the delivery, maintenance and development of assigned programme of instruction and courses of study and sets the criteria for satisfactory performance of the BSMT programme • Belongs to a private institution
MHEI 5	<ul style="list-style-type: none"> • An Onboard Training Supervisor, in-charge with regards to the deployment to their cadets for the mandatory onboard training • Belongs to a private owned institution
MHEI 6	<ul style="list-style-type: none"> • Assistant Superintendent for Academics of Training, Research and Extension Services (VP Academics) • Belongs to a government owned institution
MHEI 7	<ul style="list-style-type: none"> • Department Head of the BSMT Programme • Belongs to private owned institution
MHEI 8	<ul style="list-style-type: none"> • Administrator of the entire institution • Belongs to a private owned institution
MHEI 9	<ul style="list-style-type: none"> • Department Head who is primarily in charge of the BS in Marine Transportation program • Concurrently assigned as the Programme Chair, with the primary role of ensuring that

Assigned Fictitious Name	Participants Profile
	<p>the programme is implemented according to the requirements of the statutory bodies</p> <ul style="list-style-type: none"> • Belongs to a private owned institution

Finally, the abovementioned MHEIs represent direct involvement in the BSMT programme of their respective institutions. In similar, the interviewees have direct participation in the development and implementation of the BSMT programme. All of the interviews were held online using the Zoom Video Conferencing.

3.3 Instrumentation and Data Collection

3.3.1 Narrative Literature Review

The Figure 3 illustrates the phases on the process conducted for the narrative literature review as adopted from Snyder (2019). Consequently, below are the following the steps being done during the conduct of the narrative literature review:

Phase 1: Design the review. Considering the nature of this research topic which has numerous amount data from the previous researches, the researcher has identified what are the basic and fundamental concept of OBE in a wide perspective.

Phase 2: Determine the approach. On this phase, the researcher has already set the inclusion and inclusion by in consideration of its research aims and objectives and research questions. By doing so, the researcher considered to select in the research that describes the significance and role of OBE in the current education systems and the characteristics of OBE in education as applied in MET.

Phase 3: Conducting the review. In this part the researcher, search in the google scholar, Scopus and WMU library portal on the related journal and articles taken into account the parameters set in the phase 2 of the review.

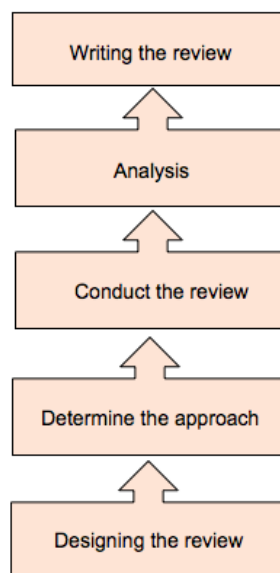
Phase 4: Analysis. In this part, the researcher extracted the needed data from the collected journal articles and then after summarized and tabulated them in a table.

The results of the narrative literature review on role and significance of OBE in the current education systems is attached as Appendix A, while the result of the narrative literature review on the characteristics of OBE in Education as applied in MET is attached as Appendix B.

Phase 5: Writing the review. Finally, after tabulating and organizing the data gathered the researcher presented the significance and role of OBE in the current education systems and the characteristics of OBE in Education as applied in MET through illustrations as discuss in the next Chapters 4.1.1 and 4.1.2.

Figure 3

Process of Conducting Narrative Literature Review



Note. Adapted from “Literature review as a research methodology: An overview and guidelines” by Snyder, H., 2019, *Journal of Business Research*.

3.3.2 Semi-Structured interview

The researcher used interview to collect data in order to seek answer for research question 3. The respondents were selected based on the following criteria:

- Recognized MHEI in the Philippines;
- Offers Maritime Course, BSMT programme in particular; and
- In-charge on the implementation of the BSMT programme (e.g instructors,

curriculum developers, Head of the faculty in Maritime)

A semi-structured interview instrument was composed of Part A and Part B (see Appendix C). The questions in the interview guide targeted to gather data on how and to what extent the OBE principles are reflected in the MET curricula in the Philippines.

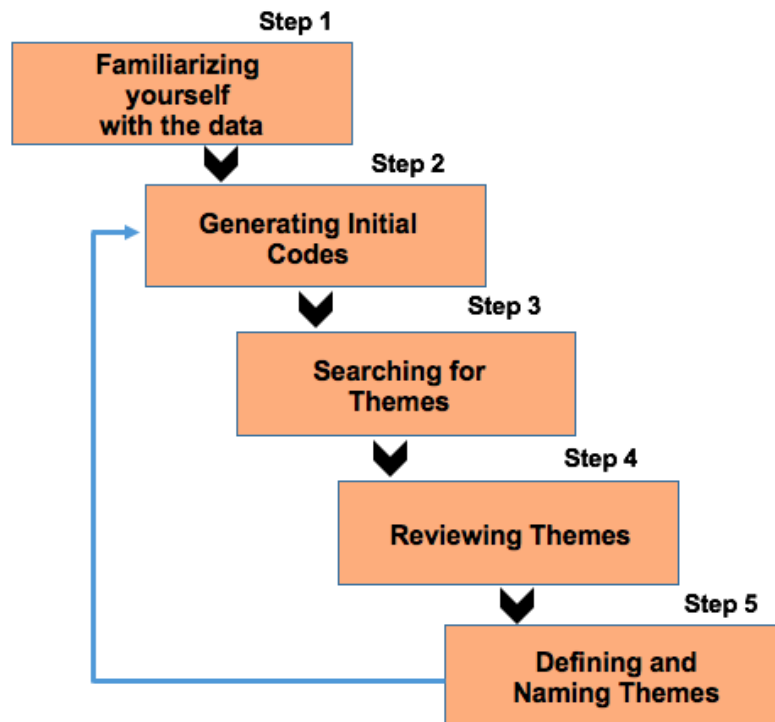
The interview recordings were transcribed by using an open-source program Whisper (Openai, 2023), which was executed within the “Google Colab” environment. Furthermore, interviews conducted in languages other than English were translated into English using the aforementioned program. Subsequently, the transcribed and translated interviews were imported into Microsoft Excel for the purpose of conducting qualitative analysis.

Further, in order to facilitate the analysis of the results of the semi-structured interview, the researcher have analyzed the gathered data using content and thematic analysis. Thematic analysis according to Braun & Clarke (2006) as cited in Kiger & Varpio (2020) is a method to examine qualitative data that comprises searching over a data collection to identify, analyze, and report recurrent patterns. In addition, one notable characteristic of thematic analysis is its inherent adaptability, allowing it to be utilized across many theoretical and epistemological frameworks, as well as being applicable to a diverse array of research inquiries, designs, and sample sizes. On the other hand, content analysis is a research methodology that focuses on the subjective interpretation of textual material. It involves a systematic procedure of coding and detecting themes or patterns within the content (Hsieh & Shannon, 2005). Similarly, according to Mayring (2000), this study employs an empirical and methodological approach to conduct controlled analysis of texts within the context of communication. It adheres to content analytic norms and follows step-by-step models, while refraining from hasty quantification. The use of content analysis as explained by Columbia University Mailman School of Public Health (2016) is it involves the identification of the intentions, focus, or communication trends exhibited by an individual, organization, or institution, while its advantage is this technique becomes significantly more potent, when utilized in combination with other research methodologies such as interviews, observation, and the utilization of archival records. Below Figure 4 as adopted from Kiger & Varpio (2020), illustrates the step by step process in conducting

the thematic analysis.

Figure 4

Step by step process in conducting the Thematic Analysis



Note. Adapted from Thematic analysis of qualitative data: AMEE Guide No. 131 by Kiger, M. E. and Varpio, L., 2020, *Medical Teacher*, (<https://10.1080/0142159X.2020.1755030>).

Moreover, both the inductive and deductive techniques were utilized. This flexibility allows the researcher to identify other themes and codes as well as some answers were associated with two or more codes. In deductive analysis the pre-identified overarching themes that were used are “input”, “process” and “output”. Thereafter, during the analysis sub-themes were identified and coded accordingly. The result of which are presented in Chapter 4.2.1, 4.2.2, 4.2.3 and 4.2.4. On the other hand, in inductive analysis, the researcher was able to identify other emerging themes and codes which are presented in Chapter 4.2.5.

3.4 Ethical consideration

Ethical concerns are of paramount importance in the data gathering process including handling with the secondary data sources of research. Therefore, the researcher abides by the criteria set forth by the World Maritime University (WMU) Research and Ethics Committee (REC) in order to conduct this study. The researcher adheres to a set of processes in order to ensure ethical considerations are followed during the study process.

- Obtaining approval from the WMU Research and Ethics Committee following the submission of the interview questions and draft research proposal.
- Informing the participant about the consent process for the conducted interview by providing them with the consent form from the REC.
- Ensuring that the participants are informed about the principles of anonymity, confidentiality, and data privacy pertaining to the MHEI's both during and after the interview.
- Maintaining a high level of professionalism during the interview to minimize bias and misinterpretation of data.

Chapter 4. Research Findings

This chapter provides two separate components, the results of the narrative literature review pertaining to research questions 1 and 2, and the the outcomes of the semi-structured interviews carried out with the nine MHEIs to address the research question 3.

4.1 Narrative Literature review results

4.1.1 Role and Significance of OBE in the current education systems

To ensure a concise and clear presentation of the findings derived from the narrative literature review, the researcher has devised a visual representation in Figure 5 below elucidating the role and significance of OBE within the current educational framework. This statement is based on the results of researchers who have conducted studies on OBE.

Basing on the above illustration, the role of the OBE in the education system serves as a core component which can be delineated as follows:

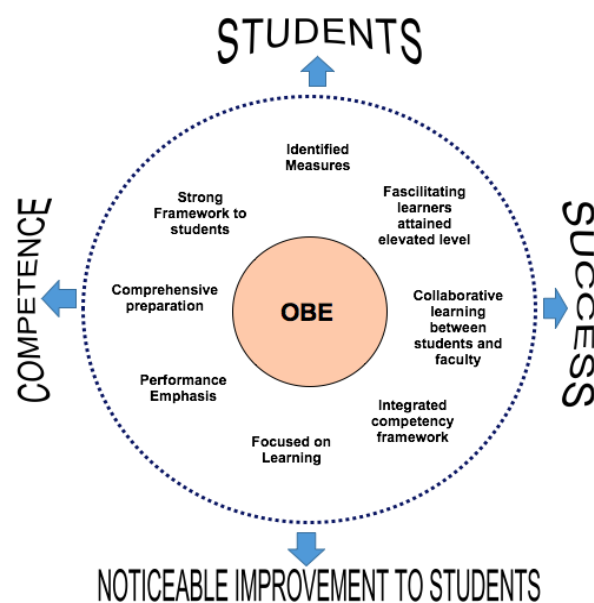
- Identified measures;
- Facilitating learners attained elevated level;
- Collaborative learning between students and faculty;
- Provides integrated competency framework; and
- Focused on learning;
- Performance emphasis;
- Comprehensive preparation; and
- Provides strong framework to students

In addition, as can be gleaned in Chapter 2 of this research study, McNeir (1993) gives emphasis that the OBE programme is based on a fixed of wide-ranging, aspirational aims designed to prepare learners for successful careers after education. Built on the principle of *"success for all students"*, OBE aims to enhance methods in which only a small percentage of students typically excel. Thus, *"students"*, *"success"*, *"noticeable improvement to students"*, and *"competence"* as depicted in Figure 5 informs the significance of the OBE in the education system.

Moreover, the aforementioned terms used in this figure are conceptualized by the researcher which taken into account the description of the role and significance of the OBE in the current education system by its corresponding authors (see Appendix A) and as discussed in the previous chapter 2.

Figure 5

Role and Significance of OBE in the current education systems

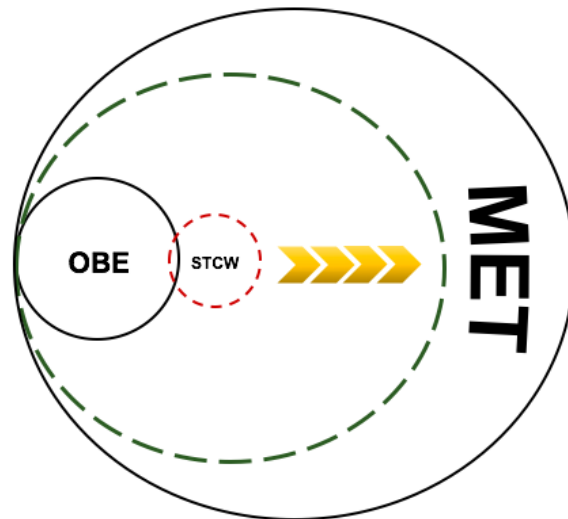


4.1.2 Main Characteristic of OBE as applied in MET

As can be gleaned in Appendix B, the researcher describes the characteristics of OBE as applied in MET through illustration below Figure 6. This presents the attributes of OBE within the educational system. Similarly, the OBE serves as the basis in terms of pedagogical and for developing institutional programs that are in line with the convention's targets for maritime education. In addition, the STCW Convention and the National Regulatory requirements serve as the administrative and legal framework for the implementation of Maritime Education, as discussed in Chapter 1 of this study. Moreover, the Maritime Education aligns itself with the requirements of the Convention by incorporating its principles into the education and training of seafarers.

Figure 6

Characteristic of OBE as applied in MET



4.2 Results of the Semi-structured interviews

Following the steps in conducting thematic analysis, the researcher defined and named the themes after transcribing the interview recording. In addition, the researcher has opted to utilize the Input-Process-Output (IPO) as a major theme and as a framework to effectively elucidate and portray its many stages. According to Bugin et al. (2021) in their study wherein they have discussed the IPO approach to modelling integration, that in order to carry out their comparative assessment, it was necessary to establish a comprehensive methodology for modeling integration. Integration is commonly recognized as a crucial aspect of interdisciplinary and has been extensively examined in various academic fields, such as philosophy of science, biology, education, cross-disciplinary theory, and organizational psychology. While the use of this model may not directly related to OBE, given the nature of the research question number 3, this model is deemed appropriate fit to present how and to what extent the OBE is reflected in the MET curricula in the Philippines.

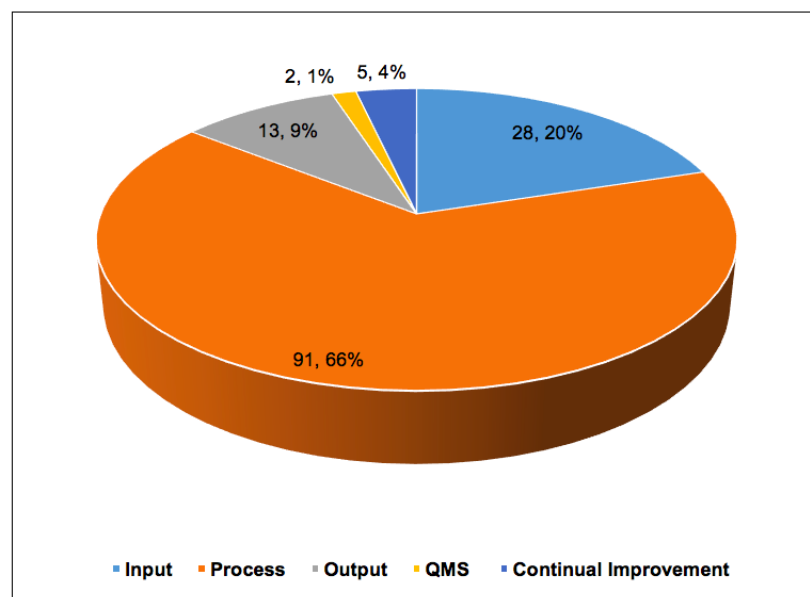
4.2.1 Main Themes Frequency from the Semi-Structured Interviews

Figure 7 describes the principal topics that have been determined from the results of the semi-structured interview. The researcher predetermined the theme of input,

output, and process based on the focus of research question number 3. This question investigates the extent to which OBE principles are reflected in the curricula of the Philippines' MET system. Based on the aforementioned findings, it has been ascertained that 28.20% of the interviewed MHEIs have engaged in discussions pertaining to the input of the implementation of the OBE inside their respective institutions. Moreover, an occurrence rate of 13.9% has been documented with regard to answers pertaining to the outcomes subsequent to the implementation of the OBE methodology within these educational establishments. Furthermore, it was observed during the interviews that there was a prevalence of 91.66% in terms of the frequency of conversations pertaining to the implementation process of the OBE in their respective educational establishments. Moreover, the Quality Management System (QMS) frequencies of 2.1% and 5.4% were discussed in relation to constant improvement during the interview.

Figure 7

Main Themes



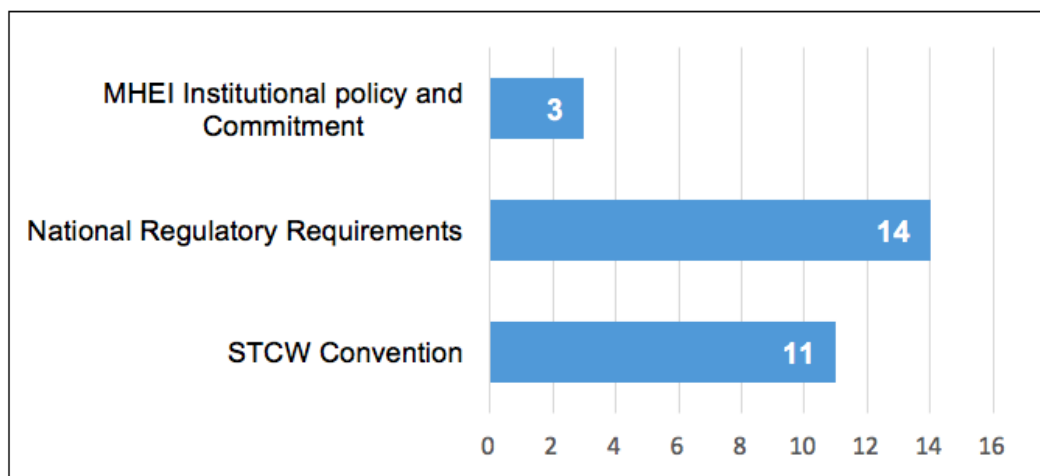
4.2.2 “Input” Theme Frequency

Based on the predetermined themes and overall themes, Figure 8 provides a detailed description of the "Input" category, which was coded by the researcher based on the responses from the 9 MHEIs. The STCW Convention was mentioned 11 times during the interviews, indicating its significance as an input factor. Similarly, the MHEIs

institutional policy and commitment were mentioned 3 times, highlighting their role in the input process for the implementation of OBE in the institution. Furthermore, the National Regulatory Requirements were mentioned 14 times during the interviews, indicating their substantial influence as an input factor.

Figure 8

Input Theme

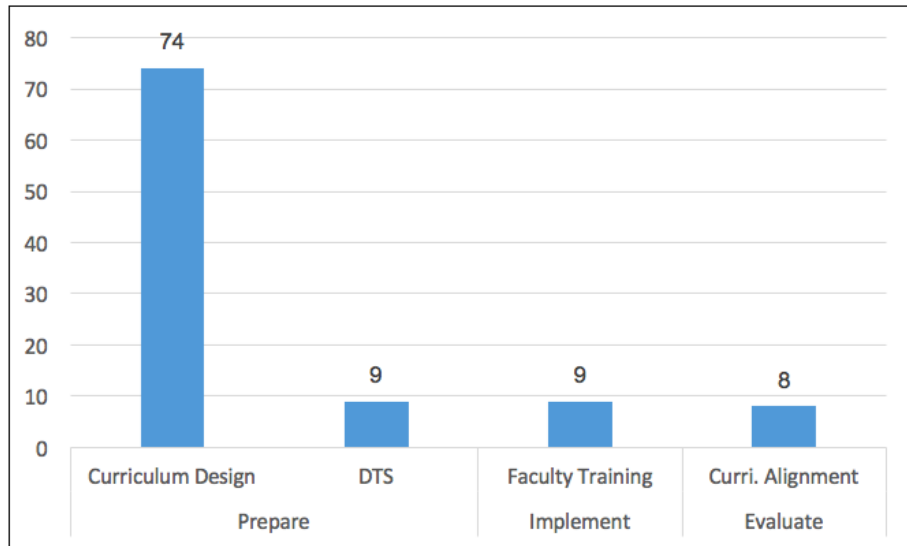


4.2.3 “Process” Theme Frequency

Figure 9 illustrates the dominant topic of "Process," as evidenced by the interview findings, which exhibit the highest frequency among all key themes. In accordance with this, the theme of "process" has been subdivided into three distinct sub-themes, namely: preparation; implementation; and evaluation. The "prepare" sub-theme, which encompasses curriculum design and detailed teaching syllabus, was mentioned 83 times in relation to the preparation aspect of the MHEI's implementation of the OBE. Similarly, faculty training was mentioned 9 times as a component of the implementation. In terms of evaluation, the curriculum alignment to the STCW and regulatory requirement was mentioned 9 times during the course of the interviews.

Figure 9

Process Theme



4.2.3.1 “Prepare” Theme Frequency

Given that study question number 3 specifically focuses on the application of OBE principles in the curricula of the MET program in the Philippines, it is important to highlight the findings of the components within the "Process" theme. This theme received significant attention and discussion during the interviews. The researcher shows Figure 10, exclusive for the sub-theme "prepare," displaying the identified codes and their respective frequencies.

.1a Learning outcomes- 26.35%

.2a Teaching and Learning Activities – 13.18%

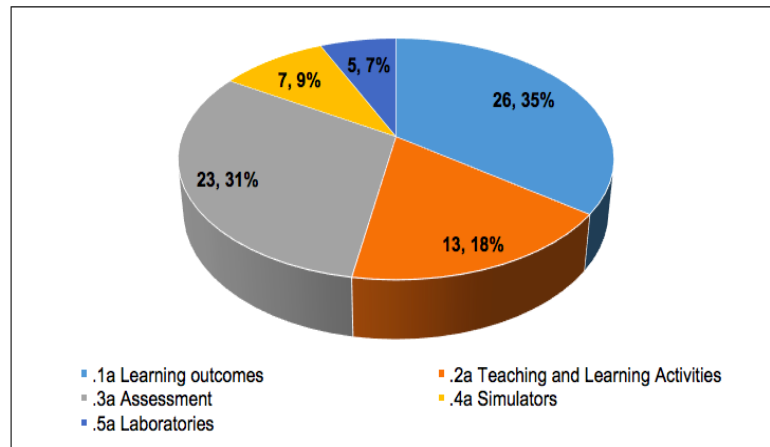
.3a Assessment – 23.31%

.4a Simulators – 7.9%

.5a Laboratories – 5.7

Figure 10

Prepare Theme

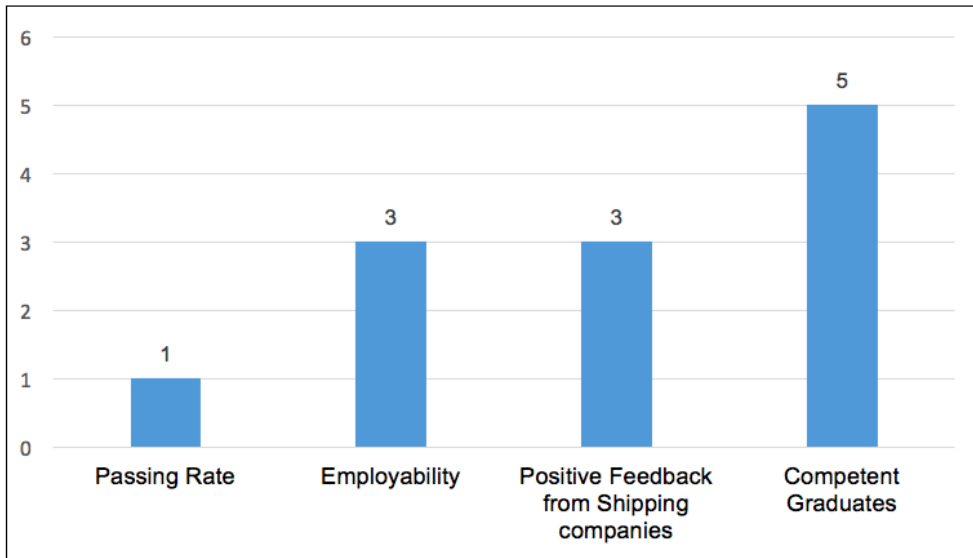


4.2.4 “Output” Theme Frequency

The diagram labeled as Figure 11 illustrates the theme of “Output” that was identified during the analysis of the semi-structured interview. The chart highlights the inclusion of many indicators, such as “passing rate”, “employability”, “positive feedback from shipping companies”, and “competent graduates”, as outcomes resulting from the implementation of the OBE approach within the MHEI system. During the course of the interviews conducted with MHEI's, many key findings emerged. Firstly, the passing rate was cited once, indicating its significance in assessing the academic performance of graduates. Secondly, employability was highlighted four times, suggesting its importance in gauging the success of graduates in securing employment opportunities. Additionally, the frequency of positive feedback from shipping businesses was noted three times, indicating the favorable perception of graduates by industry professionals. Lastly, the term "competent graduates" was stated five times, underscoring the emphasis placed on producing highly skilled individuals.

Figure 11

Output Theme

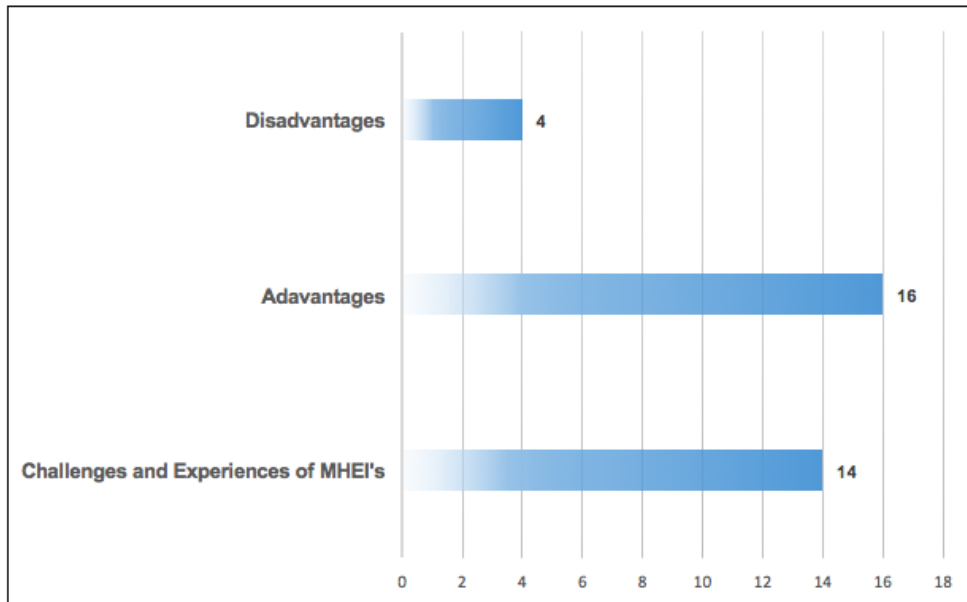


4.2.5 Other Identified Themes

In Figure 12, various themes have been identified. The researcher categorized the codes into four distinct categories: disadvantages, advantages, challenges, and experiences of MHEIs. These categorizations are based on the answers provided by the MHEIs as well as additional remarks they have made. The analysis reveals that the MHEIs' perspective on the application of OBE has resulted in the identification of four disadvantages, whereas the advantages have been mentioned 16 times during the interview. The feedback received regarding the institution's implementation of the OBE approach has been predominantly positive and commendable. Conversely, the frequency of 14 instances has been noted in regards to the discussion of challenges and experiences associated with the integration of OBE into the existing system.

Figure 12

Emerging Themes

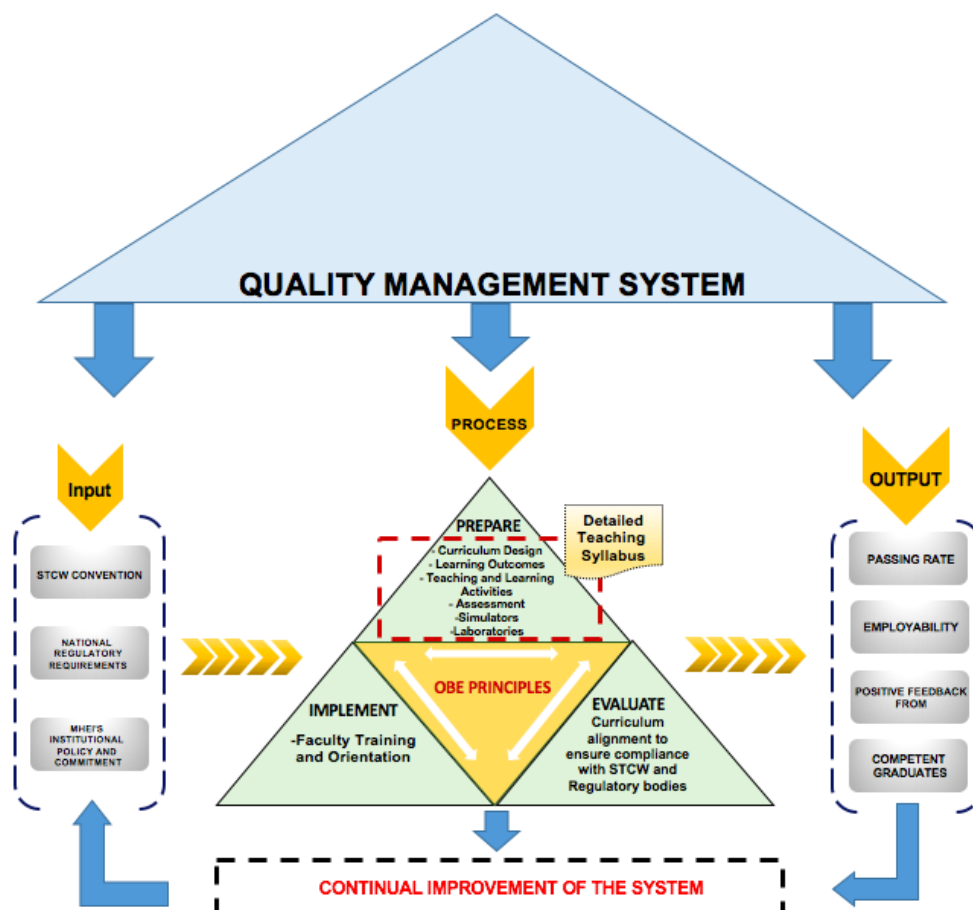


Chapter 5. Analysis and Discussions

This Chapter presents the analysis and discussion of the overall visualization on how and to what extent the OBE principles are reflected in the Philippine MET curricula.

To effectively communicate the findings pertaining to research question number 3, the researcher employed Figure 13 *Process Map* with respect to the IPO model to visually represent the manner in which the concepts of OBE are manifested in the curricula of the MET in the Philippines.

Figure 13
Process Map



5.1 Input

The term “Input” as identified as main themes in the result of the semi-structure interview to the MHEIs, is considered as the factors involve prior that the MHEI’s implements OBE principles in their respected institutions, which taken into account the following as codes identified below during the interview:

5.1.1 STCW Convention

As can be gleaned on the discussion on the previous chapter 1 and 2, the STCW Convention partakes a big role in the creation of educational instruments for the maritime education, MHEI 1 have mentioned during the interview *“wherein in the development of their coarse outcomes is based on the KUP’s of the STCW, thus the performance criteria are already established in the STCW Convention”*. In addition, they also reiterated that *“the STCW table of competences already provided criteria”*. Further, MHEI 4 also mentioned that *“in the implementation and in applying OBE they have been complying the International standards which is the STCW, and that they are extracting the table from STCW into their detailed teaching syllabus”*. Moreover, MHEI 6 have discuss *“that per course they will be addressing a competence identified from the STCW Convention”*. MHEI 9 described competence based on the STCW Convention and commented that it is easier to achieve the requirements of the STCW Convention with the use of OBE.

5.1.2 National Regulatory Requirements

During the interview about the implementation of the OBE principles in the Philippines, it was found that the regulatory bodies partake the huge part prior to its implementation to the maritime higher institutions. It was mentioned by MHEI 1 that the Administration is already providing the course packages, program outcomes and the basic materials for the curriculum. Specifically, MHEI 1 highlighted that the *“Administration is providing the basic structure for that and the school will work on what the Administration has provided”*. Similarly, MHEI 2 also mentioned that *“the subject syllabus are given by the Joint CHED and MARINA”*, including MHEI 4 which stated that *“in the implementation or applying OBE, they are following he educational approach that is mandated by the regulating body for the maritime education, in*

addition the course specification came from the JCMC". MHEI 6 also stated "that their institutions adopt the issuance from what is prescribe by the administration". In addition, MHEI 7, also mentioned that they are currently implementing the JCMC 2022. They also reiterated that the "course package, learning outcomes, it all came from CHED. MHEI, most likely, unlike other courses, the CHED-MARINA are the ones providing you the learning outcomes. If this is what CHED-MARINA wants, these are the outcomes that we need".

5.1.3 MHEI's Institutional Policy and Commitment

Derive from the above discussion on the National Regulatory Requirements, the researcher identified codes which are MHEIs Institutional Policy and Commitment, that was mentioned by MHEI 1, that their institution will work on what is the administration has prescribed also, they have been committed to modernized topics, competencies, the KUP's leading to the advanced skills of their students. In connection to this, MHEI 4 mentioned also that on the preparation of OBE, they have aligned all their strategies, processes, and means to achieve the goals they have set. They also mentioned that *"in developing and implementing OBE in their institutions, there are a lot of considerations, especially the readiness of our faculty, the resources, facilities, the quality system, procedures, pedagogy, and assessment practices"*.

5.2 Process

In the realization of the identified "input" as one of the factors in view of the implementation of the OBE in the Philippines, the "process" theme has determined with respect to the IPO model that the researcher has used as reference to present the phases. In this regard the researcher has divided the "process" theme into three (3) sub-themes such as "prepare", "implement" and "evaluate which taken into account from the responses of the interviewed MHEIs.

5.2.1 Prepare

As illustrated in Figure 13, one of its component is the "prepare" sub-theme which involved "curriculum design" and "detailed teaching syllabus". These codes are identified during the conduct of thematic analysis. In addition, the "prepare" theme refers to how the MHEIs have undergone the process involving in their curriculum

design and the document detailed teaching syllabus having in mind the OBE principles as their approach used.

Curriculum Design

Taking into account the OBE principles as approach in the curriculum design, the processes of the MHEIs involve in this phase are as follows:

- a. **Learning Outcomes (LO).** During the conduct of the interview, nine (9) of the MHEIs have mentioned on developing of learning outcomes as part of their curriculum design. MHEI 1 highlighted that based from the provided course outcomes and program outcomes by the Administration, their institutions design the learning outcomes to cater and support both of their program and course outcomes. Meanwhile, MHEI 2 acknowledged that in developing this BSMT program using the OBE principles transpose into learning outcome in every major subject syllabus, taken into account the clarity of focus, expanded opportunity and all other OBE principles. MHEI 6 also discussed that the first level in developing their curriculum in their institution is developing their learning outcomes that will address the competence identified from the STCW Convention.
- b. **Teaching and Learning Activities (TLA).** This identified code have been in common to every nine (9) MHEIs same as the above learning outcomes. Taken from the interview response of MHEI 9, it was mentioned that they have prepared several teaching and learning activities provided for the students to realize the OBE principles. Also, MHEI 7 stated that *“if you want to implement the outcome-based education, you need to specifically state there the activities of students”*. Consequently, MHEI 4 conveyed on how to achieve the course outcomes in terms of their teaching activity and their learning activity, similarly, MHEI 2 mentioned that *“the variety of teaching and learning activities to encourage students to submit, innovate, create new ideas, diagnose problems, and solve them”*. MHEI 1 gave emphasis that the teaching and learning activities will also be based on how you will be attaining the learning outcomes.
- c. **Assessment.** *“For emphasized high success expectations for students, the*

assessment takes a vital part, since the assessment is a specific indicator for and OBE approach, since the assessment will determine the success of the programme”, this response came from MHEI 1, that describes assessment as part of consideration when you adopt OBE approach. In similar, MHEI 2 also described *“OBE or outcome-based education, is a student-centric learning model that helps teachers to plan the course delivery and assessment with the end point in mind”*. MHEI 3 specified that in developing the OBE for the BSMT, it involves a total process of curriculum design including assessment strategies, this was also agreed by the response taken from MHEI 4, 5, 6, 7, 8 and 9 that in their institutions in considering OBE approach the need to prepare assessment as part of the measurement of what the students learned at the end of each topic or course.

- d. **Simulators and Laboratories.** The simulators and laboratories play a vital role in the overall outcomes pertaining to the BSMT programme, one of the interviewed MHEI have mentioned that one of the tools as used to measure the outcome of the students are through simulations. MHEI 3 discussed that after they mapped out the curriculum they will determine where and how its outcomes will be addressed and that part of which are done in the simulator. They gave example that the simulator activities can be easy to track and verify by the regulating body since it was computer recorded so they can ensure that students attain the learning outcomes and competence prescribe. Further, MHEI 5 made comments that *“as part of the preparation, they heavily focus on the improvement of our laboratory facilities, particularly the simulators. So they will have to increase the number of our simulators inside the campus to facilitate the outcomes based education system”*. Moreover, MHEI 6 expressed their thoughts that *“in facilitating the OBE principles demonstrated seen benefits such as in laboratory exercises, simulation, using technology, the generation of our learners enjoys it. So they are highly motivated and inspired with the introduction of technology, allowing them to explore what they can develop for their own professional skills and competence”*. MHEI 7, also made response that when it comes to laboratories, they have considered that is in aligned with OBE principles approach.

Detailed Teaching Syllabus

The learning outcomes, teaching learning activities, assessment, simulators and laboratories are reflected in the detailed teaching syllabus as confirmed and informed by 9 MHEIs during the interview.

5.2.2 Implement

Considering that the MHEIs have completed the phase of curriculum design, the implementation phase follows wherein, according to all nine (9) interviewed MHEIs which dominant on the implementation phase are faculty training and orientation. One of the comments from the MHEI is *“the instructors including dean has to get on board, because they will play a very critical component of the implementation of the OBE, everyone especially the instructors has to be in line in order to have synchronized outcome as set”*. Also, one response from the MHEI identified that *“teachers need to learn new skills in order to successfully incorporate OBE into their own classroom, and this can only be done through courses and trainings”*. *“faculty development”* has also been mentioned by the one of respondent which involves in developing OBE approach from BSMT programme.

5.2.3 Evaluate

During the course of the interview, MHEIs tackled up on topic where they have discussed the curriculum alignment which is in connection with STCW Convention and to requirement sets by the regulatory bodies. In line with this, the researcher has determined this as part under the theme evaluate, which giving to the comment of MHEI 2 *“the outcomes-based education must involve several steps and considerations to ensure that it's successful integration into their institution curriculum will be implemented. Thus, outcomes-based education focuses on defining specific learning outcomes and aligning teaching assessment and evaluation strategies”*. Also, one of MHEIs cited that *“when it comes to audit and inspections, the OBE is far better compared to the previous implementation teacher-centered because everything is well documented”*. In addition, MHEI 9 discussed about the constructive alignment of every aspect of their program outcome, course outcomes, learning outcomes including its assessment to ensure that they are not deviating from the

standards and the requirements set by the regulating bodies, and in order to attain and realize what they want to achieve to their students.

5.3 Output

The researcher considered this theme along with the main concept of the OBE which is the outcomes. This theme basically envisions the result of adopting the OBE approach into the educational system. As can be identified in the process map the “output” theme resulted into four (4) identified codes which are *“passing rate”*, *“employability”*, *“positive feedback from the employers”*, *“competent graduates”*.

Further, it is noteworthy to note, as discussed in Chapter 2, according to Spady and Marshal (1991) as cited in Castillo (2014) that in order to achieve the elements of the OBE they have developed its principles and one of these four principles is *“provide increased opportunity and support for academic achievement”*. Similarly, this has been taken into account by the MHEIs in the Philippines upon their preparation of their detailed teaching syllabus, while having in mind the results or output of their students upon completion of the BSMT programme.

5.3.1 Passing Rate

MHEI 1 expressed their thoughts that after adopting OBE approach into their system, they have in mind that ultimately that success will translate to the passing rate and the licensure of the students. Having said this, as can be recalled in chapter 2, OBE as an alternative model to education according to Kennedy (n.d) focuses on the students’ expected abilities upon completion of the module or programme.

5.3.2 Employability

The following comments are quotations from the MHEI's who were interviewed. They have shared their perspectives regarding the outcomes noticed after implementing Outcome-Based Education (OBE) as a transformative method in their educational institutions.

MHEI 5: *“one very obvious effect is the increase in our deployment percentage, specifically deployment abroad compared to several years before. So there is a*

consistent increase year by year in our deployment”.

MHEI 6: *“In terms of emphasized success to everyone their institutions have grow partnerships with shipping companies, and their graduates have the assurance that they can be employed right after completing the program”. “Aside from the merchant vessels, there graduates were also commissioned in different government military and police offices”.*

5.3.3 Positive Feedback from the employers

Below are the responses from MHEIs which expressed their thoughts pertaining to good feedback from the employers which their graduates have been employed.

MHEI 5: *“the obvious effect is the general feedback of our partner’s companies abroad. So feedback about our cadets’ performance during their on-board training”.*

MHEI 7: *“the feedback is very good, the attention rate is very high, so the feedback from the shipping company are very good”.*

5.3.4 Competent Graduates

In addition to the examination success rate, employment prospects, and favourable assessments from employers, the following are responses from MHEIs about the acquisition of relevant skills following the completion of the BSMT degree program.

MHEI 6: *“We have produce a qualified and competent marine officers capable to serve in the merchant marine vessels”.*

MHEI 7: *“Students, the products, they are the products of OBE. Well they can, you know, they know what to do, they have critical thinking on how to do things”.*

Consistent with the aforementioned feedback from the MHEIs regarding the development of competent graduates, it is pertinent to revisit Chapter 2 of this study, wherein Roxas (2018) highlighted that the CHED and the MARINA have implemented the integration of OBE in all maritime institutions. This initiative aims to foster the growth of skilled seafarers and maintain competitiveness in the global stage.

5.4 Quality Management System (QMS)

The establishment and effective implementation of a quality management system has been one of the key areas that the regulatory bodies in the Philippines requires to every recognized MHEIs (CHED, 2023b). In this regard, during the interview, MHEI have mentioned that *“in developing and implementing OBE in our school, there are so many considerations, especially the readiness of our faculty, the resources, facilities, the quality system, procedures, pedagogy, and assessment practices”*. Thus, this response from the MHEI, describes that the establishment of a quality management system in educational institutions functions as a comprehensive framework. It allows the MHEI to build standardized processes and quality procedures, which in turn facilitate consistent practices throughout their systems.

5.5 Continual Improvement

Two of the MHEIs have mentioned the continual improvement. Like many other systems, MHEI 2 emphasized that *“our department sees this as a strength as it provides continuity between undergraduates, postgraduates, and continuing education. So for those who would like to continue the graduate school, we find this as a continual improvement”*. Consequently, they have seen a continual improvement, in terms of their instructors since most of them are not inclined in academia their background is seafaring. Similar to this, MHEI 8 mentioned that *“This Spady’s OBE principles are implemented in our core values and in the core competences of our students. In the classrooms, of course, it comes to our course delivery, assessment and evaluation, and a continuous improvement”*.

5.6 Other identified themes

Through using the method of inductive thematic analysis as describe in Chapter 3, wherein predefined themes were not imposed, a total of four salient themes were identified during the analysis. These themes encompassed the advantages, disadvantages, challenges, and experiences of MHEIs, below are some of the comments raised during the interview:

5.6.1 Advantages

According to the findings of the interview, educational institutions have also highlighted the benefits associated with the implementation of OBE. The advantages identified in the responses below pertain to the suitability of implementing OBE in the Maritime field, particularly in relation to the STCW Convention. These advantages include providing students with feedback on their performance outcomes, the flexibility of teaching and learning styles associated with OBE, and the provision of clear outcomes at the outset of each lesson.

MHEI 1: *“It is very beneficial, especially for the program of BSMT and BSMarE because if you will look at the STCW, STCW tables II/1, II/2, III/1, III/2, there are series of like a checklist of skills that a particular seafarer should be able to do. So that is a very straightforward approach. So taking those skills, making those a checklist, and basing your curriculum on those checklists, at the end of the program, the student should be able to do competence 1 up to competence 16 of the STCW table. That is a very straightforward approach and a very effective approach because you have already your endgame in mind”. “It is very specialized on seafarers because again in the institution, the OBE is very beneficial and is very catered to a practical approach because in OBE, there are a series of tasks that the students should be able to do. And that is what seafarers is all about”.*

MHEI 2: *“This is advantageous because it gives teachers the feedback on the students' performance for them to know their strong and weak points during the laboratories. And then rubrics were associated as well to assess the degree of learning that has taken place in the given course, particularly in essay type. Same thing, evaluation of the students' performance based on the outcome that they are required to demonstrate. And one thing more, the variety of teaching and learning activities to encourage students to submit, innovate, create new ideas, diagnose problems, and solve them like what we are doing in our simulation right now”.*

“Some of the benefits I can have from OBE is its flexibility. Once we use the outcome-based education, it does not specify a definite method of teaching, since the instructors can structure the curriculum by themselves. I mean, of course, in alignment

with the learning outcome. So the students need and can alter it based on the assessments, which helps students to accomplish the learning outcomes. First, the flexibility. Another is the transparency, which are applicable for both the students and the instructor. So the students will know what to expect from the course and the instructor knows what to deliver or demonstrate through the course structure”.

MHEI 3: “Yes, it benefits a lot, not only for the students, because for the students, it is very clear in the OBE that the learning outcomes is already there and the students will know what they will learn at the end of the course. So for the, not only for the students, but also for the industry. So the OBE ensures that the learning outcomes of the BSMT program are directly aligned with the skills and competencies required in the maritime industry. And also for the OBE, it also allows for flexibility on how the students achieve the learning outcomes. So enabling them to take ownership of their actions of their learning. So they can explore the interest and strength while they are using this OBE”.

“In the implementation of this OBE. It is a good tool for teaching because in the OBE, all the topics is already there. The learning outcomes, the assessment tools. So it's all there in the OBE. So the implementation of these outcomes based in maritime education really holds a significant potential to improve the OBE. To enhance the quality of education and produce graduates who are well prepared for their careers in the maritime industry”

MHEI 4: “it brings clarity to the teachers and students, because if we have OBE outcomes-based, there's a flexibility and freedom of learning in their ways. The teaching method is modifiable and this is more of performance-based”.

5.6.2 Disadvantages

Some disadvantages we're also mentioned by the respondents MHEI's such as the following:

MHEI 1: “There are also disadvantages to that because we are so very focused on the results, that is OBE, Outcomes Based Education, that we no longer linger on the process”.

MHEI 2: *“although to be honest, this is time consuming and we really have to exert effort about this one”*.

MHEI 3: *“The challenges in this implementing the OBE is first for the faculty. Because some of the faculty, most of the BMST faculty, we are not really an educator”*.

The primary disadvantages described by the MHEIs mentioned above pertain to their observations during the implementation of OBE in their respective institutions. MHEI 1 emphasized that OBE places greater emphasis on outcomes rather than the actual process itself. MHEI 2 highlighted the time-consuming nature of OBE and the significant efforts required by their institution to implement it. Additionally, MHEI expressed concerns regarding the pedagogical aspects of their instructors, many of whom have technical backgrounds, such as seafarers.

5.6.3 Challenges and experiences of MHEI’s

Challenges is inevitable. During the course of interview, one of the MHEIs expressed their comments on the challenge they have encountered due to resistance to change by their faculty.

MHEI 2: *“Although OBE is very advantageous, it is quite inevitable that we experience some kind of resistance. Yes, we have challenges. Like, for example, since we have existing faculties, which means we have these faculties for around five years or more, they already have a lot on their plates. Meaning, thus, resistance is inevitable because they simply were trained in the conventional model and have not yet fully embraced outcome-based education”*.

5.7 Chapter summary

As can be gleaned above on how OBE principles are reflected in the MET curricula in the Philippines and with reference to the conceptualize process map, the MHEI’s considered the *“Input”* as factors in compliance with STCW Convention, national regulatory requirements which are encompassing to their institutional policy and commitment, along with its mandate to adopt OBE approach in their respected institutions (CHED, 2023a), the interviewed nine (9) MHEIs have made OBE principles as an approach to in transforming their education system which partakes in

the process of preparation, implementation and evaluation of their respective BSMT program. Similarly, the result of the semi-structured interview using the thematic analysis revealed that the OBE principles have been guide by the MHEIs when preparing the curriculum in the Philippines in manifestation of learning outcomes, teaching and learning activities, assessments, use of simulators and laboratory equipment's, which can be found in the detailed teaching syllabus document in every MHEI's as part of their documentation. Further, the mentioned process of MHEIs have been in similar, as Bartuseviciene (2023) discussed, that OBE is a transformation from teaching specific knowledge content or syllabi to assuring the development and achievement of specific student competencies, that a result is what a student should be able to do by the end of a course to show what they have learned. In addition, Davis (2003) have pointed out that the fundamental process of the OBE is the learning outcomes.

Further, as an "output" to this processes, after transforming MHEIs education system into OBE approach based on the result of the interview, the passing rate, employability, competence and positive feedback from the industry have been one of the obvious effect they have experience as an institution. In this regard, Castillo (2014) discussed on its study on one of the two fundamental categories of outcomes from any education system in which he mentioned that the first category is the performance indicator wherein such completion of graduate rates, results of licensing examinations, post-course employment rates and many other.

Meanwhile, like many other research, OBE has positive results as such can be referred as advantages. According to Malan (2000), OBE has many advantages, it shows the whole country, that education is a means to an end, not an end in itself. It gets rid of disorganized, hands-off planning, management, and teaching practices in education and replaces them with strategic, results-oriented planning. Moreover, in the case of maritime education many of the interviewed MHEIs mentioned that it is very beneficial and appropriate especially in the field of maritime, and that OBE and the table of competences of the STCW Convention is associated with each other in terms of how STCW express each competence description.

However, despite its benefits to any other educational institutions, there are some

disadvantages as have previously discussed. As a result, from the interview of one of the MHEIs, it was mentioned that in implementing the OBE is time consuming and they really have to exert effort in the whole process, which in the same manner that Davis (2003) asserted that even the OBE supporters acknowledges that in implementing this approach will be time-consuming and fraught with obstacles. Another interviewed MHEI mentioned that in its implementation, the challenges are being there as they give example for the case in the BSMT programme that since OBE approach is more on the pedagogical and that their faculty employed in the programme are seafarers they have challenges in preparing this faculty to adopt OBE into their classroom management.

On the other hand, the implementation of a quality management system serves as a comprehensive framework for educational institutions, enabling them to establish standardized processes and quality procedures that promote consistent practices within their systems. Similarly, the pursuit of continual improvement, like in any other system, is an integral aspect for MHEIs. These institutions consider their evaluation in relation to curriculum alignment and compliance with national and international standards as a recurring cycle that drives ongoing enhancements in their systems.

Finally, Spady and Marshall (1991) as cited in Castillo (2014) developed the four key principles that it emphasizes the importance of clear focus on important outcomes in curriculum creation and teaching. It suggests starting with the desired outcomes and working backwards to ensure all parts of a good result are present. High success expectations for everyone are also emphasized, with high difficulty levels, it also suggests providing increased opportunity and support for academic achievement, considering time as a variable resource, which in the case of MET in the Philippines as depicted in the illustration has been realized starting from the input, its processes and leads to its output which is the success and competence to their students.

Chapter 6. Conclusion and Recommendation

This Chapter provides summary and conclusions by addressing each research questions with the end goal of address the main objective of this study. In addition, the limitation of the study and future research recommendations are also outlined.

6.1 Research Conclusions

6.1.1 What is the role and significance of the OBE in the current education systems?

OBE serves as a pedagogical strategy that provides students with a comprehensive structure for achieving the required qualifications to participate in professional endeavours. OBE places considerable focus on supporting learners in attaining the highest level of competence by employing strategic planning, instructional delivery, and evaluation strategies. One of the notable implications of the implementation of the OBE approach in the present education system is the facilitation of student mobility (ECTS User Guide, 2015). Likewise, OBE provides a comprehensive understanding of the essential competencies that learners should possess, and the curriculum, instructional methods, and assessment strategies are designed to ensure the attainment of these learning outcomes.

6.1.2 What are the main characteristics of OBE in education as applied in MET?

Spady (1994) developed the key OBE elements such as the Operating "*Paradigm*", two (2) key "*Purposes*", three (3) key "*Premises*", four (4) Operating Principles, and five (5) generic domains of Practice. These four key OBE elements describes by Spady begins at top which is the Operating paradigm which encompasses a cognitive framework and behavioural approach that prioritizes the significance of students' acquisition of knowledge and their mastery of it, over the timing and methodology employed in the learning process. From a broader perspective, this educational approach alters the functioning of the system by prioritizing "attaining outcomes" over "delivering services." The OBE model posits that all students possess the capacity to achieve successful learning outcomes upon their departure from the educational system. Followed by the two key purposes which are making sure that all students have the information, skills, and character traits they need to be successful after they

leave school and organizing and running schools so that every student can achieve and maximize these outcomes. Next to purpose is the three key assumption and premises that according to Spady (1994) as cited in Gouws (20018) that all *“learners can learn and succeed, but not on the same day or at the same time”*, *“that successful learning promotes even more successful learning”*, and *“that schools control the conditions that directly influence successful school learning”*. Finally, the last for key elements which this study have focused on is the OBE’s 4 key principles which according to Spady and Marshall (1991) as cited in Castillo (2014), emphasizes the importance of clear focus on important outcomes in curriculum creation and teaching. It suggests starting with the desired outcomes and working backwards to ensure all parts of a good result are present. High success expectations for everyone are also emphasized, with high difficulty levels, it also suggests providing increased opportunity and support for academic achievement, considering time as a variable resource.

Meanwhile, OBE as applied in the maritime as presented in the previous Chapter 4, serves as an approach for the curriculum development along with the STCW Convention and each of the countries’ national regulatory requirements as the administrative and legal framework that sets the minimum competency requirements for seafarers which geared towards the maritime education.

6.1.3 How and to what extend the OBE principles are reflected in MET curricula in the Philippines?

MHEIs in the Philippines have incorporated OBE approach into their curricula, along with the STCW Convention criteria and national regulations. The Philippine education system has undergone a transformation through the integration of OBE approach into several aspects such as curriculum development, teaching methods, assessments, and equipment utilization. This integration is clearly described in their detailed teaching syllabus documents. The OBE approach places emphasis on the establishment of clearly defined student competencies as learning outcomes, with a particular focus on outcomes-driven education.

As a consequence of this shift, the nine (9) MHEIs have observed enhanced rates of

student success, increased employability, heightened levels of competency, and favourable feedback from the industry. The aforementioned results are in accordance with the performance measures commonly used to evaluate educational systems, such as graduation rates, outcomes of licensing examinations, and rates of employment following completion of courses.

One of the notable advantages of OBE is its emphasis on education as a method to achieve specific goals. This approach promotes strategic and results-oriented planning, ensuring that educational outcomes are clearly defined and measurable. Moreover, OBE is particularly advantageous in the field of maritime education, as it aligns with the competences outlined in the STCW convention.

Nevertheless, the implementation of OBE is not without its challenges. The task can be characterized by its propensity to consume a substantial amount of time and necessitate a considerable amount of exertion. Faculty members may have challenges when it comes to adjusting to the pedagogical features of OBE, particularly if they have practical backgrounds like as seafaring.

Furthermore, the implementation of quality management systems and the adoption of ongoing improvement methods are crucial for higher education institutions. These educational institutions consistently assess the alignment of their curriculum and ensure compliance with standards in order to facilitate continuous improvements in their systems.

In brief, higher education institutions in the Philippines have adopted the principles of OBE in order to enhance the quality of maritime education. This endeavour has yielded favourable results for students and has also aligned with the demands and requirements of the industry. Despite encountering many hurdles, the individuals in question demonstrate a steadfast dedication to continuous enhancement and the assurance of their student's accomplishments and proficiency.

6.2 Recommendations

The subsequent recommendations appear suitable for the several entities within the Philippine Maritime Education and Training (MET) system.

- To the National and Regulatory bodies (CHED and MARINA). Fostering greater collaboration among stakeholders will further ensure consistency with the standards and be able to identify areas for improvement, particularly in enhancing the implementation of the OBE.
- To the MHEIs. Open communication and collaboration among MHEIs will help strengthen uniformity and compliance to the national and international regulations, does promoting the implementation of OBE.

6.3 Limitation of the study and future research recommendations

- The researcher's primary focus was on the perspectives of the MHEIs regarding the BSMT programme in the Philippines, specifically examining their thoughts on the extent to which OBE principles are reflected in the MET curricula. As a result, the research findings are based solely on the responses obtained from the semi-structured interviews conducted with the MHEI's. Therefore, it is advisable for future research to go deeper into the study of its appropriateness from the point of view of stakeholders, such as shipping companies and ship owners, who directly employ these graduates, as well as considering the perspectives of the graduates themselves.
- Moreover, it should be noted that there is currently a lack of direct observation conducted at the different MHEIs in the Philippines. Direct observation as describe by (Taylor-Powell & Steele, 1996) is appropriate when seeking certain information directly and when attempting to comprehend a persistent behaviour, ongoing process, evolving circumstance, or unfolding occurrence. Therefore, it is recommended that future researches investigate using direct observation methods inside the classroom setting.

References

- Asim, H. M., Vaz, A., Ahmed, A., & Sadiq, S. (2021). A Review on Outcome Based Education and Factors That Impact Student Learning Outcomes in Tertiary Education System. *International Education Studies*, 14(2), 1. <https://doi.org/10.5539/ies.v14n2p1>
- Biggs, J., & Tang, C. (2013). Applying constructive alignment. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- Bugin, K., Lotrecchiano, G. R., O'Rourke, M., & Butler, J. (2021). Evaluating integration in collaborative cross-disciplinary FDA new drug reviews using an input-process-output model. *Journal of clinical and translational science*, 5(1), e199. <https://doi.org/10.1017/cts.2021.861>
- Castillo, R. C. (2014). A Paradigm Shift to Outcomes-Based Higher Education: Policies, Principles and Preparations. *International Journal of Sciences: Basic And Applied Research*, 14(1), 174–186. https://www.researchgate.net/publication/288746055_A_Paradigm_Shift_to_Outcomes-Based_Higher_Education_Policies_Principles_and_Preparations
- Chae, S.-J. (2009). An Investigation on Curriculum Design in Outcome Based Curriculum. *Korean Medical Education Review*, 11(1), 3–9. <https://doi.org/10.17496/kmer.2009.11.1.3>
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pearson Education, Inc.
- CHED (2023a). CHED Memorandum Order No. 24 Series of 2012. *Policy Standard to Enhance to Enhance Quality Assurance (QA) in the Philippine Higher Education through an Outcomes-Based Topology-Based QA*. <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.46-s2012.pdf>
- CHED (2023b). Joint CHED-MARINA Memorandum Circular No. 02 Series of 2023. *Guidelines and Procedures On Joint CHED — MARINA Evaluation and Inspection of Higher Education Institutions Applying for Government Authority to Operate Bachelor of Science in Marine Transportation and/or Bachelor Of Science In Marine Engineering Program/S, Series Of 2022, As Amended*. <https://ched.gov.ph/wp-content/uploads/JCMMC-02-s.-2023-v2.pdf>
- Columbia University Mailman School of Public Health. (2016). Content Analysis. <https://www.publichealth.columbia.edu/research/population-health-methods/content-analysis>
- Davis, M. H. (2003). Outcome-Based Education. *Educational Strategies*, 30(3), 258–263. <https://jvme.utpjournals.press/doi/pdf/10.3138/jvme.30.3.258>

- Dixon-Woods, M., Agarwal, S., Jones, D., Young, B., & Sutton, A. (2005). Synthesising qualitative and quantitative evidence: a review of possible methods. *Journal of Health Services Research & Policy*, 10(1), 45-53.
- Doody, O., & Noonan, M. (2013). Preparing and conducting interviews to collect data. *Nurse researcher*, 20 5, 28-32.
- European Commission. (2015). ECTS users' guide. In *Luxembourg: Office for Official Publications of the ...* <https://doi.org/10.2766/87592>
- Evardo, M. A. (2020). Perspectives and preparedness on the Outcomes-based Education (OBE) implication in the higher education institutions of BOHOL. *Journal of World Englishes and Educational Practices*, 2(2), 46-52.
- Galam, R. (2022). The Philippines and seafaring labour export: State, non-state and international actors in the assembly and employability of Filipino seafarers. *International Migration*, November, 1–15. <https://doi.org/10.1111/imig.13092>
- Gouws, F. E. (2007). Teaching and learning through multiple intelligences in the outcomes-based education classroom. *Africa Education Review*, 4(2), 60–74. <https://doi.org/10.1080/18146620701652705>
- Hsieh, H.-F., & Shannon, S.E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288.
- Harden, R. M., Crosby, J. R., Davis, M. H., & Friedman, M. (1999). AMEE Guide No. 14: Outcome-based education: Part 5 - From competency to meta-competency: A model for the specification of learning outcomes. *Medical Teacher*, 21(6), 546–552. <https://doi.org/10.1080/01421599978951>
- Iloanya, J. (2019). Preparing the 21st Century Teacher for the Implementation of Outcomes-Based Education: The Practical Reality. *American Journal of Educational Research*, 7(7), 439-444.
- International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978*. (n.d.). Retrieved April 19, 2023, from <https://www.imo.org/en/OurWork/HumanElement/Pages/STCW-Convention.aspx>
- Hartika, A., Fitridiani, M., & Asbari, M. (2023). Analysis of ISO 9001: 2015 Implementation in Hospitals: A Narrative Literature Review. *Journal of Information Systems and Management (JISMA)*, 2(3), 16-24.
- Kaliannan, M., & Chandran, S. D. (2012). Empowering Students through Outcome-Based Education (OBE). *Research in Education*, 87(1), 50–63. <https://doi.org/10.7227/RIE.87.1.4>

- Kennedy, D. (2006). *Writing and using learning outcomes: a practical guide*. University College Cork.
- K.Y. Tshai, J.-H. Ho, E.H. Yap & H.K. Ng (2014). Outcome-based Education – The Assessment of Programme Educational Objectives for an Engineering Undergraduate Degree, *Engineering Education*, 9:1, 74-85. <https://doi.org/10.11120/ened.2014.00020>.
- Khanna, R., & Mehrotra, D. (2019). The roadmap for quality improvement from traditional through competency based (CBE) towards outcome based education (OBE) in dentistry. *Journal of Oral Biology and Craniofacial Research*, 9(2), 139–142. <https://doi.org/10.1016/j.jobcr.2019.02.004>
- Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical Teacher*, 42(8), 846-854. <https://10.1080/0142159X.2020.1755030>
- Killen, R. (2000). *Outcomes-based education : Principles and possibilities* (pp. 1–24). <https://pdf4pro.com/amp/view/outcomes-based-education-principles-and-3aa7ac.html>
- Lu, J., & Hao, Z. (2022). Analysis on Quality Evaluation of Higher Engineering Education from the Perspective of Outcome-based Education. *Journal of Engineering Science and Technology Review*, 15(4), 96–103. <https://doi.org/10.25103/jestr.154.14>
- Lušić, Z., Bakota, M., Čorić, & M., Skoko, I., (2018). Seafarer Market – Challenges for the Future. <https://doi.org/10.7225/toms.v08.n01.007>
- Macayan, J. V. (2017). Implementing Outcome-Based Education (OBE) Framework : Implications for Assessment of Students ' Performance. *Educational Measurement and Evaluation Review*, 8(1), 1–10.
- Malan, S. (2000). The “new paradigm” of outcomes-based education in perspective. *Journal of Family Ecology and Consumer Sciences*, 28, 22–28. <https://www.ajol.info/index.php/jfecscs/article/viewFile/52788/41390>
- Manuel, M. E., & Baumler, R. (2020). The Evolution of Seafarer Education and Training in International Law. *Maritime Law in Motion*, 471-494.
- Mayring, P. (2000). Qualitative content analysis. *Forum: Qualitative Social Research*, 1(2). Retrieved July 28, 2008, from <http://217.160.35.246/fqs-texte/2-00/2-00mayring-e.pdf>.
- Mcneir, G. (1993). Outcomes-Based Education: Tool for Restructuring. *OSSC Bulletin*, V36(N8). <https://eric.ed.gov/?id=ED357457>

- 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*, 1(4).
<https://doi.org/10.5539/ies.v1n4p147>
- Morgan, H. (2022). Conducting a qualitative document analysis. *The Qualitative Report*, 27(1), 64-77.
- Openai. (2023 August 7). Openai/whisper: Robust Speech Recognition via Large-Scale Weak Supervision. *GitHub*. <https://github.com/openai/whisper>
- Rani, C. (2020). A Study On Outcome-Based Education – Issues and Challenges. *International Review of Business and Economics: Vol. 4: Iss. 2*, Article 54.
- Roxas, J. B. (2018). Outcomes-Based Education Implementation Among Maritime Schools in Region XI. *PAGE CODGE REGION XI (Multidisciplinary Research)*, 1(1).
- Shaheen, S. (2019). Theoretical perspectives and current challenges of OBE framework. *International Journal of Engineering Education*, 1(2), 122-129.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339.
- Spady, W. D. (1994). *Outcomes based education: Critical issues and answers*. Arlington: American Association of School Administration.
- Taylor-Powell, E., & Steele, S. (1996). Collecting evaluation data: Direct observation. *Program Development and Evaluation. Wisconsin: University of Wisconsin-Extension*, 1-7.

Appendix A: Matrix of Narrative Literature review on Role and significance of OBE in the current education systems

Author	Research title	Role and Significance of OBE in the current education systems
Davis (2003)	Outcomes-Based Education	The method is based on good teaching ideas and gives students a strong framework for getting the fitness they need to practice.
Killen (2004)	A theoretical framework for measuring the quality of student learning in outcomes-based education	Outcomes-based education (OBE) places emphasis on facilitating learners in attaining elevated levels of proficiency by means of strategic planning, instructional delivery, and evaluative measures.
Mohayidin et al (2008)	Implementation of Outcome-Based Education in Universiti Putra Malaysia: A Focus on Students' Learning Outcomes	<ul style="list-style-type: none"> • The use of Outcome-Based Education (OBE) initiatives resulted in noticeable improvements in the competencies of nursing students. • The key outcome measures identified in this study were improvement in information acquisition, nursing skills, and attitudes.
Chae (2009)	An Investigation on Curriculum Design in Outcome Based Curriculum	<ul style="list-style-type: none"> • Outcome-based education (OBE) is a pedagogical strategy in medical education that emphasizes the acquisition of competencies, prioritizing the end result rather than the educational process itself. The aforementioned approach places significant emphasis on the importance of relevance, accountability, and the establishment of a well-defined framework for the purpose of curriculum planning. • This method fosters a collaborative environment between faculty and students, promoting shared responsibility for the learning process and providing guidance for assessment. As a result, it emerges as an attractive and

Author	Research title	Role and Significance of OBE in the current education systems
(Kaliannan & Chandran, 2012)	Empowering Students through Outcomes-Based Education	<p>efficacious strategy for reforming medical education.</p> <ul style="list-style-type: none"> • The introduction of the Outcome-Based Education (OBE) system at the faculty has successfully attained its intended objectives. • Students possess the capacity to assess their own comprehension and proficiency in each of the academic disciplines they undertake.
Iloanya (2019)	Preparing the 21st Century Teacher for the Implementation of Outcomes-Based Education: The Practical Reality	<ul style="list-style-type: none"> • With outcome-based education, there is a clear picture of what is important for learners to be able to do, and the curriculum, teaching, and testing are all set up to make sure that learning happens in the end. • OBE approaches go as far as making sure that all students leave school with the information, skills, and qualities they need to be useful and successful.
Shaheen (2019)	Theoretical Perspectives and Current Challenges of OBE Framework	<ul style="list-style-type: none"> • Outcome-Based Education (OBE) is an instructional design methodology that prioritizes the achievement of desired learning outcomes as the primary objective. This approach places emphasis on the future success and growth of learners. The reform of engineering education has been widely acknowledged as influential by both the Washington Accord and the Pakistan Engineering Council (PEC). • The objective of Outcome-Based Education (OBE) is to provide students with the essential attributes required for a career in the field of professional engineering. Contemporary scholarly investigations are centered on the examination of the philosophical and theoretical

Author	Research title	Role and Significance of OBE in the current education systems
		<p>foundations of Out-of-Body Experiences (OBEs), as well as the resolution of obstacles encountered during its practical use.</p>
Rani (2020)	A Study On Outcome-Based Education – Issues and Challenges	<ul style="list-style-type: none"> • Outcome-based education (OBE) is a contemporary and innovative approach to curriculum building that emphasizes performance as a key component. It presents a compelling and attractive method for reforming and effectively administering medical education.
Asim et.al (2021)	A Review on Outcome Based Education and Factors That Impact Student Learning Outcomes in Tertiary Education System	<p>Outcome-based education is implemented in the field of education due to its ability to effectively concentrate and structure all components within an educational system around the essential skills and knowledge that every student should possess upon completing their learning journey.</p>

Appendix B: Matrix of Narrative Literature review on Characteristics (Elements) of OBE in Education as applied in MET

Author	Research title	Characteristics (Elements) of OBE in Education and in MET
Spady (1994)	Outcomes based education: Critical issues and answers	The key OBE elements are the Operating “ <i>Paradigm</i> ”, two (2) key “ <i>Purposes</i> ”, three (3) key “ <i>Premises</i> ”, four (4) Operating Principles, and five (5) generic domains of Practice.
Tshai et al. (2014)	Outcome-based Education – The Assessment of Programme Educational Objectives for an Engineering Undergraduate Degree	<p>The OBE framework primarily emphasizes two categories of outcomes, namely academic performance in coursework and examinations, as well as post-graduation employment prospects.</p> <p>The second performance indicator is characterized by its intangibility and necessitates learners to articulate their acquired knowledge and skills. The framework comprises four primary principles, namely clarity of purpose, extended opportunity, high expectations, and design down. The concept of clarity of focus places emphasis on the ultimate outcomes achieved by students, whereas broadened opportunity encompasses a range of diverse learning approaches. Students are compelled to continually attain high levels of performance, cultivate a systematic mindset, and effectively apply engineering principles in order to meet the demands of high expectations. The design of a curriculum necessitates the alignment of teaching activities and instructional materials with the intended learning goals at all levels. The assessment of overall accomplishment should establish a</p>

Author	Research title	Characteristics (Elements) of OBE in Education and in MET
		connection with long-term educational outcomes, specifically the Programme Educational Objective (PEO), for a minimum duration of five years subsequent to graduation.
Lušić et al. (2019)	Seafarer Market – Challenges for the Future	Seafarers' careers began at sea, with early education and training on board ships. Over time, the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW Convention) was adopted, setting minimum qualifications for masters, officers, and watch personnel on seagoing merchant ships. This convention established global minimum requirements for training, certification, and watchkeeping, addressing discrepancies in certification processes and ensuring effective onboard personnel.
Manuel & Baumler (2020)		The STCW Convention, 1978, as amended, intended to determine mandatory minimum standards for levels of expertise and training. In addition to this, it established obligatory minimum requirements to be met, with the goal of ensuring that maritime workers kept their level of expertise and continued to improve their knowledge

Author	Research title	Characteristics (Elements) of OBE in Education and in MET
Roxas (2018)	Outcomes-Based Education Implementation among Maritime	<ul style="list-style-type: none"> • In order to produce competent seafarers and remain competitive on a global scale, the Commission on Higher Education (CHED) and the Maritime Industry Authority (MARINA) have enforced the adoption of Outcome-Based Education (OBE) across all maritime educational institutions. Competency-based learning standards and outcomes-based quality assurance monitoring and assessment are the mechanisms via which this is achieved. Similarly, this system is perceived as a novel approach aimed at equipping future mariners or students with the necessary competencies as required by the Standards of Training, Certification, and Watchkeeping (STCW) convention. • The adoption of Outcomes-Based Education is regarded as distinctive. Successful implementation requires the active involvement of teachers, administrators, parents, and students. The process must be undertaken in order to raise awareness among the stakeholders.

Appendix C: Approved Semi-Structured Interview Questionnaire

Investigating the Outcomes- Based Education (OBE): A case study using the Philippine Maritime Education and Training (MET) System

Semi-Structured Interview Questions

Thank you so much for accepting my invitation to partake in my research study about Outcomes-Based Education in the Philippines.

To provide you a brief background, the Commission on Higher Education (CHED) has issued a CMO No. 46 series of 2012 on Policy-Standard to Enhance Quality Assurance (QA) in Philippine Higher Education through an Outcomes-Based and Typology-Based QA. In particular, under the provisions of Article III, section 13 states that *“CHED is committed to developing competency-based learning standards that comply with existing international standards when applicable (e.g outcomes-based education for fields like engineering and marine education) to achieve quality and enable effective integration of the intellectual discipline, ethos and values associated with liberal education”*. Similarly, section 13 also highlights that *“CHED is committed to developing and implementing an outcomes-based approach to QA monitoring and evaluation because it has the potential to greatly increase both effectiveness of the QA system, and the quality, efficiency, and effectiveness of higher education...”*.

In this regard, my study aims to investigate the Outcomes-Based Education using the Philippine MET system by looking at Spady’s OBE principles which are Clarity of Focus, Expanded Opportunity, emphasize high success expectations for everyone, and Design down from your ultimate, culminating outcomes. For this interview, I would like to ask you a series of questions regarding this matter.

Rest assured that your personal information will be kept confidential and that the information that you provide within the context of this interview will only be used for research purposes. All findings from the interviews will be anonymized in the presentation of results. Accordingly, please feel free to express your thoughts during the interview as this will make a significant contribution to my study.

Part A

1. What is the name of your organization?
2. Is your institution a private or government owned?
3. Does your institution offer BSMT programme?
4. What is your responsibility in the implementation of the BSMT programme?

Part B

On this part I would like to know about your inputs on the implementation of the OBE in your school:

1. What are your thoughts about applying OBE in the education system in the Maritime?
2. When did you start to implement the OBE in your institution?
3. As an institution, how do you prepare the implementation of the OBE?
4. How do you consider the OBE principles mentioned above in developing and implementing BSMT programme in your institution?
5. From Spady's OBE principles below, how are these being reflected in your system?
 - a. Clarity of Focus;
 - b. Expanded Opportunity;
 - c. Emphasize high success expectations for everyone; and
 - d. Design down from your ultimate, culminating outcomes.
6. As an institution, what do you think are the benefits of adopting OBE for BSMT programme?, if yes, can you share it with me?
7. What are the effects/consequences on applying OBE in your system?
8. Does your institution experience any challenges in the implementation of the OBE? If yes, what are those challenges and how do you deal with it?
9. What are your other opinions on the implementation of OBE in the maritime education?

Thank you so much for lending me your valuable time and for actively responding to my questions. It is highly appreciated.