

MAAP RESEARCH JOURNAL

INSIDE

8th MAAP
Research
Forum
Papers



ISSN-1656-555X

e-ISSN-2545-949X



OCTOBER 2022



www.maap.edu.ph

**"Enhancing MAAP value in 2022
thru Action Research & Innovation"**

@ Copyright 2022

The MAAP Research Journal

By The Academics Research Unit (ARU)

ISSN: 1656-555X (Print)

Author(s):

3/E Mark Angelo E. Agudelo
2/M Herbert D. Angeles
Mr. Fritz Gerald R. Baligad
Ms. Caroline D. Balila
Capt. Mauro A. Balomaga
Ms. Lucita R. Benitez
Ms. Charie Kaye F. Colar
Ms. Joanne P. De Guzman
Dr. Leonora T. Dela Cruz
Capt. Danilo G. Espela, MM, PhD
Mr. Julian L. Evangelista
C/E Julius M. Jimenez
Dr. Leogenes L. Lee
Mr. Francis Felix B. Mascardo
Engr. Felix M. Oca
Ms. Ma. Celeste A. Orbe
C/E Rodolfo D. Paiso
Ms. Cristine Marie A. Perdido
Ms. Edlynne F. Perona
C/E Soulen Paul B. Quitain
Mr. Rigor G. Regalado
C/M Remond Joseph R. Reyes
Mr. Marcelino P. Sulit
C/E Jose Paulo R. Susano
C/E Charles Victor M. Tan
Ms. Janice W. Vergara

Published by: The Maritime Academy of Asia and the Pacific (MAAP)
Brgy. Alas-asin, Mariveles, Bataan, Philippines

All rights reserved:

No part of this publication may be reproduced, except
for brief quotations, without permissions of the authors.

Cover design and Lay Out by Janice Vergara

MAAP-2022-Vol. 2

This MAAP Journal is published by the Maritime Academy of Asia and the Pacific (MAAP)-Kamaya Point, through the Academic Research Unit (ARU) under the Department of Academics (ACAD). This journal serves as a research and academic reference as well as an exchange publication.

Views expressed by the authors of research studies, papers, and articles published are not necessarily shared by the editor, faculty/staff, students, or the Academy. Research articles published in this journal, however, become the property of the publication and may not be reproduced in full or in part without the permission of the publishers, except for the purposes of review. Except for copyrighted materials, any portion of this publication may be requested if the source is indicated.

Readers of this Journal are invited to comment on the papers published herein and to suggest topics for future coverage.

Research articles published in this journal should conform to the MAAP Editorial policy.

Correspondence should be addressed to:

The Editor

c/o The Research Coordinator

Academic Research Unit, Department of Academics

Maritime Academy of Asia and the Pacific- Kamaya Point

Email address: academicsresearchunit@maap.edu.ph

EDITORIAL BOARD

VADM Eduardo Ma R Santos, AFP (Ret), *MAAP President*

Engr. Felix M. Oca, *Vice President, MAAP ACAT Chair*

Board of Editors

Dr. Leogenes L. Lee, *Assistant Vice President for Academics*

Capt. Daniel S. Torres Jr., *Dean of Academics*

Ms. Ma. Celeste A. Orbe, *Research Coordinator*

Ms. Janice W. Vergara, *Assistant Research Coordinator*

Edlynne F. Perona, *Assistant Research Coordinator*

Research Committee Members/Internal Reviewers

Dr. Marilyn L. Medina

Dr. Jose Manuel A. Santos

Capt. Mauro A. Balomaga

Capt. Joselito C. De Castro

Capt. Daniel G. Espela

Capt. Santos G. Herminigildo

Capt. Januario Lansang, Jr.

Capt. Benedicto S. Leis, Jr.

Capt. Josenando G. Meneses

Capt. Mity Jan F. Bariacto

Capt. Teofilo C. Atienza

C/M Jeric E. Bacasdoon

C/M Marion Z. Penales

C/M Nestor B. Quinto

C/M Remond Joseph R. Reyes

2/M Herbert O. Angeles

2/M Danilo De T. Leon

2/M Dominique Andrew M. Pedregosa

OIC-NW Gideon H. Varon

C/E Charles Victor M. Tan

C/E Jose Paolo R. Susano

2/E Jason T. Javier

2/E Mark Vincent V. Silerio

3/E Spartacus A. Bilayon

3/E Ian Benedict B. Dumpit

3/E Marlon D. Bulan

3/E Cicero L. Rodriguez

3/E Viktor Hanz E. Victorio

OIC-EW Louie Ralph B. Alcantara

OIC-EW Mark Angelo E. Agudelo

OIC-E Daniel Florentino P. Manalastas

OIC-EW Aaron James A. Miranda

OIC-EW Anacleto D. Reyes, Jr.

Engr. Ronnie Z. Ramos

Ms. Caroline D. Balila

Ms. Lucita R. Benitez

Ms. Brenda Lyn A. Gavina

Ms. Regina Grace A. Mendoza

Ms. Cristine Marie A. Perdido

Ms. Edlynne F. Perona

Ms. Analizabeth R. Punongbayan

Mr. Fritz Gerald R. Baligad

Mr. Jesther D. Cruz

Mr. Erwin Y. Oliveria

Mr. Jose Winnie P. Teope

MESSAGE OF THE PRESIDENT

.....

Congratulations to the Academics Research Unit (ARU) for this publication! This is yet another mark of our responsiveness to the changes brought about by the Covid-19 pandemic and our ability to rise from its storm of challenges. While we were not able to publish for the last two years because of the pandemic, I am very happy and proud of this achievement. This publication contains papers that were completed during the pandemic---it is evidence of the productivity of the members of our MAAP family. On top of that, some of the papers have been presented in international conferences.

The topics contained in this publication have diverse focuses, ranging from physical development to social and even to psychological issues. The variety of topics included in this publication- from the academic response of MAAP to the CHED requirements on the continuity of learning to the extension services of MAAP, teaching strategies through the use of online application and even to the welfare of MAAP students and faculty---manifest our institutions commitment to enhance research culture in the community.

With the research works included in this publication, we hope to inspire our readers, most especially the MAAP faculty and staff to get involved in our different research activities. It is only when we get involved that we learn and develop the required skill in the different activities of research writing- conceptualizing a research problem, doing the literature review, deciding on a research design, presenting data, and citing references among others. These have been addressed by the ARU during the pandemic. They facilitated many research webinars in order to help our faculty and staff in their research endeavors. Moreover, research priority areas are published every academic year so that the faculty members and staff, and even the other members of our family that are assigned in the different offices, are guided as to what possible problems to work on.

Our theme for this year is enhancing MAAP value in 2022. Let us help achieve this through our *excellence* and *integrity* in conducting research, and *self-discipline* in finishing the research project to contribute to the attainment of our quality objectives as a *family*. The ARU and the management are very willing to support and help in your research needs. Together, we will thrive and continue to be a standard to other maritime institutions here in the Philippines and even beyond. God bless us all!

VADM Eduardo Ma R Santos, AFP (Ret)
MAAP President

MAAP EDITORIAL POLICY

.....

MAAP Research Journal is an institutional publication that publishes scholarly works of the faculty and/or staff and students of the academy. These scholarly works address the research areas identified by the Academic Research Unit, in collaboration with the Dean of Academics, the Assistant Vice-President for Academics, and Academic and Training Council in compliance with the Commission on Higher Education (CHED) National Higher Education Research Agenda (NHERA-2) 2009-2018, CMO 31, s.2013, and CMO 41, s.2010. Any research endeavor, as long as it meets the requirements set by the Academic Research Unit, may be included in the publication.

The scholarly works of the faculty and/or staff and the students are published through the journal in order to make known to the MAAP community and even to the outside communities the issues in maritime education and training identified and addressed by these undertakings. More importantly, the publication highlights the contributions of these researches not only to maritime education and training but also to the management, the academic community, the local community, and the local and international research community.

Prior to publication, the research output has to undergo review and evaluation by the review committee. The researcher, being informed of the review process, agrees to submit to the requirements and procedures.

The review committee is composed of the Academic Research Coordinator, the Vice-President for Academics, and the Dean of Academics. This committee is responsible for identifying and selecting the referees who will review the manuscripts submitted.

The review committee is formed to review and evaluate completed researches submitted by the faculty and/or staff and the students. The committee has its purpose and/or goal of ensuring excellence of the research outputs by subjecting the papers to critical scrutiny in relation to the set criteria for evaluation.

The Peer Review System

Definition

The peer review system is a process of subjecting the research output to evaluation of experts in research and in the area under which the research has been conducted. These experts have the responsibility to be impartial in their review of the paper. On the other hand, researchers who submit their papers for review have to conform to the requirements and procedures set by the Academic Research Unit.

Preliminary Peer Review

Coinciding with the MAAP research process, the research paper is initially evaluated by the Academics Research Unit. Plagiarism detection and word count for abstract and technical review by the editorial board are also applied in this stage.

Peer Review Process

The review committee, after receiving a copy of the manuscript, calls the attention of the selected referees, and gives them a copy of the output for their review. After reading the manuscript, the referees write their constructive evaluation and recommendations which will be relayed by the committee to the researcher for consideration and action. The team of referees may also request for an oral presentation in order to clarify information written in the manuscript, after which, the editorial board decides on the acceptance or rejection of the manuscripts based on the compliance with the peer reviewers' recommendations.

Peer Reviewers. The selection of peer reviewers/referees is the responsibility of the review committee. The selected referees should be experts in the conduct of research and in the area which the topic of the study is under. When a manuscript is submitted for evaluation, the committee confers and deliberates on the composition of the review panel. The researcher may recommend qualified reviewers whom the committee may or may not include.

Criteria for acceptance and rejection. The submitted manuscript is accepted for publication in the condition that the researcher meets the review requirements and/or criteria, and procedures set by the Academic Research Unit. In addition, the researcher has to submit another copy of his/her manuscript that incorporates the recommendations of the team of referees.

Plagiarism detection. MAAP uses the *Grammarly writing enhancement and anti-plagiarism software* in order to ensure that the manuscripts submitted are original and that the authors have done the necessary citations and acknowledgments of the sources used. The papers are allowed a similarity index of 15% or less.

Appropriateness of citation format. All citations should follow the American Psychological Association (APA) 7th edition format. This can be downloaded from the internet or can be requested from the Academic Research Unit office.

Number of pages, spelling and grammar checks. There is no specific word count requirement as long as the paper does not exceed 15 pages (single-spaced), including the references and the appendices. For uniformity purposes, the standard American English is highly encouraged.

Publication Process

The Academic Research Unit collates all approved research papers for publication, after which, the manuscript is formatted and the prototype copy of the published manuscript is forwarded to the authors for confirmation. The final copy is then submitted for approval of MAAP management prior to final printing.

For wider dissemination and utilization of MAAP research outputs, copies of the research manual will be provided to the MAAP Library and each department/division. Complimentary copies may also be made available to other institutions.

CONTENT

Editorial Board	iv
Message of the President	v
MAAP Editorial Policy	vi
Contents	viii
Editorial Notes	x
RESEARCH PAPERS:	
European Union Findings as Checklist vis-à-vis MAAP Internal Quality Audit Findings	1
<i>Dr. Leogenes L. Lee</i>	
A Proposed Enhancement Course for the Design, Development, and Delivery of OBE Curriculum	11
<i>Engr. Felix M. Oca and C/E Rodolfo D. Paise</i>	
Deterrent, Outlooks, and Compliance to Article III of STCW '78 Convention as Amended	24
<i>Capt. Danilo G. Espela, MM, PhD</i>	
An Evaluation of Physical Fitness 1 Module: Basis for Improvement	43
<i>Dr. Leonora T. Dela Cruz and Fritz Gerald R. Baligad</i>	
Relevance and Usability of Module in Physical Education 4	52
<i>Francis Felix B. Mascardo</i>	
Evaluation of the MAAP STS Module: Basis for Improvement	59
<i>Dr. Leonora T. Dela Cruz and Cristine Marie A. Perdido</i>	
Course Quality Evaluation and Students' Performance in General Physics D	66
<i>Rigor G. Regalado, Dr. Leonora T. Dela Cruz, and Cristine Marie A. Perdido</i>	
Assessment on the Usage of Basic Electricity Workbook Amidst New Normal Online Teaching	76
<i>Lucita R. Benitez</i>	
Content Validity and Acceptability of a Developed IOP Workbook in Math (College Algebra and Introductory Plane Trigonometry)	83
<i>Julian L. Evangelista</i>	
Module Development for a Social Science Course: An Application of Gagne's Nine Events in Instruction	95
<i>Ma. Celeste A. Orbe</i>	
Evaluation of Maritime Literature Module: Using Google Classroom as an Online Teaching and Learning Platform	108
<i>Edlynn F. Perona</i>	

Enhancing Competence in Tank Sounding among MAAP Deck Cadets through Instructional Innovation and Development	117
<i>Capt. Mauro A. Balomaga, C/M Remond Joseph R. Reyes, and Janice W. Vergara</i>	
Students' Feedback on SEAM2 Workbook and Instructor's Teaching Performance on the Modern Classroom	130
<i>C/M Remond Joseph R. Reyes and Edlynne F. Perona</i>	
Perception of MAAP Students Towards Online Learning During the COVID19 Pandemic	138
<i>C/E Julius M. Jimenez</i>	
Teaching Maintenance and Repair E306 in an Online Setting	148
<i>3/E Mark Angelo E. Agudelo</i>	
Development of a Pipe-Beveling Machine for Gas Cutting Operation	153
<i>Marcelino P. Sulit, C/E Charles Victor M. Tan, C/E Soulen Paul B. Quitain and C/E Jose Paulo R. Susano</i>	
Developing Guidelines for Audio Visual Presentations: Inputs for Standardized MAAP LMS Multi-Media Materials	168
<i>2/M Herbert D. Angeles</i>	
Impact of MAAP Library Promotional Tools on Library Customers Behavior	179
<i>Charie Kaye F. Colar</i>	
Stress Level of the Maritime Academy of Asia and the Pacific Faculty and Their Teaching Performance	190
<i>Caroline D. Balila and Joanne P. De Guzman</i>	

EDITORIAL NOTES

The papers included in this volume revolve around the theme ***“Enhancing MAAP Value in 2022 through Action Research and Innovation”***, which is also the agenda of the 8th MAAP Research Forum. Thus, majority of the papers included in this publication are classroom-based action researches that guided the development and design as well as the evaluation of different modules currently used in the professional and general education courses in the maritime transportation and marine engineering programs.

In the general education curriculum, for instance, several papers describe the feedback of students and teachers on the scope and content, strategies used in teaching and learning the course, and the suitability of materials used in the courses. Included under this theme are titles, namely: ***An Evaluation of Physical Fitness 1 Module*** by Dr. Leonora Dela Cruz and Mr. Fritz Gerard Baligad; ***Relevance and Usability of Module in Physical Education 4*** by Mr. Francis Felix Mascardo; ***Evaluation of the MAAP STS Module: Basis for Improvement*** by Dr. Leonora T. Dela Cruz and Mrs. Cristine Marie Perdido; ***Course Quality Evaluation and Students’ Performance in General Physics D*** by Mr. Rigor G. Regalado, Dr. Leonora T. Dela Cruz, and Mrs. Cristine Marie Alayon-Perdido; ***Assessment on the Usage of Basic Electricity Workbook Amidst New Normal Online Teaching*** by Ms. Lucita R. Benitez; ***Content Validity and Acceptability of a Developed IOP Workbook in Math (College Algebra and Introductory Plane Trigonometry)*** by Mr. Julian L. Evangelista; ***Module Development for a social science course: An Application of Gagne’s Nine Events in Instruction*** by Ms. Ma. Celeste A. Orbe; and ***Evaluation of Maritime Literature Module: Using Google Classroom as an Online Teaching and Learning Platform*** by Mrs. Edlynne F. Perona.

Classroom-based action researches also served as the foundation for the development of modules in professional courses. In this volume, the papers included are ***Enhancing Competence in Tank Sounding among MAAP Deck Cadets through Instructional Innovation and Development*** by Capt. Mauro Balomaga, Ms. Janice W. Vergara, and C/M Remond Joseph Reyes; ***Students’ Feedback on SEAM 2 Workbook and Instructor’s Teaching Performance on the Modern Classroom*** by C/M Remond Joseph Reyes and Ms. Edlynne F. Perona; and ***Teaching Maintenance and Repair E306 in an Online Setting*** by 3/E Mark Angelo Agudelo.

Complementing the collection of action researches in this volume are papers on MAAP’s compliances to various quality standards for maritime education. For instance, Capt. Danilo Espela discussed the ***“Deterrent, Outlooks, and Compliance to Article III of STCW ’78 Convention as Amended”***. Of particular importance, the paper ***“European Union Findings Used as Checklist to Determine MAAP Compliances on STCW as amended and Comparison to MAAP Internal Quality Audit Results in Preparation for Independent Auditors from IMO”*** by Dr. Leogenes L. Lee describes the proactive approach of the Academy in its program implementation. Similarly, the paper ***“A Training Course for the Design, Development, and Delivery of OBE Curriculum”*** by C/E Rodolfo D. Paiso and Engr. Felix M. Oca provides a holistic framework for the development of maritime courses.

Furthermore, the paper ***“Developing Guidelines for Audio Visual Presentations: Inputs for Standardized MAAP LMS Multi-Media Materials”*** by 2/M Herbert Angeles provide the underpinning theories that have rationalized the standards for the preparation of classroom materials currently used in MAAP classrooms.

Health-related and safety issues are reported in this volume as well. Ms. Caroline Balila and Ms. Joanne De Guzman reports on the ***“Stress Level of the Maritime Academy of Asia and the Pacific Faculty and their Training Performance”*** while C/E Julius Jimenez describes the ***“Perception of MAAP Students Towards Online Learning During the COVID 19 Pandemic.”*** The ***Impact of MAAP Library Promotional Tools on Library Customers Behavior*** is also described by Ms. Charie Kaye Colar.

Finally, the only Research & Development paper in this volume is ***“Development of a Pipe-Beveling Machine for Gas Cutting Operation”*** by Mr. Marcelino P. Sulit, C/E Charles Victor M. Tan, C/E Soulen Paul B. Quitain, and C/E Jose Paulo R. Susano.

These papers authored faculty members in the general education and professional courses speak highly of MAAP’s commitment in pursuing excellence in maritime education through continual development.