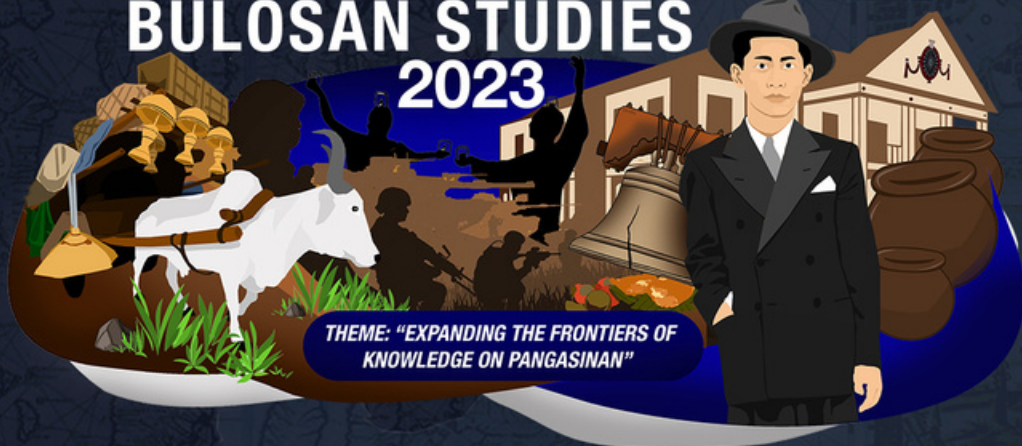


INTERNATIONAL CONFERENCE ON  
**PANGASINAN &  
BULOSAN STUDIES**  
**2023**



**THEME: "EXPANDING THE FRONTIERS OF  
KNOWLEDGE ON PANGASINAN"**

**November 27-29, 2023**  
**Lingayen & Binalonan, Pangasinan, Philippines**



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# CENTER FOR PANGASINAN STUDIES

## About Us

The Center for Pangasinan Studies (CPS), the research and development arm of the Provincial Government of Pangasinan plays, an important role in the conservation, enrichment, and development of interdisciplinary studies on arts and culture, literature and language, history, education, tourism, trade, and business economics of Pangasinan from its past up to its contemporary perspectives.



In 2016, the Provincial Government of Pangasinan (PGP) institutionalized the Center for Pangasinan Studies (CPS) through Provincial Ordinance No. 199-2016 to serve as the research and development arm of the province.

The Center was founded through the collaboration and partnership of the Provincial Government of Pangasinan (PGP), the University of the Philippines System (UP), and five (5) higher education institutions (HEIs) in Pangasinan namely: University of Luzon (UL), PHINMA – University of Pangasinan (UPang), Lyceum – Northwestern University (L-NU), Virgen Milagrosa University Foundation (VMUF), and Universidad de Dagupan (formerly Colegio de Dagupan).

In 2022, to further strengthen the Center, additional two (2) HEIs were included in the consortium: Pangasinan State University (PSU) and the University of Eastern Pangasinan (UEP). The CPS is envisioned to enrich an understanding of Pangasinan culture, history, heritage, and environment and contribute to its overall development as a society.

Since its establishment, the Center remains relevant and strives to continuously conceptualize and implement programs, projects, and activities which contribute to its mission. Amidst the pandemic and fueled by its collective passion and commitment and with the continued support of the provincial government, the CPS has managed to thrive in the “new normal” and was able to implement projects that are consistent with its mission. These include the conduct of lecture series, webinars, cultural mapping, research, and publication.

# FIVE-POINT MANDATE

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The CPS carries a Five-point mandate:



Serve as a repository of documents, research, artifacts, printed materials, and media materials on Pangasinan.



Lead in the collection, documentation, preservation, publication, and dissemination of materials to promote historical, economic, political, and cultural studies.



Serve as a venue for discussion of issues related to the province.



Bring together higher education institutions, government agencies, civil society organizations, and advocates to promote and develop the province.



Enhance the capacities and capabilities of HEIs, LGUs, Civil Society Organizations, and other stakeholders in research, development, and innovation.





International Conference on Pangasinan and Bulosan Studies (ICPBS 2023)  
Organized by the  
PROVINCIAL GOVERNMENT OF PANGASINAN through the  
CENTER FOR PANGASINAN STUDIES (CPS)

Theme: Expanding the Frontiers of Knowledge on Pangasinan

Date: November 27- 29, 2023

Venue: Sison Auditorium, Capitol Compound, Lingayen, Pangasinan &  
Binalonan, Pangasinan

### **Rationale/Objectives**

Anchored on the primary mandate of the Center for Pangasinan Studies (CPS) to serve as the research and development arm of the provincial government, the conference will provide a crucial platform for the dissemination of scholarly and creative works on Pangasinan. With the theme “Expanding the Frontiers of Knowledge on Pangasinan”, the conference aims to bring the multi and interdisciplinary studies on Pangasinan closer not only to the Pangasinan locale but also to the global community in general.

The conference is also being held in commemoration of the 110th Birth Anniversary of Carlos Bulosan – a son of Binalonan, Pangasinan. The ICPBS 2023 will provide a venue for the dissemination of knowledge on Bulosan’s life and works as a global literary and social movement icon.

More specifically, the ICPBS 2023 aims to:

- cultivate dialogue and linkage in promoting interest and heightened awareness about the province of Pangasinan and its people;
- convene stakeholders, advocates, practitioners, scholars, and researchers engaged in the multi and interdisciplinary study of development, arts and culture, literature and language, history, education, tourism, trade, governance, health, and business economics of Pangasinan from its past and in contemporary perspectives;
- strengthen practitioners, stakeholders, and scholars’ collaboration with partner institutions in the region, and enhance academic exchanges with other international academic, development, and non-governmental institutions.
- enrich and popularize knowledge on Carlos Bulosan, his life and works as a global literary and social movement icon.





Republic of the Philippines  
**PROVINCE OF PANGASINAN**  
Office of the Governor  
2F Capitol Compound, Lingayen, Pangasinan



**Hon. Ramon V. Guico III, DPM**  
*Governor*

Greetings in the name of our Lord and Savior Jesus Christ!

The 2023 International Conference on Pangasinan and Bulosan Studies presents the best scholarship and research work on the literary heritage as well as socio – economic and political history of our beloved province. It is therefore worth all the wait and preparation as all roads lead to the Sison Auditorium and Binalonan Civic Center on November 27 – 29, 2023.

This international conference is the “Olympics” of researchers, scholars, and enthusiasts who passionately treasure the past, celebrate the present, and trust the future of Pangasinan and its people. This is especially meaningful as we also commemorate the 110th birth anniversary of an illustrious son of Binalonan, Pangasinan – the insightful writer Carlos Bulosan.

As you very well know, Carlos Bulosan was the author of the immortal classic, “America is in the Heart.” In this semi – autobiographical essay, Bulosan became the voice of Filipino immigrants in America as they struggled with cross – cultural encounters as well as racial discrimination and labor injustice. In the end, he re – affirmed his hope in the triumph of the Filipino in a foreign land.

Above all, through the leadership of the Center for Pangasinan Studies, such inculcation of the rich history and Filipino values of the people of Pangasinan should make us more proud of our heritage and identity.

Moving forward, the 2023 International Conference on Pangasinan and Bulosan Studies will contribute to the realization of our provincial vision that “By 2031, Pangasinan is the premier province of great opportunities, sustained socio – economic growth, and a place where one can experience life at its best.”

I would like to thank Dr. Perla Legaspi (Executive Director, Center for Pangasinan Studies) for leading the conduct of the ICPBS 2023.

Again, congratulations and thank you very much.

  
RAMON V. GUICO III, DPM



REPUBLIC OF THE PHILIPPINES  
PROVINCE OF PANGASINAN

## OFFICE OF THE VICE GOVERNOR



A message from the Vice Governor of Pangasinan  
**MARK RONALD DG. LAMBINO**

It is an honor and privilege to convey my heartfelt greetings and congratulations to the Center for Pangasinan Studies (CPS) as you hold the *2023 International Conference on Pangasinan Bulosan Studies (ICPBS)* with the theme, ***"Expanding the Frontiers of Knowledge on Pangasinan" on November 27-29, 2023.***

I extend my full support to the whole CPS Community as you aim to bring multi and interdisciplinary studies on Pangasinan closer to the Pangasinan locale and the global community in general through this year's conference.

This momentous event is a great opportunity for all the researchers and scholars to show off their knowledge and share their insights about the economic, environmental, cultural, political, and social change aspects of Pangasinan development and transformation.

With the invaluable contribution of CPS and continuous support of the Provincial Government of Pangasinan, I am certain that we can lead our province towards greater heights.

Mabuhay and more power!

  
**MARK RONALD DG. LAMBINO, MPM**



**PERLA E. LEGASPI**

**Chairman/Convenor of ICPBS 2023**

**CPS Executive Director**

Since the establishment of the Center for Pangasinan Studies (CPS) in 2016 by the provincial government of Pangasinan, the CPS has served as the research and development arm of the provincial government. It represents a consortium of Higher Educational Institutions (HEIs) in the province such as the PHINMA University of Pangasinan, Lyceum-Northwestern University, University of Luzon, Virgen Milagrosa University Foundation, Universidad de Dagupan, University of Eastern Pangasinan, and Pangasinan State University. The consortium also includes the University of the Philippines System.

In line with the Center's mandate to disseminate materials to promote historical, economic, political and cultural studies as well as to serve as a venue for discussion of issues related to the province, the 2nd International Conference on Pangasinan and Bulosan Studies will be conducted on November 27-29, 2023 at the Sison Auditorium, Lingayen, Pangasinan. With the theme "Expanding the Frontiers of Knowledge on Pangasinan," the conference will provide a platform for the presentation of 146 research papers, which deal with various aspects of development in the province such as social, economic, historical, cultural and environmental concerns. The conference will also focus on the life and works of Carlos Bulosan, a son of Binalonan, Pangasinan. He is considered to be a social movement icon not only here in the country but beyond.

It is expected that the Conference will bring together researchers, faculty, staff and students from private and public educational institutions; officials and staff from national agencies and local government units; civil society organizations; and other participants who are interested in knowing about the issues and concerns affecting the development of Pangasinan. It is expected further that the said Conference will bring about more learnings and sharing of ideas among the participants, which hopefully will result in more changes and innovations in development initiatives and good governance.

At this juncture, allow me to congratulate and express my heartfelt appreciation to all members of the steering committee, working committees and all our HEI partners for their efforts and sharing their time with us to make the conference a success.

Most of all, I would like to thank the Honorable Governor Ramon V. Guico III for his full support and leadership. His development-orientedness has inspired the CPS to do its best in performing its mandates. Mabuhay ang Pangasinan, Mabuhay po kayong lahat!

  
PERLA E. LEGASPI





**RAYMUNDO D. ROVILLOS**

**Co-Convenor of ICPBS 2023**

**Consultant for Research and Development, CPS**

This year's conference theme: "Expanding the Frontiers of Knowledge on Pangasinan " aptly addresses the need to produce and disseminate more knowledge/s on the province of Pangasinan. The response to our call for abstracts was overwhelming. We received almost 200 and approved 146 abstracts of presentations and papers on a wide range of topics from various disciplinal and multi/inter-disciplinary perspectives and approaches. This number is an exponential increase from the first conference held in 2018 which had 36 abstracts. We are particularly jubilant over the fact that most of the presenters in this conference are from the higher education institutions of Pangasinan. We see this as indicative of the growing culture of research in the province. Undoubtedly, this culture is significantly being nurtured by the Center of Pangasinan Studies (CPS). We are grateful to the administration of Governor Ramon "Monmon" Guico III for re-enchanting CPS. This is an affirmation of the principle that, with the wholehearted support of leaders, the best of the constituents will surface and flourish. We fervently hope that the knowledge generated would inform and inspire policy-makers, local executives, the private sector and the communities in their respective mandates, programs and projects towards a better Pangasinan.

**Patuloy nating linangin at ipagdiwang ang kagalingan at kahusayan ng Pangasinan.**

**Tunay na #PangasinanAngGaling!**

  
RAYMUNDO D. ROVILLOS







**MARIA LUISA AMOR-ELDUAYAN**  
Provincial Tourism and Cultural Affairs Officer

The International Conference on Pangasinan and Bulosan Studies (ICPBS) 2023 is a pivotal moment in our journey to uncover and celebrate the diverse cultural, environmental, political, social, and economic legacies of Pangasinan and the profound impact of Carlos Bulosan, one of outstanding sons of the province. With the theme, "Expanding the Frontiers of Knowledge on Pangasinan," we reaffirm our commitment to explore and honor the vibrant tapestry that is Pangasinan's heritage. Pangasinan, nestled in northern Philippines, isn't merely a place; it's a historical and cultural masterpiece. Carlos Bulosan's contributions add another layer to this rich tapestry, and this conference provides a platform to unravel and magnify his life's impact to the world.

Cultural education plays a pivotal role within our theme, allowing us to learn more and rediscover Pangasinan's unique cultural and environmental wealth. Through this, we develop cultural tourism as we showcase the province's treasures and bridge gaps between diverse cultures, break down stereotypes, and foster lasting connections that promote understanding and unity among fellow Pangasinenses and across national and global spheres.

ICPBS 2023 is not just an academic exercise; it's a call to action. It encourages the people of Pangasinan and beyond to take pride in their culture, history, and the legacy of Carlos Bulosan. We emphasize the importance of preserving cultural heritage, not just for the past's sake, but for the promising future it holds.

As we explore the diverse aspects of this conference, from literature to art, history to folklore, and governance to tourism, we embark on a journey of exploration, rediscovery, and celebration. Together, we renew our understanding of Pangasinan's profound cultural significance and Carlos Bulosan's global impact.

We congratulate once again the Center for Pangasinan Studies (CPS) for conducting the ICPBS 2023 and extend our appreciation to LGU Binalonan, through Mayor Ramon RG Guico IV for partnering with the provincial government in hosting the conference. We express our immense gratitude to Governor Ramon "Mon Mon" V. Guico III, for supporting initiatives that create cultural education and foster cultural development. Indeed, championing culture-based governance is governance at its best.

**Magnayon Pangasinan!**

  
MARIA LUISA AMOR-ELDUAYAN



# Conference Program

Day 1 | 27 Nov 2023  
(Monday)

8:00 - 9:00 AM

Registration

Lingawen Drum Beaters

9:00 - 11:20 AM

Entrance of Colors

University of Luzon NSTP-ROTC  
Color Guards

National Anthem  
Doxology  
Pangasinan Hymn

Koro Universidad

Welcome Address

**HON. RAMON V. GUICO III**  
Governor  
Province of Pangasinan

Conference Overview

**DR. PERLA E. LEGASPI**  
Executive Director  
Center for Pangasinan Studies &  
Conference Chair & Convenor, ICPBS 2023

Messages

**ATTY. ANGELO A. JIMENEZ**  
President  
University of the Philippines System

**DR. J. PROSPERO E. DE VERA III**  
Chairman  
Commission on Higher Education

Intermission

Lyceum-Northwestern University  
La Florencia Folkloric Dance  
Troupe with Teatro Francisco

Presentation of the  
Pangasinan Music  
Geography Project

Audio Visual Presentation  
Aniweng na Cuerdas Rondalla



# Day 1 | 27 Nov 2023 (Monday)

9:00 - 11:20 AM

## Introduction of the Keynote Speaker

**DR. RAYMUNDO D. ROVILLOS**

Professor, UP Baguio/Consultant,  
Center for Pangasinan Studies

## Keynote Address

**DR. JEFFREY A. CABUSAO**

Professor of English and Cultural Studies  
Bryant University, USA

## Presentation of Tokens of Appreciation

## Photo Ops

12:00 - 1:15 PM

## Lunch Break

## Plenary 1: Internationalization in Higher Education

**ATTY. LILY FREIDA MILLA**

Director, International Affairs Service  
Commission on Higher Education

**DR. CHRISTINE N. FERRER**

Regional Director  
Regional Office 1, Commission on Higher Education

2:30 - 4:00 PM

## Parallel Sessions 1

### Panel 1: Environmental History

Mark Gemson G. Espinoza (UL), Moderator

Sison Auditorium

### Panel 2: Technologies of Healthcare (I)

Jemuel D. Caburian (PHINMA UPang), Moderator

Capitol Resort Hotel

### Panel 3: The Status and Prospects of Pangasinan Artisanal Industries

Jesse P. Ordoñez (UEP), Moderator

PTDC I

### Panel 4: Innovations and Good Practices in Science Education (I)

May Jacklyn R. Samson (UDD), Moderator

PTDC II



# Day 1 | 27 Nov 2023 (Monday)

4:00 - 5:30 PM

## Parallel Sessions 2

### Panel 5: Economics – Income, Savings, and Inflation

John Paul M. Payopay (LNU), Moderator

Sison Auditorium

### Panel 6: Local History and Heritage

Maan L. Ferrer-Villegas (LNU), Moderator

Capitol Resort Hotel

### Panel 7: Technologies of Healthcare (2)

Rosalyn G. Rosal (VMUF), Moderator

PTDC I

### Panel 8: Living with the Pandemic and the "New Normal" (1)

Jan Karlo Thomas V. Sanchez (UEP), Moderator

PTDC II

6:00-9:00 PM GOVERNOR'S TOAST AND CULTURAL NIGHT

### Welcome Message

**HON. MARK RONALD  
DG. LAMBINO**

Vice Governor, Province of Pangasinan

### Testimonial Message

**HON. RAMON V. GUICO III**

Governor, Province of Pangasinan

### Dinner

### *Cancion a Pamagalang*

(Songs to Give Honor)

**Stefanie Quintin-Avila** (*Soprano Singer*)

**Adrik Cristobal** (*Classical Guitarist*)

-- End of Day 1 --



# Day 2 | 28 Nov 2023 (Tuesday)

8:00 - 8:30 AM

**Registration**

8:30 - 9:00 AM

**Recap of Day 1 (AVP)**

9:00 - 10:00 AM

**Plenary 2:  
Contextualizing  
Pangasinan Studies**

**DR. MA. CRISANTA  
NELMIDA -FLORES**

Professor  
University of the Philippines Diliman

10:15 - 11:45 AM

**Parallel Sessions 3**

**Panel 9: Science of the Mangrove Ecosystem**  
Marvin T. Samson (UL), Moderator

Sison Auditorium

**Panel 10: Teaching and Learning Amidst the Pandemic (I)**  
Ma. Theresa H. Biazon (UL), Moderator

Capitol Resort Hotel

**Panel 11: Intangible Cultural Heritage of Pangasinan**  
Ma. Emma J. Tuvera (UL), Moderator

PTDC I

**Panel 12: Human-Environment Interactions**  
Rizza A. Bartolo (UDD), Moderator

PTDC II

12:00 - 1:00 PM

**Lunch Break**

1:15 - 2:15 PM

**Plenary 3:  
Health Service Delivery  
at the Time of the Pandemic:  
Post-COVID Reflections**

**DR. FRANCISCO T. DUQUE III**

Former Secretary  
Department of Health





# Day 2 | 28 Nov 2023 (Tuesday)

2:30 - 4:00 PM

## Parallel Sessions 4

**Panel 13: Innovations in Renewable Energy**

Razeale G. Resultay (PSU), Moderator

Sison Auditorium

**Panel 14: Living with the Pandemic and the "New Normal" (2)**

Elmer D. Noriega (PHINMA UPang), Moderator

Capitol Resort Hotel

**Panel 15: Teaching and Learning Amidst the Pandemic (2)**

Cynthia P. Lopez (LNU), Moderator

PTDC I

**Panel 16: Development of Local Products and Technology (1)**

Kareen Claire G. Jardinez (UL), Moderator

PTDC II

4:00 - 5:30 PM

## Parallel Sessions 5

**Panel 17: Disasters, Patients, and Health Care Practices**

Febrey C. Lamsen (LNU), Moderator

Sison Auditorium

**Panel 18: Good Governance in Education**

Dulce Marie B. Solis (VMUF), Moderator

Capitol Resort Hotel

**Panel 19: New Tools for Teaching and Learning**

Joan Daryl V. Abellera (LNU), Moderator

PTDC I

**Panel 20: Issues and Challenges in Education and among the Youth**

Nova E. Arquillano (PSU), Moderator

PTDC II

6:00 - 9:00 PM

## HIGHER EDUCATION INSTITUTION (HEI) NIGHT

### *Sayaw na Panangidayew*

*Lyceum-Northwestern University*

*Pangasinan State University*

*PHINMA University of Pangasinan*

*Universidad de Dagupan*

*University of Eastern Pangasinan*

*University of Luzon*

*Virgen Milagrosa University Foundation*

-- End of Day 2 --



# Day 3 | 29 Nov 2023 (Wednesday)

8:00 - 8:30 AM

**Registration and  
Assembly**

Sison Auditorium

8:30 - 10:00 AM

**Travel to Binalonan**

10:15 - 11:15 AM

**Plenary 4:  
Carlos Bulosan and  
Binalonan**

**VERONICA SISON**  
University of the Philippines  
Diliman

11:15 - 12:30 PM

**Parallel Sessions 6**

**Panel 21: Pangasinan Culture and Identity  
through Language**

Rizalyn M. Kolman (VMUF), Moderator

Ramon J. Guico Sr. Sports  
and Civic Center

**Panel 22: Youth and Students' Lived-  
Experiences**

Eden A. Soriano (UDD), Moderator

UEP-AVR

**Panel 23: Culture-based and Sustainable  
Tourism**

Cipriano Q. Mendoza, Jr.(UEP), Moderator

WCC Multi-Purpose Hall

**Panel 24: Reading and Teaching Carlos  
Bulosan and F. Sionil Jose**

Merly D. Quiao (VMUF), Moderator

Binalonan Visitor's Center

12:30 - 1:30 PM

**Lunch Break**

1:30 - 2:30 PM

**Plenary 5:  
Lessons from  
Carlos Bulosan:  
Anti-Asian Racism is  
a Global Relation**

**DR. MICHAEL JOSEPH VIOLA**  
Professor  
St. Mary's College of California, USA



# Day 3 | 29 Nov 2023 (Wednesday)

2:30 - 4:00 PM

## Parallel Sessions 7

### Panel 25: Research in Biological Resources

Marvin T. Samson (UL), Moderator

Ramon J. Guico Sr. Sports and  
Civic Center

### Panel 26: Good Practices in Pedagogy

Jane P. Carreon (VMUP), Moderator

UEP-AVR

### Panel 27: Socio-economic Development Initiatives

Elmer D. Noriega ((PHINMA UPang), Moderator

WCC Multi-Purpose Hall

### Panel 28: Innovations in Teaching Mathematics

Randy F. Soriano (PSU), Moderator

Binalonan Visitor's Center

4:00 - 5:30 PM

## Parallel Sessions 8

### Panel 29: Innovations and Good Practices in Science Education (2)

Levy Audelmar G. Cerezo (UDD), Moderator

Ramon J. Guico Sr. Sports  
and Civic Center

### Panel 30: Student-Centered Learning Strategies

Jemuel D. Caburian (PHINMA UPang), Moderator

UEP-AVR

### Panel 31: Development of Local Products and Technology (2)

Jun S. Camara (PSU), Moderator

WCC Multi-Purpose Hall

### Panel 32: University-Community Engagements through Research and Extension

Jun S. Camara (PSU), Moderator

Binalonan Visitor's Center

6:30 PM - 8:30 PM

## CLOSING PROGRAM/CARLOS BULOSAN NIGHT

### Goodwill Message

**HON. RAMON RONALD V.  
GUICO IV**

Mayor, LGU Binalonan

### Film Showing and Director's Talk

**PROF. SARI RAISSA LLUCH  
DALENA**

UP Film Institute

### Awarding of Certificates

### Closing Remarks

**DR. RAYMUNDO D. ROVILLOS**

UP Baguio/Co-Convenor, ICPBS 2023



## Optional Tour

Capitol Heritage Tour &  
Banaan Pangasinan Provincial Museum Tour

-- End of ICPBS 2023 --

CPS Website



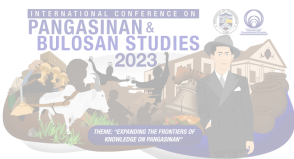
Banáan



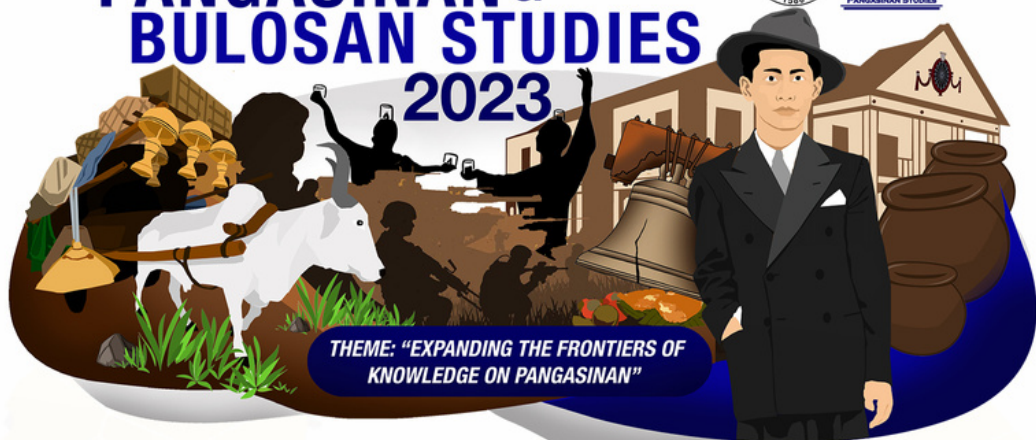
See Pangasinan



For more information about the CPS, Banaan, and See Pangasinan, scan the QR Code.



INTERNATIONAL CONFERENCE ON  
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2023**



# **PAPER ABSTRACTS**







# ABSTRACT

## PANEL 1

01

### A HISTORY OF EARTHQUAKES IN PANGASINAN: 1880, 1892, 1990

Kerby C. Alvarez  
University of the Philippines-Diliman

Earthquakes are common geological disasters that hound human settlements and prove that communities and societies could instantaneously collapse and be wiped out. This particular environmental entropy affects people's lives, from property destruction to loss of life, and leads to disasters that transcend into the political and socio-economic spheres of society. In their scholarly explorations of historical earthquakes in Peru in Latin America, Oliver-Smith (2020) and Doughty (2020) identify long, continuously developing perspectives on earthquakes that transcend the political and social elements of the said Andean state. As they argue, Peru has endured the impacts of devastated communities, as a result of political and cultural transformations brought about by that earthquake, or as embedded in the socio-cultural fabric of societies. It is in this modality that this paper embarks to narrate a history of earthquakes in Pangasinan province, Philippines. This paper presents a historical analysis of three notable earthquakes that hit and devastated the province of Pangasinan: the 18-22 July 1880, 16 March 1892, and the 15-16 July 1990 earthquakes. Using Spanish archival reports and published scientific studies in the late nineteenth century, and the newspaper and government reports in the early 1990s, this study approaches the historical narration and analysis of these notable earthquakes in a localized manner and centers on the experiences of the province of Pangasinan. Although these earthquakes were felt and these destroyed communities in most parts of the island of Luzon, looking at the specific experiences of a province provides a picture of the ground situation, the local response of the people and the government, and the way the geographical condition influence the way scientific knowledge and disaster management policies were crafted.

*Keywords: Philippine earthquakes, Pangasinan, disaster response, scientific knowledge production*



# ABSTRACT PANEL 1

02

## ANG KARANASAN NG PANGASINAN SA LINDOL SA LUZON NOONG 1880: MGA EPEKTO, TUGON AT INTERPRETASYON

Kevin Conrad A. Ibasco  
University of the Philippines - Open University

Ang papel na ito ay tumatalakay sa mga naging epekto ng lindol sa Pangasinan noong 1880 at kaakibat na tugon ng pamahalaang Espanyol at interpretasyon ng mamamayan. Tinangka nito na suriin ang kaganapan ng iba't ibang pueblo ng lalawigan sa panahon na naganap ang lindol. Upang maunawaan ang estado ng Pangasinan na malapit sa panganib, kinakailangang tuklasin ang kasaysayan ng kalamidad na tumama rito. Kagaya ng ibang mga lugar sa bansa, madalas ring hinaharap ng mga Pangasinan ang banta ng iba't ibang sakuna tulad ng bagyo at lindol. Isandaang taon bago ang lindol sa Luzon noong 1990, hindi ito nakaligtas sa malakas na lindol sa taong 1880. Gumamit ang papel ng mga primaryang batis sa pagsasalaysay sa sakuna. Maraming gusali at imprastraktura ang nasira, partikular na ang mga simbahan at tribunal. Tumagal ang lindol ng halos dalawang linggo noong Hulyo 1880. Pinakamalakas dito ang naitala noong ika-14 ng Hulyo na umabot sa Intensity IX (devastating tremor). Nagdulot ito ng ground subsidence, fissures at lateral displacements sa mga lupain malapit sa Ilog Agno. Inilarawan din ang matinding kamalasan, pati na rin ang pagdulot ng pagkabalisa at pagkatakot, at ang pagkaparalisa ng trabaho ng mga mamamayan. Ito ang sumubok sa kakayahan ng pamahalaang Kastila sa lalawigan bago sumapit ang ika-20 dantaon. Sa naging pagsisiyasat, makikita ang pagkakaroon ng burukrasya ng pamahalaan sa pamamahala rito. Matapos ang lindol, mapapansin din ang paghahalo ng agham at relihiyon.

*Keywords: 1880 Luzon earthquake, colonial responses, religious responses, bureaucracy*



# ABSTRACT PANEL 1

03

## HUMANS AND ENVIRONMENT IN THE LINGAYEN GULF ESTUARY, 1900-2000

Jack Gilbert L. Medrana  
University of the Philippines - Baguio

Lingayen Gulf is an estuarine system formed as the Agno River discharges its waters into the West Philippine Sea. It is one of the most important estuaries in the country, having been a significant population centre for northern Luzon that had developed into a major hub of the fisheries industry. The gulf's southern coast where the Agno and its tributaries meet the sea is a contentious place between humans and nature. It is the core area of Pangasinan where the bigger towns of the province are situated, with urbanization extending from coast to inland areas of the delta. These anthropogenic changes are not only in the form of urban build up but also in the transformation of the surrounding rural landscape brought about by the creation of large-scale aquaculture and salt-making facilities. Natural processes are also at work, and among these were the seasonal flood regimes of the Agno and the other geological activities occurring in the region. Happening in the face of much human influence on an ever-changing landscape of the estuary, these natural processes have posed a challenge to living conditions. This paper examines the interaction between humans and environment at Lingayen Gulf, focusing on the gulf's southern coast. It probes into aspects of anthropogenic alterations of the place during the length of the twentieth century, from the beginning of the 1900s just after the time the Agno delta was connected to the rest of Luzon by railroad, until the closing years of the twentieth century when the region became the premier producer of bangus or milkfish. Through archival information, this investigation seeks to produce narratives of relevant themes comprising an environmental history of the Lingayen Gulf estuary.

*Keywords: Lingayen Gulf, Agno River, Pangasinan, environment, history*



# ABSTRACT

## PANEL 2

01

### A FORMATIVE EVALUATION OF THE 2021 PANGASINAN ELEARNING PROGRAM: LESSONS ON IMPLEMENTING ELEARNING AMONG HEALTH WORKERS DURING A PANDEMIC

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The Local Government Unit-mandated eHealth Networking Services for Universal Health Care (UHC LeHNS) project of the Institute of Philippine Culture (IPC) implemented an eLearning Program with the Province of Pangasinan, in partnership with the Pangasinan Provincial Health Office (PHO), Department of Health (DOH), and the Department of Science and Technology - Philippine Council for Health Research and Development (DOST-PCHRD). This program adapted the training plan of the Pangasinan PHO to a full remote setup, utilizing online courses offered to health workers as well as existing recorded online lectures of the IPC. After the implementation of the program, the project designed a Formative Evaluation study to assess the strengths of the eLearning Program and identify the areas for improvement through structured interviews with Pangasinan health workers. The Formative Evaluation reinforced the best practices that were implemented throughout the eLearning Program in the areas of communication strategies and content coverage. Along with these insights, the evaluation was able to identify best practices for the delivery of the eLearning Program to cater to the unique circumstances brought about by the pandemic. It also ascertained important perspectives on Pangasinan health workers' experiences as they utilize eLearning for their continued professional development. In the end, the findings of the Formative Evaluation will have many helpful implications for other similar programs in the future.

*Keywords: eLearning, UHC, health workforce development, best practices*



# ABSTRACT

## PANEL 2

02

### CAPACITATING FEMALE RURAL HEALTH WORKERS OF THE PHILIPPINES THROUGH MASSIVE OPEN ONLINE COURSES (MOOCs): THE CASE OF PANGASINAN PROVINCE

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This study explores how Massive Open Online Courses (MOOCs) can be an empowerment tool for rural health workers in the Philippines, particularly the women among them who comprise the vast majority of health workers in the country. The case in point will be the implementation of MOOC modules for rural health workers of the province of Pangasinan, by the Ateneo de Manila University and the University of the Philippines Diliman in partnership with the Provincial Health Office of Pangasinan and as part of the COMPETEN SEA project that the European Union (EU) Erasmus + Programme supports. Drawing on the results of the Survey on Learners' Readiness for MOOCs conducted last September 11 to 22, 2017 among 117 rural health workers of Pangasinan, of whom 97 respondents (83%) were female, this study posits that learning about the provincial health system through MOOCs can be beneficial especially to Barangay Health Workers (BHWs), who happen to be predominantly female. These female BHWs are at the frontline of health service delivery, performing crucial roles for communities in the areas of family planning and reproductive health; and maternal, newborn and child health. Based on the 2017 Survey on Learners' Readiness for MOOCs, the BHW female respondents of Pangasinan—as a cohort, and compared to other female health workers as well as to male health workers—have the lowest educational attainment and are the least knowledgeable in the use of computer applications. Notwithstanding this, they expressed a need to enhance their knowledge of the local health system through MOOCs. Being enrolled in MOOCs would empower the female health workers, and notably the BHWs among them, to feel confident in their abilities and to try to learn new knowledge and skills. However, delivery modes of MOOCs should take cognizance of how rural health workers, and especially BHWs, access the Internet, which highlights the need for alternative delivery modes for MOOCs, aside from desktop computers and laptops.

*Keywords: Rural health workers, health workforce development, MOOCs*





# ABSTRACT

## PANEL 2

03

### DIGITAL RURAL HEALTHCARE THROUGH MASSIVE OPEN ONLINE COURSES (MOOCs) IN PANGASINAN, PHILIPPINES

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This study aims to highlight the importance and growing relevance of the Massive Open Online Courses (MOOCs) as a means of educational outreach that target often-excluded and marginal groups. The case in point will be through implementation of MOOC modules for rural health workers of the province of Pangasinan, by the Ateneo de Manila University and the University of the Philippines Diliman in partnership with the Provincial Health Office of Pangasinan and as part of the COMPETEN SEA project that the European Union (EU) Erasmus + Programme supports. The intra-institution and multi-disciplinary project investigated the modality of MOOCs among rural health workers in Pangasinan to evaluate efficient, effective, culture-specific, site-situated health care delivery. The inequitable distribution of government health workers spotlights the imperative for continued support for health workers who serve rural communities, especially the underserved areas, despite the allure of work abroad. The paper describes the three (3) stages of project implementation, the design of the MOOC that seeks to situate spatial specifics mindful of cultural contexts, and critical reflections on the various scalar dimensions of the project.

*Keywords: Rural healthcare, health workforce development, MOOCs*



# ABSTRACT

## PANEL 2

04

### LESSONS AND CHALLENGES IN IMPLEMENTING A LOCAL HEALTH INFORMATION EXCHANGE IN PANGASINAN, PHILIPPINES

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For the past ten (10) years, countries all over the world have been setting up their respective National Health Information Exchanges (HIEs). The goal of these HIEs is to allow the transfer of patient health data from one national government agency to another. While there are many successful models on the implementation of these HIEs, not all countries have been able to set up their own systems. In the Philippine context, with the implementation of the Universal Health Care Law (Republic Act 11223), and the devolution of health delivery to local government units, a different approach is being proposed. To further strengthen the efforts at the national level, several Local Government Units (LGUs) are setting up their own networks to support their citizens.

For the Province of Pangasinan, they have responded to the subsequent implementation of the law by partnering with the Institute of Philippine Culture - Ateneo de Manila University (IPC - AdMU), through the support of the Department of Science and Technology - Philippine Council for Health Research and Development (DOST-PCHRD) in co-designing, co-developing, and deploying an iteration of an interoperability layer. The Local Health Information Exchange of Pangasinan Province is called the Smarter and Integrated Local Health Information System of Pangasinan or SMILHIS Pangasinan. The joint teams generated policy issuances that the province can use to ensure that the LHIE will be made sustainable, and for data stored in the LHIE will be secured and protected. On the architectural side, the LHIE follows the OpenHIE model to ensure that best practices can be captured and implemented. On the technical level, the Health Level International 7 - Fast Interoperable Health Resource (HL7 FHIR) standard was used to ensure interoperability of the LHIE with other already-existing digital health systems in the province.

The study documented the lessons and challenges in implementing a province-level interoperabilityinteroperable HIE to support the implementation of Universal Health Care in the province. The study analyzed various angles and aspects of this initiative including the legal, policy, and technical lessons and challenges encountered, and provided recommendations for the continuing and better implementation of the evolving LHIE of the province.

*Keywords: UHC, Province-wide Health System. Local Health Information Exchange*



# ABSTRACT

## PANEL 3

01

### A STUDY OF THE POTTERY INDUSTRY OF BRGY. PARAYAO, SAN CARLOS CITY, PANGASINAN

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The Pottery industry is one of the commerce of San Carlos City, Pangasinan. San Carlos City was once known as Binalatongan. However, there are no pertinent documents on when and how the pottery industry started at Brgy Parayao, San Carlos City, Pangasinan despite pottery being the source of livelihood among the people in the barangay since time immemorial. To date, due to some compelling reasons, which the study likes to dig out, the pottery industry in Brgy. Parayao gradually declines or is about to vanish. Likewise, the portion of the populace practicing pottery-making is not as substantial as before.

To energize the dwindling industry, this study aims to determine the historical-social-cultural-ethnographical background of the place and the people who are currently engaged or used to engage in pottery making industry. This study will be of help in the revival of the pottery industry and in boosting the interest of the present generation to understand their culture and be proud of their roots as San Carlenian.

*Keywords: pottery*



# ABSTRACT

## PANEL 3

02

### LOCAL INDUSTRY ANALYSIS OF BLACKSMITHING IN POZORRUBIO, PANGASINAN: THE PESTLE APPROACH

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Blacksmithing, an ancient trade, has played a pivotal role in the socio-economic development of communities for centuries. This craft has been an integral part of the Philippine cultural heritage since the pre-colonial era. One such renowned hub for blacksmithing is the town of Pozorrubio in the province of Pangasinan, recognizing the art of sword-making as the town's One-Town-One-Product (OTOP). The primary goal of this study is to assess the current status of the blacksmithing industry in Pozorrubio, Pangasinan, determining the factors to consider for development using the PESTLE model industry analysis. The study utilized a descriptive qualitative research design, with an interview guide. The study reveals that the blacksmithing industry in Pozorrubio, Pangasinan, needs improvement as to operation (policy, guidelines, regulations, implementation, and monitoring) and promotion (marketing) with the support of the government and participation of the blacksmithing operators. The recommended intervention will fervently promote the One-Town-One-Product of Pozorrubio, Pangasinan, to strategically re-position the local ventures in the global (global and local) market. This paper takes the stance that purposeful and intentional efforts must be made to revitalize this vulnerable industry with accountable individuals and organizations.

*Keywords: Local Industry, Industry Analysis, Blacksmithing, Pozorrubio, Pangasinan; PESTLE Approach*



# ABSTRACT

## PANEL 3

03

### STATUS AND PROSPECTS OF THE BRICK-MAKING INDUSTRY IN STA. BARBARA, PANGASINAN

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The municipality of Sta. Barbara is known as the home of red bricks in Pangasinan. More than a decade ago the municipality's local government unit (LGU) had envisioned Sta. Barbara as the "Bricks Capital of Pangasinan". This study recognizes the significance of brick-making in the historical and cultural development of Sta. Barbara. It can be asserted that the industry is part of the municipality's cultural heritage. Though, generally, brick factory sites in Sta. Barbara are still employing the traditional method, some adjustments have been adapted in manufacturing bricks to improve quality and meet market demands. As innovation will always be a possibility, this study sees the need to preserve a cultural heritage by documenting the indigenous knowledge and practices involved in the brick-making process. Such indigenous knowledge and practices as well as the characterization of the Sta. Barbara's bricks and the issues and challenges the industry encounters have constituted the status, which this study investigated. Through the descriptive and phenomenological research methods with laboratory tests, interviews, site observations, and content analysis as data gathering instruments, the researchers determined the status of the Sta. Barbara's brick-making industry. Findings on the status of the brick-making industry are the bases for establishing whether or not there is a need to preserve or revitalize it. Moreover, the study affirms that there are issues and challenges the brick-making industry encounters in Sta. Barbara along the environmental and regulatory compliance, market demand and consumer preferences, innovation and technology, and government support and incentives. The study sees the feasibility of the proposed programs on the preservation of the brick industry for heritage tourism and on the research, training and education for the industry's sustainability to have helpful implications on the prospects of the brick-making industry in Sta. Barbara.

*Keywords: brick making industry, status and prospects, characterization of bricks, indigenous knowledge and practices, issues and challenges*



# ABSTRACT

## PANEL 3

04

### WHERE ARTISANS MAKE SALT: REVISITING PANGASINAN'S ARTISANAL SALT-MAKING INDUSTRY TOWARDS ITS REVITALIZATION

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Salt is an important part of the material culture of Pangasinan. The name of the province, its people and language—Pangasinan—meaning “where salt is made” is indicative of the importance of the salt industry to the province and its peoples’ identity. A study to document the artisanal salt making process of the province and generate information as inputs towards its revitalization and sustainability is therefore desirable. It is in this context that this research was conducted using participant observation, individual interviews with the salt farmers and focused group discussion.

Prior to the enactment of Philippine RA 8172 of 1995 or the Asin Law, the salt-making process in Pangasinan involves three major steps as salt farmers describe: the brine production in the paalatan (evaporators), salt crystallization in the banigan (salt beds) to produce barara (raw salt), and cooking the barara to produce higher quality salt called luyot, which is then sold in the market and can be used as table salt. With the Asin Law, iodization became a compulsory last step for food grade purposes before it is available for public consumption. For farmers without the capability for iodization, their produce lands in the hands of processors. Barara is for industrial purposes.

Salt production process is a family affair involving the young to the elderly. Young members of the family usually help in harvesting salt late in the afternoon after coming from school. Salt-making as a livelihood passes on from one generation to the next within the family. However, salt farmers currently face challenges in their operations such as high-priced raw materials for farm implements, insufficient capital, labor shortages, losses due to lack of storage facility, limited access to technology, and climate change. Salt farmers express their desire for support from government in the form of storage facility, subsidy, establishment of a cooperative, and product mark-up. The use of technology to improve the quality of salt such as the use of geomembrane lining and value adding like flavored salts are opportunities the farmers are considering. These findings point to the need for programs to support salt farmers and the necessary innovations to revitalize the salt industry and sustain the province's position as the salt capital of the country and its legacy as “the place where salt is made.”



# ABSTRACT

## PANEL 4

01

### A MODEL OF PROFESSIONAL COMPETENCIES OF SCIENCE TEACHERS UNDER FLEXIBLE LEARNING

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This study seeks to determine the professional competencies of science teachers in Mangatarem, Pangasinan based on the standards the Framework for Philippine Science Teacher Education (2011) set and to develop a model to determine the professional competencies of the science teachers under flexible learning.

This study used the descriptive-survey-correlational research method since the researcher intends to understand the profile of the science teachers in terms of personal and family-related profile and profession-related profile; the level of professional competencies of the science teachers as the teachers themselves and their students perceive and the significant difference between them in terms of professional knowledge, professional practice and professional attributes; and the model that may be developed to express the level of professional competencies of science teachers as a function of the profile variables.

A total of 65 science teachers and a sample of 390 among the 10,151 students from both senior high school and junior high school department of the seven (7) national high schools in Mangatarem, Pangasinan were the respondents of this study, which the researchers conducted during the school year 2022-2023.

The study found out that the level of professional competencies of science teachers fall under very highly competent. However, there is a significant difference in terms of professional knowledge along science content; their professional practice along designing learning activities, creating holistic learning environment, and facilitating students' ideas; and their professional attributes along evaluating their teaching practices. It also found out that the length of teaching experience, Individual Performance Commitment and Review Form (IPCRF) rating, and the school size significantly affect the professional competence of science teachers

*Keywords: model, professional competencies, science teachers, flexible learning*



# ABSTRACT

## PANEL 4

02

### EFFECTS OF GENDER GROUPINGS ON STUDENTS' PERFORMANCE IN SCIENCE ACTIVITY-BASED COLLABORATIVE LEARNING

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The author conducted this study to determine the effects of gender groupings on students' performance in science activity-based collaborative learning using a mixed-method research design utilizing both quantitative and qualitative methods. The researcher randomly selected thirty-six (36) junior high students as the subjects and divided into three collaborative groups, twelve (12) Males, twelve (12) Females, and six (6) Males, six (6) Females (Male Group, Female Group, Mixed Group). The subjects took five (5) topics on Environmental Science, five (5) group activities, and five (5) performance tests to where the gender grouping scheme was observed and evaluated. The researcher administered survey questionnaires and also conducted in-depth interviews. Results show that the level of group performance in a mixed group is slightly higher than in the male group and female group. Research results also show no significant difference among the different compositions of group members' gender in the performance in the science activity-based collaborative learning class. The study observed that the students showed positive behaviors in science activity-based collaborative learning with all males and all females in a group in a science activity-based collaborative learning but a mixed group of males and females showed aligned behaviors in science activity-based collaborative learning. Therefore, a mixed group of males and females are better than all male or all female groupings in the aspect of behavior. Results of the interview indicate that the majority of the respondents prefer working with smaller groups.

*Keywords: gender grouping, collaborative learning, group performance*





# ABSTRACT

## PANEL 4

03

### REVOLUTIONIZING SCIENCE INSTRUCTION IN PANGASINAN

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The study investigated the revolutionizing science instruction in Pangasinan, with a focus on identifying indicators contributing to the transformation of science instruction among outstanding teacher-innovators. The study profiled science teachers based on factors such as age, gender, education level, position, teaching experience, research and innovation involvement, awards and recognition, and relevant training. The study aimed to assess the level of revolutionizing instruction among science teachers and determine predictive measures that facilitate this transformation.

The study employed a Sequential Exploratory Mixed Method Design. The qualitative phase involved in-depth interviews with ten outstanding science teacher-innovators. It used thematic analysis to identify key themes from the qualitative data. The quantitative phase utilized a survey questionnaire administered to 345 secondary science teachers. The study analyzed data using descriptive statistics and regression analysis.

The findings highlighted four (4) key themes: attitudes, beliefs, practices, and challenges. Outstanding science teacher-innovators demonstrated positive attitudes, strong beliefs, and innovative practices despite the challenges posed by the pandemic. The study proposed the theory of Revolutionary Science Teacher Cycle, explaining that outstanding teacher-innovators undergo a cyclical process involving attitudes, beliefs, practices, and challenges, leading to continuous improvement and revolutionization of science instruction.

Analysis of the sample teachers indicated that they were primarily female millennials with master's degree units, specializing in biology, and holding the position of Teacher III, with limited teaching experience. They exhibited a high level of revolutionizing instruction, with potential for improvement in instructional practices. Age showed a negative relationship with revolutionizing instruction, while attending more national seminars and training had a positive association.

The study developed the REVISE Framework (Reinvent, Engage, Visualize, Innovate, Support, and Evaluate) to guide science teachers in revolutionizing instruction. It recommends targeted support, collaboration, technology integration, student-centered instruction, addressing age-related challenges, resource accessibility, policy advocacy, equity, inclusivity, and continuous evaluation.

*Keywords: Revolutionizing instruction, Science instruction in Pangasinan, science teachers, outstanding science teacher-innovators*



# ABSTRACT

## PANEL 5

01

### A COMPARATIVE STUDY ON THE PROPENSITY TO SAVE BETWEEN ILOCANOS AND PANGASINENSE

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Culture plays a significant role in shaping an individuals' beliefs, attitudes, and behaviors, including their propensity to save. This abstract explores the influence of culture on teachers' saving behavior. The study compares the propensity to save between Ilocanos and Pangasinense. It uses ethnicity as a proxy variable for culture. Teachers, as members of diverse cultural communities, are subject to cultural norms, values, and expectations that shape their financial decision-making, including their propensity to save. This study examines the nuance of cultural factors of consumption as a driver of savings between the two groups. This paper uses simple t-test to compare the spending and savings pattern of 1,000 teachers in Region 1. The study shows that there is no significant difference between the savings pattern of Pangasinenses and Ilocanos. This study debunks the notion that being kuripot does not necessarily build wealth, but risk aversion does. While both possess an aversion to risk, those who invested in traditional assets had higher propensity to save rather than invest. In conclusion, culture significantly affects teachers' propensity to save. Cultural norms, values, and expectations shape teachers' attitudes towards saving and influence their financial decision-making processes. By recognizing and considering the cultural factors that impact teachers' saving behavior, policymakers and educators can develop strategies to enhance teachers' financial well-being and retirement readiness, ultimately fostering a more financially secure and culturally sensitive teaching community.

*Keywords: Propensity to save, Culture, Risk aversion*



# ABSTRACT

## PANEL 5

02

### CONSUMER PRICE INDEX AND INFLATION RATE IN THE ILOCOS REGION: AN ANALYSIS

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This study indicates the Consumer Price Index and Inflation Rate in the Ilocos Region second quarter of 2019. It involves the performance of the four provinces in the region based on 2012 base year. It correlates to the economic development of the region and how it will compete fairly to other regions in the country. The study reflects the way people in the region consume basic commodities. It gives an in- depth analysis on measuring the spending capability of the individuals in the region. The research used a mixture of quantitative and qualitative researches.

The Consumer Price Index (CPI) is a measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food, and medical care. It is calculated by taking price changes for each item in the predetermined basket of goods and averaging them.

Moreover, the CPI is the most widely reported measure of price changes across countries. It tracks the price of the consumption basket of an average urban household. Definition: The Consumer Price Index (CPI) measures the changes in the cost of a basket of goods and services consumed by the average urban household.

Meanwhile, Inflation is a quantitative measure of the rate at which the average price level of a basket of selected goods and services in an economy increases over some period of time. Often expressed as a percentage, inflation thus indicates a decrease in the purchasing power of a nation's currency.

The objectives of the study are 1. To take notice on the performance of the region in terms of the CPI and Inflation rate; 2. To enlighten the people about the importance of CPI and Inflation Rate in our economy; and 3. To support the government on how to formulate other measures to improve the economic stature of the general public.

The researcher used documentary analysis wherein he gathered the data of the research online based on the reports of concerned government agencies. As qualitative research, he looked for observations and documentary analysis among the members of the Philippine Statistics Agency Region I, NEDA and other government agencies pertaining to economic status of Ilocos Region in 2019. Qualitative research in the sense that the researcher did a comprehensive analysis.

According to Calderon and Gonzales (2008), a case study involves a comprehensive and extensive examination of a particular individual, group or situation over a period of time. The researcher wants to probe the research in terms of quantitative method to analyze, interpret and report the present status of the study that will be described, the nature of a situation as it exists at the time of the study and to determine the cause of particular phenomena. (Ariola et.al., 2006).

*Keywords: Consumer Price Index, Inflation, Price basket, Consumer Goods, Base Year, Price*



# ABSTRACT

## PANEL 5

03

### THE LIFE-CYCLE HYPOTHESIS OF INCOME, CONSUMPTION, AND SAVINGS AMONG TEACHERS OF REGION 1

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Ritchie Macalanda, Cherryl Ignacio  
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This study explores how teachers' saving behavior may be influenced by the life cycle hypothesis, considering their stereotypical image of propensity to borrow. The objective of the study is to determine the income, consumption, and saving trajectory of teachers at various ages. The study surveyed 1,000 public school teachers using a questionnaire through google docs. The study used a descriptive-quantitative research design to determine patterns of income, consumption, and savings. The result of the study shows that teachers start to save at the age of 41. Of the teachers surveyed, 30% have built their wealth by buying land, improving their inherited farmlands, and building their houses. Very few build their wealth from financial assets. In conclusion, applying the life cycle hypothesis to teachers provides invaluable insights into their income, consumption, and saving behavior over their career span. Recognizing the distinct income trajectory of teachers and understanding their financial decisions within the life cycle framework can inform strategies to enhance financial well-being and retirement readiness among teachers, ultimately contributing to their overall financial security and quality of life.

*Keywords: Life cycle hypothesis, Income, Consumption, Savings, Wealth*



# ABSTRACT

## PANEL 5

04

### BUDGETING ACTIVITIES OF SENIOR HIGH SCHOOL STUDENTS AT UNIVERSITY OF LUZON

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Aira E. Gulla, Aillessej Margareth M. Maramba, Charls Raeden G. Maramba,  
Cristine Joy V. Nunog, Lalaine Joy D. Ubando, Amanda C. Untalan  
University of Luzon

Going to Senior High School is an important part of any person's life. It is probably the first-time students get to experience independence. To be a responsible student is not something that can be achieved overnight. Student allowance is occasional funding that can help students with their living expenses while they are studying and similar to student loan living costs but the students do not have to pay it back.

This study aims to assess the budgeting activities of the daily allowance of senior high school students at the University of Luzon.

The method of research is descriptive research and its goal is to provide systematic information about a phenomenon. In this study, the researchers used questionnaires and surveys through google form to achieve the objectives of the study with the permission given by the school.

The researchers aimed data revolved on the profile of the respondents with respect to age, sex, grade level, strand, and their daily allowance and financing (transportation, meals, school expenses, communications, other expenses, and savings). The respondents 98 students, specifically the senior high school students at University of Luzon.

The results of the study were presented in tables which were analyzed, and interpreted thoroughly.

The researchers come to the conclusion that practically all of the respondents are aware of how to save money through budgeting, having a personal safe for their savings, and always setting aside a portion of their allowance so they won't spend it on other things.

*Keywords: Allowance, Budget, Expenses, Income, and Financial Matter*



# ABSTRACT

## PANEL 6

01

### BURIAL AND SANITATION COMPLIANCE IN BOLINAO DURING THE SPANISH COLONIAL PERIOD

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As once part of the Catholic mortuary tradition, interment within churches and their premises became a rampant practice. This eventually led to health and sanitation concerns, which paved the way for the issuance of mandates on the construction of cemeteries. As an issue that defied traditional Catholic burial practices and government affairs, the construction of cemeteries served as a tangible testament to the measures undertaken to address health and sanitation concerns during the Spanish colonial period and how parishes complied with government orders.

This study investigates the burial and sanitation compliance in Bolinao in terms of prohibition of church interment and construction of a cemetery. Through the study of archival materials from the Archdiocesan Archives of Manila and the National Archives of the Philippines, the pressing factors that urged the construction of cemeteries and implementation of mandates on burial and public sanitation are analyzed. Through walk-in surveys within the St. James the Great Parish Church and the old Catholic cemetery, documentation of their physical condition and verification of information obtained from archival sources are conducted. Through these, the heritage value of these burial sites and other facets of local history of the town are also presented.

*Keywords: Bolinao, burial, cemetery, sanitation*



# ABSTRACT

## PANEL 6

02

### CASA HACIENDA: THE UNRECOGNIZED HOME OF THE PHILIPPINE NATIONAL ANTHEM

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University of the Philippines-Diliman

Casa Hacienda is located in a 1.5-hectare compound in Poblacion West, Bautista, Pangasinan. Smith Bell originally owned it. It is an American rice-mill company, which operated during the Spanish period. It was the Favis Family, the late grandparents of Maita Gomez—a beauty queen-turned-activist, acquired it. This place is a cultural heritage hidden from the people of Pangasinan. The lack of government intervention and restoration of the historical landmark contributed to the unrecognition of the place. This is where I took the initiative to present this landmark to the world and featured it during my Philippine Arts course. This is the place where Jose Palma wrote the lyrics of “Lupang Hinirang”. Apart from this historical event, Casa Hacienda also became a shelter to the writers of the La Independencia and by President Aguinaldo when he was being pursued by the American forces. A 10-minute documentary, which I directed, put this study into motion. It explored the various historical events, which took place in the property, its history, how the National Historical Commission declared it as national treasure, and the intervention of the local government of Bautista. Upon interviewing the owners as well as the Bautista Tourism Office, the researcher found out that in April 2021, the present owner Jose Luis Favis Gomez requested tax exemption and incentives for every cost of repair incurred for the restoration of the house and for any other similar assistance from LGU, which recommended Casa Hacienda to be registered as a local heritage to the Philippine Registry of Cultural Properties (PRECUP) of National Commission for Culture and Arts (NCCA) for the sake of the recognition of its historical heritage. The place is not open to the public unless requested. The house is in its moribund state that is why it's not for the public view aside from private ownership.

*Keywords: Casa Hacienda, Historical Landmark, Lupang Hinirang*



# ABSTRACT

## PANEL 6

03

### IN SEARCH OF THE OLD SPANISH TRAILS: REVISITING THE PANGASINAN-BENGUET-NUOVA VIZCAYA CONNECTIONS

João Paulo D. Reginaldo  
University of the Philippines-Baguio

The Old Spanish Trail(s) was a historic route that served as a crucial political, economic, and cultural linkages between the highland settlements of the present-day Itogon, Benguet, and Kayapa, Nueva Vizcaya, with those of San Nicolas, Pangasinan, during the late Spanish colonial period. This paper aims to provide preliminary notes on this 'forgotten' trail(s) and its historical significance as explicitly indicated in the excerpt travel journal of Spanish missionaries contained in Francisco Antolin's Notices of the Pagan Igorots in 1789: Part One, that William Henry Scott (1971) translated. Apart from document sources, the paper collaborates with community leaders, and residents in Alang-Salacsac, in compiling and organizing oral histories, anecdotes, and memories, associated with the trail(s). Lastly, the paper attempts to suggest recommendations with Kayapa LGU, Alang-Salacsac officials, and stakeholders for potential tourism activities along the Old Spanish Trails that will revitalize and strengthen the historical tri-boundary linkages of Benguet, Pangasinan and Nueva Vizcaya.

*Keywords: Old Spanish Trails, Francisco Antolin, San Nicolas, Alang-Salacsac, Tourism Activities*





# ABSTRACT

## PANEL 6

04

### CONTESTATIONS OVER MALICO: AN EXAMINATION OF MALICO IN PRIMARY SOURCES

Raymundo D. Rovillos

University of the Philippines-Baguio

Rose Marie Mendoza

National Archives of the Philippines (Freelance)

This paper aims to provide a historical context to the current controversy over the ownership and jurisdiction of Malico, a barrio that is being claimed by the Province of Pangasinan and Nueva Viscaya. It foregrounds Malico amid the voluminous primary sources available at the National Archives of the Philippines and other repositories of archival materials. In varying degrees, Maleco/Malico appears in census, maps, mission reports, and various government records. These sources are examined through the heuristic tool of historians: historical criticism.

The study reveals that historically, Malico, and San Nicolas had been subjected to shifting boundaries and competing claims. In 1733, San Nicolas (mission) and Tayug were part of Pangasinan. The Dominicans founded the place in 1846, then listed it as a town in Nueva Ecija. In 1864, authorities listed it under Pangasinan. Based on all of the censuses done in the Philippines, from 1918 to 1948, Barrio "Maleco" belonged to the Municipality [later, Municipal District] of Imugan, Nueva Vizcaya. However, on November 11, 1950, a law abolished the Municipal District of Imugan. In the 1960 Census, barrio Maleco was not in the list and thus, did not exist. In the 1970 Census, Barrio [later Barangay in 1975 Census] Malico was a part of San Nicolas, Pangasinan. Barangay Malico became a part of Santa Fe, Nueva Vizcaya, only in the 1990 Census. Since the 1990 Census to the 2020 Censuses, Barangay Malico has been a part of both San Nicolas, Pangasinan, and Santa Fe, Nueva Vizcaya.



# ABSTRACT

## PANEL 6

05

### SAN VICENTE FERRER CHURCH IN THE 19TH CENTURY

Rosabella A. Mendez  
Pangasinan State University

The objectives of the study are to establish the beginnings of the church; to identify the Dominican priests who headed the parish; and to identify the physical changes the church had undergone.

In forming the narrative, the researcher consulted primary sources in the National Archives of the Philippines and accounts of the Dominican fathers were. Secondary sources like books and town fiesta souvenir programs also proved valuable. The study is limited on the developments of the church in the 19th century.

San Vicente Ferrer is in Bayambang, Pangasinan. Bayambang is one of the towns established in the early 17th century in the province. Initially, friars constructed a chapel but a bigger church became a necessity as the number of faithful increased.

In 1804, it was wooden, old, humid and dilapidated. With its sorry state, a church and convent of bricks was to replace it, but plans did not push through. In 1813 workers laid the church's foundation. However, lack of funds and natural calamities again stalled its construction.

Aside from bricks, the then new church used stones and wood. Its doors and windows were from a single piece of an enormous tree. In 1856, it caught fire because its roof was cogon. It used roof tiles, but when an earthquake, which killed churchgoers struck galvanized sheets replaced the tiles. With the church construction, the convent, the belfry and the cemetery slowly emerged.

The development of the church was a result of the efforts of the Dominican friars and the people of Bayambang. The priests provided the guidance while the people supplied funds in the form of taxes and the manual labor.

*Keywords: history, churches, Dominicans, parish*



# ABSTRACT

## PANEL 7

01

### DESIGN AND FABRICATION OF A MANUALLY OPERATED WINCH-PULLEY ROUND-WATER CONTAINER LIFTER FOR INDIVIDUALS WITH DISABILITIES AND LOWER-LEVEL STRENGTH

Christopher S. Blaza, Angelo Jose C. De Guzman, Gesa May O. Marra,  
Ronnel Z. Palisoc, Giovan D. Victorio  
PHINMA University of Pangasinan

Every human being has a distinct ability to act, especially when one considers gender and age. Lifting such a heavy load may be dangerous since women and the elderly have particularly low energy levels. A study by Bartolomei et al. (2016) explored the comparison between male and female athletes in relative strength and power performance and found that women had lower maximal strength values compared to men at deadlifts. Females also had lower levels of power in both the upper and lower body (Bartolomei et al., 2016). There is an increased risk of injury when engaging in repetitive activities. When lifting a 5-gallon dispenser to a sufficient height, injuries and even accidents can occur. According to the 2010 Census of Population and Housing (CPH, 2010), 1.443 million Filipinos, or 1.57% of the 92.1 million household population, are disabled. As a result, they may have difficulty or are unable to load a 5-gallon water bottle into a dispenser.

The researchers developed a machine that may help people who are unable to replace a round-gallon water container with a water dispenser without manually lifting the filled container. Individuals who have injuries to their neck, back, or arms are unable to lift because these are the areas of the body that experience the most stress and strain during the lifting.

*Keywords: relative strength, power performance, pulley*



# ABSTRACT

## PANEL 7

02

### HEALTH RISK ASSESSMENT OF NIPA FARMERS IN PANGASINAN

Wilbert O. Rosario, Jumar B. Baratang, Jomar R. Gonzales, Naomi A. Rebong,  
Queeny Anne Q. Apil, Sherlyn DC. Platon  
Pangasinan State University

Nipa farming accounts for one-fifth or 20% of the national income from the agricultural industry in the Philippines. It is one of the major sources of livelihood in Pangasinan. Farming is also widely recognized as a risky occupation due to a high predominance of occupational injuries and fatalities.

This study aims to determine the Health Risk Assessment of nipa farmers in Pangasinan. Specifically, it seeks to unfold the health risk factors of nipa farmers in terms of their demographic profile, health history, physical assessment, and with their medical-laboratory findings.

In this study, the researchers utilized a descriptive quantitative research design. In selecting the participants, the researchers utilized stratified random sampling. The study covers three municipalities in Pangasinan, namely Alaminos City, Dagupan City, and San Fabian. The research used primarily the instrument adopted from CDC National Healthy Worksite Program (NHWP) Employee Health Assessment. The researchers administered survey questionnaires, conducted interviews and performed a physical assessment, extracted blood samples for medical laboratory testing from the respondents in the stated locality. Respondents had the right to withdraw, voluntary participation, and informed consent in this study.

Based on their physical assessment and medical laboratory results, salient findings show majority of the respondents have experienced hypertension, arthritis, chronic back pain, dehydration, and physical injury.

Since there is a very alarming and risk-taking, identified medical condition of farmers and requires lifetime medication. Moreover, there is poor medication management that may contribute to the increased morbidity and mortality rate of a patient. It is highly recommended that government agencies provide health promotion and disease prevention. It should also give necessary support in terms of financial, socio-economic, and political benefits since Nipa farmers have vital contributions to the agricultural industry in the Philippines.

*Keywords: Health, Health Risk Assessment, Nipa Farmers*



# ABSTRACT

## PANEL 7

03

### ICARE: A REMOTE MONITORING AND ALERT SYSTEM FOR SUPERVISING PATIENT STATUS AND MAINTAINING MEDICATION PATTERNS

Jasper R. Barboza, Kenneth Jremie C. Ferrer, Kassandra Mae L. Finuliar  
Guerlaine Faye Q. Nifas, Junel B. Prado  
PHINMA University of Pangasinan

People have given health serious consideration in the form of developing various techniques to protect human health considering it is an essential aspect of human survival. Modernization has also resulted in the development of new technologies and practices in the medical industry to further improve the quality of providing healthcare. However, the difficulties health-care providers and nurses face when monitoring and providing healthcare to patients are still prominent, thus with this in consideration this study aims to investigate the difficulties of continuous patient monitoring due to the tremendous workload of healthcare providers and nurses. The main objective of this study is to create a system of devices to monitor patients' physiological parameters, monitor IV fluid levels, detect blood backflow in an IV line, and a notification system to alert healthcare providers and nurses when abnormalities are detected.

The "iCARE" system of devices, consists of the WiOx, a wireless oximeter that can collect physiological parameters-body temperature, heart rate, and oxygen saturation, WiSeer, for monitoring IV fluid level and detecting blood backflow in an IV line, and WiNotif, which serves as an alert system. Additionally, the "iCARE" system uses the Internet of Things (IoT) to transmit patient data from one device to another, and for recording and storing patient data with date and time stamps. The data that is stored could be accessible through multiple platforms including computers and smartphones with the provision of a private key as well as the API (Application Programming Interface) key. The said devices are made to assist health-care providers and nurses monitor patient status most practically.

*Keywords: patient monitoring, iCARE, WiOx, WiSeer, WiNotif*



# ABSTRACT

## PANEL 7

04

### ADVANTAGES OF TECHNOLOGIES IN THE MEDICAL FIELD: SHAPING THE FUTURE OF HEALTHCARE

Angel Lynne V. Delos Reyes, Louise Jane F. Tongson, Paula Fame N. Esberto, Bea S. Cayabyab, Angel Katrina D. Clores, Adrian Jero V. Gallarin  
University of Luzon

The research study aims to gain more in-depth understanding and comprehension concerning the advanced technology in the medical field. The researchers want to determine the insights and opinions of medical personnel about advanced technologies. This study focuses on the advancement in medical systems that aim to be phenomenological research. The approach investigates the everyday experiences of human beings while suspending the researchers' preconceived assumptions about the phenomenon. It is used to describe the effects of advanced technology in the medical industry that fulfills what is asked in the research. Phenomenological research will provide answers to the research questions that will accomplish the study's purpose. Surveys and interviews from the respondents are of utmost importance in the study to gather responses. According to the findings, the respondents are more capable of doing what they are assigned with speed and precision. Guesswork, which was frequently used in previous years, is not necessary anymore. Patients who use this equipment pay an enormous sum of money. It would be best if they knew how to effectively perform different responsibilities without requiring the use of technology. The responders listed the negative aspects of working with advanced technologies in connection with the positive aspects. This implies that Advancement in Medical Systems is significant and convenient in today's generation and society, especially to the medical personnel who treat and take best care of us with their golden hands and golden minds. Advanced technology has a big impact on their working performance. More in the beneficial side than the disadvantages.

*Keywords: Advanced Technology, Medical Field, Shaping the Future, Treating Patients, Finance, Poor User Experience, Accuracy and Precision*



# ABSTRACT

## PANEL 8

01

### ACCEPTANCE OF COVID-19 VACCINATION AMONG SENIOR CITIZENS IN LINGAYEN, PANGASINAN

Maricel Nasog, Henryk C. Cruz, Allysa A. Dela Calzada, Ian Hilario T. Salvador  
Lyceum-Northwestern University

The authors conducted this study to assess the level of acceptance, perceptions, and understanding of COVID-19 vaccines among senior citizens in Lingayen, Pangasinan. It utilized a descriptive research method, with a survey questionnaire serving as the primary tool to gather responses from the participants they selected for the study. The study employed the Likert Scale System within the questionnaire to evaluate attitudes, opinions, and perceptions. The authors determined participant sample using Slovin's Formula.

The researchers maintained strict adherence to ethical guidelines, ensuring the privacy and confidentiality of all respondents. The objectives and implications of the research, clearly communicating to these the participants, who were informed that they could withdraw from the study anytime.

Results indicate a moderate level of acceptance for COVID-19 vaccination among the respondents. The three (3) most common concerns were potential side effects, safety, and the overall effectiveness of the vaccine. These factors significantly influenced the senior citizens' level of acceptance towards the COVID-19 vaccination.

The study found a moderate level of acceptance of COVID-19 vaccination among senior citizens. Recommendations stemming from the study include the need for public officials to allocate sufficient time to devise informative campaigns. These campaigns should enhance awareness and understanding of COVID-19 and the vaccines designed to boost the immune response, particularly in older individuals.

Utilizing technology to counteract misinformation about the COVID-19 vaccine on social media platforms can alleviate safety and efficacy concerns. Encouraging vaccinated individuals to share their experiences may help convince others to get vaccinated, thereby assisting the government in reaching their target vaccination rates. Healthcare workers should emphasize the significant impact of vaccination on longevity and overall health and should be proactive in spreading knowledge and fostering confidence in vaccination.

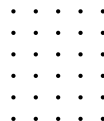
*Keywords: COVID-19 vaccination, acceptance, perceptions, senior citizens, Lingayen*



# ABSTRACT

## PANEL 8

02



### ALTERNATIVE SOCIO-CULTURAL PRACTICES DURING THE PANDEMIC AMONG COMMUNITY FOLKS IN PANGASINAN

Raymund R. Gonatice

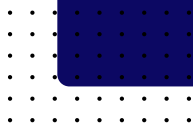
Pangasinan State University - School of Advanced Studies

This study aims to determine the alternative socio-cultural practices during the pandemic among community folks in Pangasinan. The study uses the descriptive analysis method as research design and utilized a self-made quantitative questionnaire. The respondents are community folks from different sectors of nine (9) towns in the fifth congressional district of Pangasinan, which the researcher divided into Cluster 1 - Alcala, Bautista and Binalonan; Cluster 2 - Laoac, Pozorrubio and Santo Tomas; and Cluster 3 - Sison, Urdaneta City and Villasis with 50 respondents from each cluster. The study analyzed data using frequencies-percentage, weights and frequency, Spearman rank-order correlation and Chi-square test, the point-biserial and biserial correlations, chi square test statistic, and weighted mean and frequency.

The respondents are mostly female, married, from a family of 4-6 members, with monthly income from P9,649.47 and not above P19,928.94. Almost half finished college, from various sectors, and Roman Catholic. The respondents perceive marriage to be slightly applicable. Whereas, religious and spiritual practices, and family and personal practices are moderately acceptable. Also, the alternative practices along socio-cultural, economic, and political are viewed as highly effective. Further, respondents consider the problems they encounter along the alternative socio-cultural practices to be highly serious. Based on the findings, a plan of action is proposed to enhance these alternative practices.

The researcher recommends that governing bodies address the challenges the community folks encounter. Likewise, the community folks should improve and sustain the alternative practices in the new normal situation of society that COVID-19 pandemic ushered in and which people perceive as highly effective. Also, future researchers may further look into the perception of community folks on other alternative practices in terms of other socio-cultural components.

*Keywords: alternative socio-cultural practices, pandemic, community folks*







# ABSTRACT

## PANEL 8

03

### COVID-19 VACCINATION PERCEPTION AMONG SENIOR CITIZENS IN DISTRICT 1 PANGASINAN

Jasfer Neil B. Nadong, Maria Lyn P. Cortez  
Virgen Milagrosa University Foundation

This study determines vaccination perception among senior citizens in District I Pangasinan utilizing a quantitative descriptive correlational research design. It utilized probability sampling specifically simple random sampling. The researcher gathered, tabulated, interpreted, and analyze data through descriptive and inferential statistics. Most of the respondents are aged 60 to 70 years old, female, Catholic Christian, and high school graduates who live in urban areas and they have multiple sources of information on COVID-19 vaccination. Most of them had hypertension as comorbidity. Most of the respondents perceived COVID-19 vaccination as with moderate health risk. Most of the respondents agree on the perceived health benefits of COVID-19 vaccination. The study noted a significant relationship between the demographic profile of the respondents to their perception of COVID-19 vaccination as to health risks and health benefits. The study draws the following recommendations: the use of an information guide the researchers crafted to enhance the awareness of senior citizens on the benefits of COVID-19 vaccination; intensive information dissemination through Barangay Health Workers among senior citizens regarding the different COVID-19 vaccines as well as the health benefits; the Municipal Health Office and Office of the Senior Citizens Affairs must hold small group discussions complying with the set minimum health standards to further increase the knowledge, correct the misconceptions and increase the positive perception of the respondents towards COVID-19 vaccination; and strictly implement vaccination campaigns, especially in every barangays of each municipality of District 1 of Pangasinan.

*Keywords: Vaccination Perception, Senior Citizens, COVID-19 vaccination, health risk, health benefits*



# ABSTRACT

## PANEL 8

04

### SHEDDING LIGHT: INSIGHTS OF THE ELDERLIES TOWARDS COVID-19 PANDEMIC

Angeline Joyce M. Soriano, Ma. Christina B. Ortega  
Virgen Milagrosa University Foundation

Elderlies have been pragmatic about the difficulties they have faced throughout the COVID-19 outbreak. The objective of this qualitative phenomenological study was to understand the elderlies' perspectives on the COVID-19 pandemic. A total of ten (10) informants who met the study's criteria took part in the study. The researchers conducted in-depth interviews using an interview guide in gathering data. They applied Collaizi's method of data analysis in the study. Based on the narratives of the informants regarding their perspectives on the COVID-19 pandemic, five themes emerged from the analysis of data, which are: (a) emotional responses, (b) social changes, (c) financial difficulties, (d) lifestyle changes and; (e) coping mechanisms they used to overcome the challenges brought by the pandemic. Despite the impact of the pandemic on social and financial changes, the majority of the informants continued to live rigorously and embrace the new normal in order not to be infected with the virus and be able to meet their needs. They also mentioned that during the pandemic, they became wise in terms of managing finances, strengthening their faith, and re-establishing family relationships despite challenges. The study recommends that there should be a provision of basic health services, mental health education, and counseling to assist elderlies in coping with difficulties and ensure health in every community health center.

*Keywords: Insights, Elderly, COVID-19 pandemic*



# ABSTRACT

## PANEL 8

05

### IMPACT OF COVID-19 AMONG PUBLIC HEALTHCARE FRONTLINER-SURVIVORS IN PANGASINAN

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University of Luzon

This study critically analyzed the lived experience and impact of COVID-19 on healthcare frontliner-survivors in Region 1 Medical Center, a regional tertiary hospital. The study employed mixed method research using Sequential Exploratory of qualitative-quantitative design. The participants were the healthcare workers who contracted COVID-19 disease from March 2020-May 2021 who were recruited using a purposive sampling strategy. Results show that participants experienced fear from illness in abiding with the daily life situation and fighting with the unseen virus which made them vulnerable to contract COVID-19; living with emotional scar during their quarantine stay as characterized by feeling anxious, discriminated, alone, and hopeless; fighting a losing battle wherein they experienced difficulties in combating infectious disease. As they experienced the negative impact of COVID-19, participants engaged in certain activities to cope with stress and helplessness they felt in quarantine facilities; rediscovered love from significant people in times of crisis; and participants displayed huge resilience towards the danger and fear of the illness. Moreover, the researchers explored the lived experience of the respondents through four (4) aspects namely: emotional, psychological, social, and physical health. In particular, respondents perceived COVID-19 to have a moderate emotional impact through the utilization of generalized anxiety disorder. Religion, acceptance, planning, positive reframing, emotional support, active coping, and instrumental support have a drastic impact on one's psychological aspect. More so, social support groups from the family, friends and healthcare provider are significantly documented to influence healthcare social being. Physical health measures have a high impact on the prevention and containment of COVID-19 among healthcare frontline workers.

*Keywords: COVID-1 Pandemic, Public Healthcare Frontliner-Survivor, Government Hospital Pangasinan*



# ABSTRACT

## PANEL 9

01

### CONSERVATION TAILORED TO CONTEXT: AN INNOVATIVE HABITAT SUITABILITY MODEL FOR THE MANGROVES OF PANGASINAN

John Paul M. Payopay  
Lyceum-Northwestern University

Mangrove ecosystems, which are integral to global biodiversity and carbon sequestration are under threat due to anthropogenic pressures and climate change. This is especially important in Pangasinan since mangroves are among the most vulnerable ecosystems to the rapidly changing landscape of the province. The conservation efforts in Pangasinan necessitate a refined understanding of mangrove habitat preferences aligned with local conditions. This research aims to develop a habitat suitability model tailored to the unique ecological conditions of the province. By enhancing the specificity of such models, it aspires to guide more successful mangrove conservation and restoration strategies.

Methodologically, this study integrates an array of biophysical parameters, amalgamating both terrestrial and aquatic indicators identified from a comprehensive review of literature. Factors including salinity, temperature, pH, sediment composition, tidal amplitude, and hydrological regime, form the core of the suitability assessment.

Preliminary findings indicate the potential to significantly improve mangrove conservation efforts in Pangasinan. The use of region-specific parameters enables precise identification of suitable sites for mangrove restoration, leading to enhanced conservation outcomes. Moreover, this nuanced understanding can be pivotal in shaping sustainable coastal development policies, striking a balance between ecological and socioeconomic imperatives. This study emphasizes the critical need for region-specific habitat suitability models in conservation science. It provides robust evidence supporting the view that such models can effectively inform and enhance local conservation strategies, thereby contributing to broader global objectives of biodiversity preservation. Our findings should encourage scientists, policymakers, and conservationists to further explore and apply this approach in other ecological contexts and for other species, thereby potentially leading to more sustainable and effective conservation outcomes.

*Keywords: Mangroves, conservation and restoration, habitat suitability, region-specific models, sustainable coastal development*



# ABSTRACT

## PANEL 9

02

### EFFECT OF INCREASING TURBIDITY ON THE FILTRATION RATE OF SELECTED BIVALVES FOUND IN THE RIVERINE SYSTEM OF BINMALEY, PANGASINAN, NORTHERN PHILIPPINES

Francis Albert T. Argente, Emmanuel Federico C. Capinpin, Jr., Jamela C. Bautista  
Pangasinan State University

The study assessed in a laboratory the filtering activities of three (3) Binmaley riverine bivalves (*Geloina expansa*, *Crassostrea iredalei* and *Mytella charruana*) at increasing total suspended solids (TSS) concentrations to understand their physiological responses in highly turbid waters. Researchers used five (5) replicate samples of adult-sized *G. expansa* (59.04 mm,  $\pm 2.52$  SD), *C. iredalei* (69.17 mm,  $\pm 6.29$  SD) and *M. charruana* (56.75 mm,  $\pm 5.81$  SE) to determine the filtration rates at varying TSS concentrations (40, 250, 500, 750, 1000 mg L<sup>-1</sup>). Results show significantly increasing filtration rates of *G. expansa* (0.004 to 0.081 mg L<sup>-1</sup> min<sup>-1</sup> mm<sup>-1</sup>) and *M. charruana* (0.004 to 0.108 mg L<sup>-1</sup> min<sup>-1</sup> mm<sup>-1</sup>) up to 750 mg L<sup>-1</sup> TSS concentration. The study observed a similar trend for *C. iredalei* (0.003 to 0.120 mg L<sup>-1</sup> min<sup>-1</sup> mm<sup>-1</sup>) but the significant increase in filtration rate continued up to 1000 mg L<sup>-1</sup>. The results may imply the physiological threshold of these bivalves when exposed to highly turbid environment. The study recommends management interventions for these bivalves in such scenario.

*Keywords: ecophysiology, clam, oyster, mussel, stocks*



# ABSTRACT

## PANEL 9

03

### NEMATODES IN MANGROVES: GUARDIANS OF THE MUDDY GALAXY

Joan Daryl Abellera, Hazel Joy Marcilla, Justine Mei Salundaga, Jarice Frias  
Lyceum-Northwestern University

Marine protected areas (MPAs) play a critical role in conserving and managing coastal ecosystems. Within these MPAs, mangrove forests serve as vital habitats that support diverse and dynamic communities. Nematodes are abundant and diverse organisms that play critical roles in nutrient cycling and ecosystem functioning. Understanding their community structure and species composition in these MPAs is crucial for assessing the biodiversity and ecological health of mangrove habitats. However, their characterization within mangrove ecosystems in specific MPAs remains understudied.

This study aims to address this knowledge gap by conducting a comprehensive study on the characterization of nematode species within two MPAs in Pangasinan namely, Sabangan Mangrove Park, in (town) and Bangrin Mangrove Farm in (town). It employs field sampling, laboratory analysis, and statistical methods. The study collected sediment samples from representative sites within the two MPAs, and extracted nematode communities, using a modified Baermann tray method. Subsequently, it utilizes morphological techniques for species identification and classification. We measured and correlated environmental parameters, including sediment composition, organic matter content, salinity, and temperature, with nematode community structure.

Findings from this study will contribute to the existing knowledge on nematode biodiversity and community dynamics within mangrove ecosystems, particularly in the context of MPAs. Results will also provide crucial baseline data for future monitoring and comparative studies, aiding in the assessment of MPA effectiveness and the development of sustainable management strategies. Furthermore, the study outcomes will enhance our understanding of the intricate relationships between nematodes and their environment, shedding light on the ecological role of nematodes as "guardians of the muddy galaxy" within mangrove habitats.

*Keywords: Nematodes, mangroves, marine protected areas, biodiversity, community structure, environmental factors, Bangrin Mangrove Farm, Sabangan Mangrove Park*



# ABSTRACT

## PANEL 9

04

### RAPID DIVERSITY OF NIPA AND MANGROVE IN SAN FABIAN PANGASINAN

John Michael P. Panoy, Jose B. Padilla  
Lyceum-Northwestern University

This study aims to assess the rapid diversity of mangroves and *Nypa* in San Fabian, Pangasinan, with a focus on species composition and abundance. The research design employed a descriptive random sampling approach to investigate the community structure of mangroves in nine coastal barangays. The collected data included species composition and counts in different stations. The results revealed that the mangrove and *Nypa* community in San Fabian, Pangasinan exhibited relatively low diversity, with a few dominant species observed. The recorded species and their corresponding counts included *Nypa fruiticans*(4), *Sonneratia ovata* (1), *Nypa fruiticans* (7) in Alacan; *Nypa fruiticans* (23) in Mabilao; *Rhizophora mucronatia* (18) in Bolasi; *Rhizophora stylosa* (11) in Sobol; *Rhizophora apiculata* (8) in Nibaliw West; *Rhizophora stylosa* (14) in Nibaliw Magliba; and *Rhizophora apiculata* (3) in Nibaliw Navarte. The findings suggest a dominance of specific species and limited diversity within the mangrove and *Nypa* community. Although some level of diversity was observed, it was not evenly distributed across the ecosystem. Additional data collection and analysis from multiple sites are recommended for a more comprehensive understanding of mangrove and *Nypa* diversity. Furthermore, it is important to engage stakeholders and local communities in conservation efforts. Collaborative initiatives can raise awareness about the significance of mangrove and *Nypa* ecosystems and foster community involvement in sustainable practices. This will contribute to the long-term health and diversity of these habitats, ultimately supporting effective conservation and management strategies.

*Keywords: Nypa, mangroves, conservation, biodiversity analysis, San Fabian*



# ABSTRACT

## PANEL 10

01

### CHALLENGES CHILD DEVELOPMENT WORKERS ENCOUNTERED IN CONDUCTING ASSESSMENT IN THE NEW NORMAL

Maylyn D. Ponce

This study shall purposely determine the challenges that child development workers encounter in conducting assessment in the new normal. Specifically, it determines the profile of the respondents. Likewise, it determines the levels of challenges CDWs encounter in conducting assessment in the new normal in terms of the seven domains of development. The findings of the study serve as bases of the researcher in crafting a support program for CDWs which may enhance the competencies of CDWs in assessing young learners during pandemic, which may happen again in the future. The study used the quantitative research design with a validated questionnaire-checklist as data gathering instrument. The study involved 63 CDWs in the Municipality of Bayambang. It subjected data gathered to appropriate statistical tools. Based from the findings and conclusions drawn, the researcher recommends that CDWs may be encouraged to attend trainings, seminar-workshops, and conferences that may contribute to the enhancement of their competencies in handling young learners; Local Government Unit (LGU) and the Municipal Social Welfare and Development Office (MSWDO) may allocate adequate budget for the professional development of the CDWs; the capacity building program proposed by the researcher may be endorsed to higher authorities for approval and implementation, and a similar study may be conducted in another setting and may consider to conduct one that may delve on the challenges parents may have encountered in assessing their children in the new normal.

*Keywords: challenges, ECCD Checklist, Child Development Workers*





# ABSTRACT

## PANEL 10

02

### COPING WITH EDUCATIONAL DISRUPTIONS IN TEACHING ARLING PANLIPUNAN: BASIS FOR BASIC EDUCATION LEARNING PLAN

**Nelssen Carl M. Ballesteros**

Pangasinan State University - School of Advanced Studies

This study examined how teachers adapted to the challenges of teaching Araling Panlipunan in the new normal. The majority of the 60 respondents were females aged 26-30, with over half holding a Masteral degree and teaching Grade 7. They had a minimal workload and held various roles such as library services and canteen management. Most were Teacher III with less than five (5) years of experience, and blended learning was their preferred approach.

In terms of challenges, respondents moderately agreed on module preparation, learning resources, and management and development. However, they strongly agreed on the conduct of on-line classes. Coping strategies focused on positive well-being, maintaining relationships, and belief in teaching effectiveness. Time management strategies were also commonly employed.

Educational attainment showed significant correlations with challenges in learning resources and management. However, age, sex, and year level they handle did not have significant correlations with challenges related to module preparation, retrieval, learning resources, management and development, and online classes. Attendance at school-based and national-level seminars correlated significantly with module preparation.

With the exception of sex, respondents' profiles were not significantly related to coping strategies. However, there was a highly significant difference between the extent of coping strategies and the level of challenges the teachers face, indicating that teachers adjusted their strategies based on the challenges they encountered.

*Keywords: Coping strategies, challenges, teaching Araling Panlipunan, education in the new normal*



# ABSTRACT

## PANEL 10

03

### SKILLS DEVELOPMENT OF LEARNERS WITH AUTISM SPECTRUM DISORDER UNDER BLENDED LEARNING MODALITY

Jeanibie T. Agustilo  
Department of Education

The paradigm-shift in the teaching-learning processes with the blended learning has greatly affected the education of children with disabilities, especially those with autism spectrum disorder. This study shall assess the skills development of learners with autism spectrum disorder, the challenges they encountered, and the support they received under the blended learning modality. The study employed the multiple case study with eight (8) non-graded learners with autism spectrum disorder from Bautista Central School SPED Center enrolled during school year 2022 – 2023 as the subjects. The learners were enrollees during school year 2021. The findings show that majority of the learners with ASD have developing or approaching proficiency skills. On the other hand, among the most serious challenges researchers observed during blended learning was the changing behavior of their children as an effect of the changing class schedules and loss of focus. Parents provided the most support, especially the learning and skills development of the learners with ASD, ensuring the completeness of learning modules and activity sheets that the learners need. Likewise, they also provided gadgets and other technologies that the learner can use for his/her study.



# ABSTRACT

## PANEL 10

04

### REPERCUSSIONS OF PANDEMIC TO THE PSYCHOSOCIAL BEHAVIOR OF PANGASINAN CRIMINOLOGY STUDENTS

Princess Karren G. Taloban  
University of Luzon

The emergence of COVID-19 pandemic and the attendant measures to curb its spread necessitating lockdown, social distancing and transitioning to on-line mode of learning have increased the prevalence of psychological distress among students. This descriptive study aims to determine the various repercussions of pandemic in psychosocial behavior of Pangasinan Criminology students in the University of Luzon. Further, it plans to adopt programs that will promote a positive psychosocial well-being of the respondents. The scope of the study included 60 criminology students of the University of Luzon who were enrollees in the first semester, school year 2022-2023. The research selected criminology students as respondents using random sampling, with questionnaires for the purpose of gathering data. Based on the findings made, the demographic characteristics of the respondents such as age and gender greatly influence and explain its variation. Majority of the respondents fall into the age bracket 18 to 21. This is the common age to enter college. Likewise, the study shows that women make their way into the field of Criminal Justice, although not dominant but it is evident that women have made significant entry into the field of criminology considering that historically, the discipline is peculiar on men. Findings show that the most influential effects of COVID-19 are: it causes anxiety and stress on how we can overcome this pandemic and limited interaction with friends. It clearly showed that this pandemic affects to a high degree, the emotional and social relationships of the students. On the other hand, by contrast to other studies, the respondents showed lower concern scores on the statement that they feel paranoid. This only signified that Criminology students as the respondents of this study have managed to maintain a sound body and mind despite this outbreak.

*Keywords: Pandemic, Repercussions, Psychological Behavior, Criminology Students, Pangasinan*



# ABSTRACT

## PANEL 10

05

### CHALLENGES ENCOUNTERED BY LEARNERS AND THE ASSISTANCE PROVIDED BY THE PARENTS AND TEACHERS DURING COVID-19 PANDEMIC

Rizzel Aparicio, Zhe Kolyn Berot, Harija Meredith Datu Indal, Kimberly De Jesus, Daryll Dumaguin, Roxanne Malicdem, Renne-rose Navarro, Gedee Kaye Angeli Pariño, Lyrie Ira Penequito, Rizel Padua, Imelda Cuartel, Petrona Agcaoili  
University of Luzon

This study aims to determine the challenges learners encountered and the assistance parents and teachers provided on modular learning during the COVID19 pandemic. This research uses qualitative descriptive research design during the school year 2021-2022 at Malued Elementary School, with 20 pupils, 20 parents and 10 teachers as the respondents. Researchers found out that some of the learners have difficulties in time management resulting in unfinished assigned tasks. Learners have a different environment that caused this situation. Some learners do not have the guidance needed to finish the works assigned to them. The study also found out that parents are doing their best in giving assistance and support to their children. They serve as the teacher at home. They help the learners in answering modules and in motivating them to continue. The researchers found out that teachers, despite the challenges and obstacles that they have encountered, still give their utmost effort that children will still learn in their homes. The teachers, data show, are trying to use different modes of learning just to make sure that students learn. This only shows that the teachers are very innovative to reach out to the learners.

*Keywords: Covid-19 Pandemic, Modular Learning, Assistance, Challenges*



# ABSTRACT

## PANEL 11

01

### BALITAN PANGASINAN: THE ROLE OF PANGASINAN NEWS PROGRAMS IN THE PRESERVATION OF THE PANGASINAN LANGUAGE

Edel Eira L. Gorospe, Daniela Mae L. Tibule, Josephine Mar U. Turao  
Universidad de Dagupan

Languages are an important part of connecting communities. However, they can become endangered. Media, which is used for communication and the dissemination of news and information is dependent on language. Using local languages in news dissemination is one way to preserve them. Pangasinan is a local language originating from the province of the same name and although included in the top ten most spoken languages in the Philippines, it remains endangered. No mainstream television news program or newspapers use Pangasinan in the province. However, five radio news programs namely Aksyon Radyo Dagupan's Balitang Bayan and Mga Isyu ng Bayan DWIZ Dagupan's Isyu at Reaksyon; and DWJE 88.1 FM Radyo Pangasinan's Maabig Ya Kabwasan Pangasinan and Tartariwan Balita use the said language.

This study aims to determine the role of these radio news programs in the preservation of the Pangasinan language. It assesses the effects of Pangasinan radio on the said language and determines the strategies that can improve the listenership of the programs. The Agenda-Setting Theory of Maxwell McCombs and Donald L. Shaw aids the study. The respondents of this study are people of different occupations situated in AB Fernandez West Avenue, Dagupan City, and employees of the radio news programs mentioned. Qualitative research design is used to analyze the programs' strategic importance in the Pangasinan language. This research confirms the importance of the five radio news programs and that they are among the last threads that keep the Pangasinan language alive. The researchers recommend creating afternoon news programs, radio dramas, and public advisory programs for more language exposure and accommodation of listeners who prefer to tune in during the afternoon.

*Keywords: Pangasinan, language, preservation, radio, news*



# ABSTRACT

## PANEL 11

02

### MGA REGISTER NA JARGON NA PAGBABANGUS SA DAGUPAN: ISANG BILINGUAL NA BOKABULARYO BILANG PANIMULANG PAGTATALA

Renato R. Santillan  
Bonuan Buquig National High School

Ang Lungsod ng Dagupan ay kilala bilang Bangus Capital ng bansa, maging sa buong mundo, dahil na rin sa naiaambag nito sa merkado bilang may pinakamalaking produksiyon ng bangus. Sa Pangasinan tinatawag ang bangus na Betel. Bunga nito, inaasahan na makapagtala ng mga bokabularyo na ginagamit mula pag-aalaga hanggang sa pag-aani ng bangus hanggang sa pagluluto nito na tutumbasan sa Filipino mula sa salitang Pangasinan. Ang pananaliksik ay nahati sa tatlong bahagi. Una ay ang pag-aalaga ng bangus, pangalawa ay sa pag-aani ng bangus at ang ikatlong bahagi ay paraan sa pagluluto ng bangus. Gumamit ang mananaliksik ng pagtatanong at immersion upang makakalap ng mga salita sa pagbabangus. Itinala ang lahat ng mga salitang nasaliksik at pagkatapos isinalin ang mga ito sa Filipino.

Sa kabuuan, may 487 na lahok ng mga salita sa unang bahagi na Pag-aalaga ng bangus. Dito mapapansin ang mga naitalang salita gaya ng bêtêl, gilon-gilon, ëtab, at kati. Itong mga salitang ito ay likas sa Pangasinan. Gaya ng bêtêl na bangus pala ang salin nito. Bagaman, kapansin-pansin, sa sentro ng pamilihan ng Lungsod ng Dagupan ay popular na ginagamit ang salitang bangus kaysa sa bêtêl. Ang mga gumagamit lang ng salitang bêtêl ay ang mga nag-aalaga ng bangus. Mayron namang naitalang salita sa Ikalawang bahagi na Pag-aani na 289. Samantalang sa Pagluluto ng Bangus ay nagtala naman ng 349. Kung papansinin, sa Pagluluto may mga salitang hiram gaya ng pectoral fin, pin bones, butterfly fillet, boneless bangus atbp. Ang mga ito walang katumbas na terminolohiya sa Pangasinan kaya pinanatili ito sa pinanghiramang wika. Sa pangkahalatan, may 1,125 na lahok na salita na isinalin sa Filipino.

*Keywords: Pagbabangus, Gilon, Betel, Bokabularyo, Bilinguwal*



# ABSTRACT

## PANEL 11

03

### PAGBAWI SA PATUPAT BILANG TALINGHAGANG PANGASINAN

Mark Anthony S. Angeles  
University of Santo Tomas

Ang patupat ay isang suman na gawâ sa diket (ansakket, malagkit) na bigas, ibinalot sa kuwadradong hinabing dahon ng niyog, saka inilubog sa kumukulong katas ng tubô. Kilala rin ito sa tawag na sinambong o inkaldit. Ayon kay Felice Prudente Sta. Maria, isa itong “soft Ilocano pudding” (2006: 109). Isa itong direktang pagsang-ayon na ang kakaning ito na ginagawa at itinitinda sa mga probinsiyang may mga migranteng Ilokano ay isa ngang pagkaing Ilokano. Sa papel na ito, sasaliksikin ang bakas ng patupat at kung paano kumalat ang impluwensiya nito hanggang sa labas ng rehiyon ng Ilokos, gamit ang mga diksiyonaryo noong ika-18 hanggang ika-19 siglo at mga akdang pampanitikan. Halimbawa, sa maikling kuwentong “The Rice Fields” ni Gregorio C. Brillantes, ginamit ng awtor na tubong Tarlac ang samyo ng nilulutong patupat sa bukirin sa gitna ng gabi, kasama ng iba pa, bilang olpatibong imahen ng mabuting alaalang ibinangga sa realidad ng epekto ng dahas ng digmaan sa bidang tauhan. Bukod sa nabanggit sa isang awiting pambatang Ilocano (“Maysa, Dua, Baduya”), ang kakanin din ang sentrong imahen ng maikling maikling kuwentong “Y’Miss Phathupats” ni Juan Crisostomo “Crissot” Soto, ang tinaguriang Ama ng Panitikang Kapampangan. Gaya ng sa akda ni Soto, ginamit sa pang-uuyam ang imahen ng patupat sa mga maikling maikling kuwentong Tagalog na “Ang Kurang si Patupat” at “Si Maryano at ang Paring si Patupat.” Gayon man, isang tawag ng paglalambing umano ng kaniyang mga parokyano sa isang Padre Pablo Alvarez ang bansag na “Patupat,” ayon sa biyograpiya ni Ernesto V. Epistola tungkol kay Nicanor Abelardo, isang kompositor at piyanistang tubong San Miguel, Bulacan—na siyang tagpuan ng dalawang akda. Tatangkaing bawiin ng papel na ito ang patupat at aariing muli ng Pangasinan sa pagtukoy sa mga ebidensiya ng pag-unlad ng agrikultura at pangangalakal ng probinsiya noong ika-18 siglo.

*Keywords: Agrikultura, Komersiyo, Pangasinan, Panitikan, Patupat*



# ABSTRACT

## PANEL 11

04

### PERSPECTIVES ON PANGASINAN CULTURE, IDENTITY, SOCIETY AND WORLDVIEW IN PANGASINAN NOVELTY SONGS: A LEXICAL SEMANTIC APPROACH

Eliezer M. Evangelista  
Polytechnic University of the Philippines

This paper aims to provide insights about Pangasinan culture, identity, contemporary society, and worldview through lexical semantic analysis of the lyrics of 23 select Pangasinan Novelty Songs (PNS), that is, the content words used in these songs using Meaning- Text Model approach. Through this method, lexicons used in these songs are analyzed in various semantic levels to expose the operations and processes involved in meaning-making, which manifest a skillful language usage and linguistic knowledge of songwriters.

A total of 1093 lexical entries are categorized, defined on various layers of meaning and given semantic descriptions in relation to their sense relations, theme and entailment on discourse levels. This study also highlights the understanding of Pangasinan language through the roles of songwriters as agentive subjects and the system of linguistic knowledge that allows them to produce and understand meaningful utterances. The results and findings in this study prescribe several ways to utilize PNS for language revitalization and enrichment of cultural identity in the province of Pangasinan such as in the teaching of Mother Tongue Based-Multilingual Education.

*Keywords: Agrikultura, Komersiyo, Pangasinan, Panitikan, Patupat*





# ABSTRACT

## PANEL 11

05

### PRESERVATION OF PANGASINAN'S INTANGIBLE CULTURE: MUSIC AND LITERARY WORKS

Karla Trysha M. Taaca, Princess Sarah M. Quintana  
Urdaneta City University

Pangasinan culture is a vibrant and diverse mix of food, festivals, crafts, and other traditions that reflect the province's rich history and unique identity. Intangible heritage refers to the cultural practices, traditions, and expressions that are passed down from generation to generation. Unlike tangible heritage, which includes physical objects such as buildings and artifacts, intangible heritage cannot be touched or seen. Examples of intangible heritage include music, dance, storytelling, cuisine, rituals, and festivals. Intangible heritage plays a vital role in preserving cultural diversity and promoting social cohesion. It helps communities to maintain their identity and pass on their values to future generations. Moreover, it contributes significantly to the economy by attracting tourists who are interested in experiencing different cultures. However, intangible heritage is also at risk of being lost due to globalization and modernization.

This study aims to collect various musical pieces and literary works and examines its social, cultural and historical contexts that reflect the values of the people of Pangasinan. It employs a narrative data collection form of qualitative research by using the two types of sources including the primary and secondary sources consisting of written evidence. Moreover, the study also conducted oral history to supplement necessary information needed for the study.

With these, the study aims to promote and preserve Pangasinan culture by introducing various music and literary works. This research aims to produce a compilation of all the musical pieces and literary works of Pangasinan.

*Keywords: Intangible culture, Pangasinan, Preservation*



# ABSTRACT

## PANEL 11

06

### RHYTHMS AND RITUALS: PANGASINAN FESTIVAL VERNACULAR DANCES

Joann E. Orbillo, Carmelo John E. Vidal  
University of Luzon

Festival vernacular dances as integrated in the Physical Education curriculum has a constant desire to improve the cultural awareness and development of local traditions. Through the festival dances and other events related to it, students have the opportunity to add their own cultural values to the festival, vitalizing in such a way local culture and local traditions. Thus, this study aims to record and preserve some rituals and practices of the Pangasinense presented in festival vernacular dances as an instructional material in teaching Physical Education. The researchers employed ethnographic descriptive methods and utilized five types of research instruments, namely: photo and video recording; interview guide; documentary analysis; and observation. Results of the study show that festival vernacular dances could be a great source of information in producing activities that could be integrated in school activities in promoting and preserving national identity and in the holistic development of each child. A Dance Literature with recorded dances could be utilized in Physical Education classes successfully by providing physical education educators deeper understanding and appreciation of the value and beauty of each festival vernacular dance with its proper execution. Indeed, it will provide not only essential training in physical development and social interaction but also opportunities to learn about, appreciate and experience life aspects of the Pangasinan culture.

*Keywords: Festival Vernacular Dances, Physical Education, Pangasinan*



# ABSTRACT

## PANEL 12

01

### PHILIPPINE NATIVE TREES FOR A CLIMATE CHANGE RESILIENT PANGASINAN

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Pangasinan Native Trees Enthusiasts, Inc.

This research aims to provide solid evidence as to why Native Trees particularly Philippine Native Trees are more suitable to the mitigation of climate change as to exotic species. At this time, there is a rising awareness, and research about the importance and knowledge about the Philippine Native Trees. These goes to show that the Philippine Native Trees provide numerous economical, medicinal, and cultural values in Pangasinan.

Following through the different observations, experiences, and researches made throughout the Philippines from Luzon, Visayas, and Mindanao, this study builds a strong foundation that Philippine Native Trees do better in Pangasinan than alien species. The researchers' analysis show that Philippine Native Trees have a deep, and dense rooting system perfect for the country's climate, and a symbiotic relationship to the environment which animals and even microorganisms depend on. Philippine Native Trees should be more appreciated in Pangasinan for the symbiotic relationship they give to the nature, but also provides an economic, medicinal, and cultural value to humans as well.

*Keywords: Philippine Native Trees, exotic species, alien species, Climate Change, symbiotic relationship, microorganisms*



# ABSTRACT

## PANEL 12

02

### RECONFIGURING THE ADAPTIVE USE OF A DRY CREEK AS AN URBAN GREEN SPACE THROUGH ACTIVITY NODES: THE CASE OF COLOS CREEKS IN MAPANDAN, PANGASINAN

Melchor N. Serapion  
University of Luzon

The Colos Creek, a defunct dried tributary river, is to be reconfigured as a recreational urban green space to preserve its functional use as a floodwater catchment area and as a planning strategy to augment at least 2.9 hectares of recreational spaces in Mapandan. Declared locally as an environmentally critical area, reconfiguring Colos Creek as a recreational urban green space will save it from the brink of losing its functional role as an urban flood control system and as a buffer zone for urban sprawl due to the growing urban expansion activities in the municipality. The potential use of the Creek as a recreational urban green space will not only augment the lack of recreational spaces in Mapandan but will also address the existing societal distress and the health-related problem of the residents by reconfiguring the Colos Creek as a sociable recreational space that promotes active social interaction. The research methodology involves the conduct of municipalwide in-depth interviews with 5,071 Mapandan residents and a seven-day nine-hour observation activity to determine the population's inner needs for recreational activity spaces, especially women, mobility-disadvantaged populations, and older adults. A seven-day site observation study on park visitors inside the Mapandan Public Plaza and a review of related literature confirm the result of the population sampling interviews that the local population of Mapandan prefers to hang out alone, doing nothing before or after engaging in multiple types of recreational activities. The research output also leads to a spatial concept for a multi-use outdoor, short-term public space territory activity node called the "tree-shaded seat" concept.

*Keywords: Urban Green Space, Dry Creek adaptive use, "Tumambay," Hang out, Tree-shaded seat*



# ABSTRACT

## PANEL 12

03

### REVISITING THE LAND USE PLAN OF LOCAL GOVERNMENT UNITS IN PANGASINAN FOR NIPA INDUSTRY: BASIS FOR FUTURE REFORMS AND DIRECTIONS

Christian A. Gamo, Darwin R. Palado  
Pangasinan State University

This study seeks to determine whether there is an existing Comprehensive Land Use Plan (CLUP) for nipa industry in Pangasinan. The objectives of the study is to further strengthen the knowledge of the nipa farmers in producing different products from it. Furthermore, it aims to encourage the Local Government Units (LGU) in empowering nipa farmers in their locality by means of financial support, trainings and technology related to production and planting of nipa palm. Also, it seeks to enable the LGUs to create a comprehensive land use plan for nipa industry in their locality and in the province.

The study aims to determine the comprehensive land use plan of the LGUs in Pangasinan. The researchers gathered data in three municipalities that produce nipa palm, namely Bugallon, Lingayen and San Fabian. This study utilized the qualitative type of research. Qualitative research in the sense that it involves collecting and analyzing non-numerical data through interviews. (Bandhari, 2020). Since the researchers utilized qualitative research, they conducted sampling scheme with the target respondents, particularly the municipal planning officers, municipal agricultural officers, punong barangays and kagawads. Prior to the gathering of data, the researchers appeared at the respective offices of the municipal mayors with an official written communication asking permission to conduct an interview among the respondents.

The researchers formulated a set of questions to validate whether there is an existing land use plan in the three (3) municipalities.

Since it is a qualitative type of research, the questions were synonymous to get consistency whether there is a comprehensive land use plan on nipa industry in the province.

Based on findings, the conclusions are: 1. There is an existing ordinance on CLUP among the three (3) municipalities (Bugallon, Lingayen and San Fabian) the nipa industry is not included; 2. Nipa industry is not an agricultural priority in the three municipalities; 3. There was a lost opportunity when Mariano Marcos State University channeled a facility and technology in producing bio-ethanol involving nipa farmers in Bugallon but there was no support from the LGU; and 4. nipa industry in Pangasinan shows a great potential for sustainable livelihood among the local folks.

**Keywords:** *Nipa, Comprehensive Land Use Plan, Legislation, Ordinance, Livelihood, NIPA Industry*



# ABSTRACT

## PANEL 13

01

### BIOMASS GASIFIER FOR POWER GENERATION: A BASIS FOR A WASTE MANAGEMENT PORTFOLIO PROPOSAL TO THE FARMERS OF SAN JUAN, SAN CARLOS CITY, PANGASINAN

Marlon M. De Guzman, John Dominic A. Bravo, Denzel T. Delos Santos,  
Sophia Grace O. Castillo, Jasiel A. Pascua  
PHINMA University of Pangasinan

This study aims to explore the impact of agricultural solid waste on the environment and human health in San Juan, San Carlos City, Pangasinan and provides a sustainable management of these wastes to mitigate the negative effects of mismanagement of such wastes. A biomass gasifier is a system that converts biomass (organic matter such as wood chips, agricultural waste, or even municipal solid waste) into a gas fuel that can be used for various energy needs. The process involves heating the biomass in a low-oxygen environment to produce a gas mixture called syngas, which consists primarily of carbon monoxide, hydrogen, and methane. The syngas can then be used as fuel for internal combustion engines, boilers, or turbines to produce electricity or heat. Biomass gasification is considered a renewable energy source as the organic matter used for fuel is often obtained from waste products or sustainably managed forests.

The researchers did the study in Barangay San Juan, San Carlos City Pangasinan during the second semester of the academic year 2022-2023. It employed the technology of biomass gasifiers for the sustainable management of agricultural waste in the area. Through the biomass gasifier, the waste was converted into a gas fuel to run various machinery such as motors and generators.

*Keywords: gasifier, waste management, human health*



# ABSTRACT

## PANEL 13

02

### DEVELOPMENT OF MICRO-HYDROPOWER USING VORTEX TURBINE FOR ALTERNATIVE SOURCE OF ELECTRICITY FOR BUBBLE RICE GRAIN DRYER

John Paulo C. Juan, Darren Edward Aguilar, Arnel Cayaban,  
John Michael Mangapot, Eljohn Parana  
PHINMA University of Pangasinan

Electricity has a significant impact on agriculture by providing farmers with various tools and technologies to improve crop production and efficiency. Drying rice grains is one of the most important steps to improve the efficiency of crops and maintain the quality of rice grains. This study aims to help the agriculture industry, especially micro farmers, to introduce a new way of drying rice grains. It aims to introduce a solution for drying problems caused by bad weather and insufficient drying space for rice grains. The rice grain drier has a heater blower and a bubble, which help to reduce the moisture level of the rice grain to an acceptable level. Moreover, micro-hydro power using a vortex turbine is utilized as the electric source of the heater blower. The proponent installed a portable turbine in which there is a continuous flow of water.



# ABSTRACT

## PANEL 13

03

### KNOWLEDGE AND PERCEIVED CHALLENGES ON RENEWABLE ENERGY SYSTEM AMONG SMALL AND MEDIUM SCALE ENTERPRISES IN PANGASINAN

Jasper C. Ocampo  
University of Luzon

This descriptive correlational study determines the level of knowledge and perceived challenges on renewable energy systems among Small and Medium Scale Enterprises (SMEs) in Mangaldan, Pangasinan to come up with an action plan. The study involved 64 SMEs owners. Most of the respondents are adults, female, married, and finished their respective bachelor's degree. Most have been in the business for a long time, and had no training related to renewable energy systems. They are moderately knowledgeable on the sources and benefits of renewable energy. Respondents perceive the challenges very highly on the renewable energy systems. The study correlates number of years in the business and the number of training sessions with the level of knowledge and the perceived challenges of the respondents on renewable energy.

The researcher recommends the use of the Action Plan to be utilized by the Local Government Unit (LGU) to provide activities to enhance the knowledge of the SMEs on the sources and benefits of renewable energy; the LGU and the Department of Energy to provide financial support in the implementation on the use of renewable energy among SMEs owners; and other studies should be conducted to further evaluate the benefits of renewable energy in SMEs.

**Keywords:** *Renewable Energy System, Small and Medium Scale Enterprises (SMSE), Pangasinan*





# ABSTRACT

## PANEL 14

01

### CHALLENGES, STRATEGIES, AND OPPORTUNITIES OF PUBLIC ELEMENTARY SPECIAL EDUCATION TEACHERS IN A NEW NORMAL

Rosalinda C. Mamaril, Jennifer M. Austria, Jan Bernadeth S. Jovellanos, Charina Lazo  
Universidad de Dagupan

This research investigates the experiences of the Public Elementary Special Education teachers in this on-line modality of education. The purpose of the study is to maintain quality education and to create more effective teaching and learning process. The qualitative study uses a thematic approach in gathering data. The data were primarily from 13 respondents who are in Public Elementary Special Education Teachers. Findings show that the challenges public Special Education Teachers encounter are: The learners needs in an on-line modality; poor parental involvement and problem behavior of learners. The strategies they employ in relation to the challenges they encounter are : continuously participating in community linkages; strengthening their professional development; and using positive reinforcement. In this new normal education, the opportunities that happen to Special Education Teachers are: they develop their professional progress, technological attributes, and building teacher qualities. For the implications to the pre-service Special Education Teachers, they should be service-oriented and they should be committed in teaching. In conclusion, this study benefits pre-service teachers especially Special Education majors, this will enhance their professional learning, prepare them in their future teaching career, and maintain quality and effective teaching and learning process in a new normal.

*Keywords: Special Education, Online Modality, New Normal Education, Technological Attributes, Community Linkages*



# ABSTRACT

## PANEL 14

02

### GIVE ME A HAND: LIVED EXPERIENCES OF PHYSICIANS RESPONDING TO COVID-19 PATIENTS

Daryl Joe B. Aquino, Jonathan C. Diola  
Virgen Milagrosa University Foundation

This qualitative phenomenological study explores the lived experiences of physicians responding to COVID-19 patients during the pandemic. Ten (10) physicians from different municipalities of Pangasinan served as informants in this study. The researchers conducted interviews as means of gathering the data. A thorough interpretation of the informant's experiences shaped the findings of the study in which researchers formulated themes and sub-themes. The main themes deal with (1) Tension in the Bundle of Nerves; (2) COVID-19 Management; (3) Coping with COVID-19; and (4) the Critical Role of Health Care Professionals. Based on the narratives of the informants, the researchers came up with an inference that physicians have an essential part in responding effectively to the COVID-19 pandemic. They have a critical role in diagnosing, containing, and treating patients. Their commitment to treating patients despite increased personal risks is essential for a successful public health response. This study unveiled the threats of infectious diseases such as COVID-19, which demand more time and effort, the physicians to continue to work as normal despite the risk of illness, risk of death, fatigue from extended hours, moral distress and potential legal and professional risks when asked to work beyond their competencies. The findings of the study serve as eye-opener to recognize the physicians' effective response to the COVID-19 pandemic, which could be applied in this post-pandemic new normal work setup. Hence it is recommended to acknowledge and address physician, clinician, and staff concerns such as burnout and workforce shortages in order for them to respond effectively to the needs of their patients. Furthermore, hospital compliance with local, national, and international governmental guidance should be in place and put into practice to ensure workplace safety for clinical and non-clinical staff.

*Keywords: physician, COVID-19 management, hospital compliance, pandemic*



# ABSTRACT

## PANEL 14

03

### POPULATION MANAGEMENT: FAMILY PLANNING PROGRAM IN PANGASINAN AMIDST THE COVID-19 PANDEMIC

Shayne C. Delos Santos, Jonathan C. Diola  
Virgen Milagrosa University Foundation

This descriptive-correlational study aims to determine the family planning (FP) program in Pangasinan amidst the COVID-19 pandemic. Respondents of the study were the 79 public health nurses serving as FP program implementers and their 282 FP clients from the four cities in Pangasinan. A survey questionnaire served as a tool in the collection of data. Descriptive statistics such as frequency, percentage, weighted mean, and Pearson's  $r$  Correlation Coefficient were utilized in the analysis of data. Results showed that most of the FP program implementers have been long in the service, BS in Nursing- graduates, and had less training attended. While most of the FP clients are young adults and females, who finished Junior High School and earn less than the minimum wage. The FP Program implementation level in Pangasinan amidst the pandemic was highly implemented based on the assessment of both nurses as program implementers and clients as end users. Nurse implementers rated the problems as moderately serious such as work overload, lack of participation of the target population for sex education and women of reproductive age, lack of social mobilization of FP, and stigma of contraceptive effects. On the other hand, the FP clients rated the problems as moderately serious such as fear of acquiring COVID-19, financial constraints, transportation, distance, and accessibility in availing the FP program. FP clients with higher monthly income would consider further FP management. In terms of the correlation between Nurses' Profiles and the problems encountered, no significant relationship was observed between nurses' profiles and the problems encountered. While FP clients' profiles, showed a negative correlation with the problems encountered. To enhance the FP program in Pangasinan, the researchers recommend Project SUPERB (Sustain, Uplift, Promote, Encourage, Rev up, and Benchmark) be considered for evaluation if it can be applied in the realization of the National Program on FP. Furthermore, the nurse implementers shall seek advanced professional education and training to enhance their capability in identifying gaps or problems in the implementation of the Family Planning program in Pangasinan

*Keywords: Population management, Family Planning, Family planning clients, Nurse Implementers*



# ABSTRACT

## PANEL 14

04

### SPARK IN THE DARK: LIVED EXPERIENCES OF PARENTS ASSISTING BEGINNING READERS IN THE NEW NORMAL

Nora F. Benavides, Woodrow Wilson D. Gabris  
Lyceum-Northwestern University

The study "Spark in the Dark: Lived Experiences of Parents in Assisting Beginning Readers in the New Normal" aims to explore the lived experiences of parents in assisting beginning readers in the City of Dagupan. It also aims to explore the experiences and challenges of parents in assisting beginning readers through the modular distance learning modality, to describe the strategies they utilized to address these challenges, and to offer pieces of advice and suggestions to other parents. Findings reveal that three factors affected the experiences and observations of parent-informants, namely: the parent-child factor, the technical factor, and the financial factor. The study also reveals children's lack of ability to focus and the negative sentiments of parents when it comes to teaching their children; parents' experience in teaching; and the impact of livelihood on parent teaching. Time availability depicts how the time for livelihood and personal responsibilities affect their time for assisting the learners and the capability of children to learn. Parents asked for assistance through external support and proper time management to address the challenges they encountered. The study recommends that schools take steps or take actions that could help ease the difficulty of parents in assisting their children in beginning reading. Parents should communicate directly with the learners' teacher to ask for assistance and guidance with home learning. Parents should maintain a positive perspective with regards to being involved in their children's education.

*Keywords: lived experiences, beginning readers, modular distance learning modality*



# ABSTRACT

## PANEL 15

01

### BALIK-ESKWELA PROBLEMS: TRANSITIONING FROM ONLINE TO ONSITE CLASSES

Rogelyn P. Elico, Nina Ysabel P. Boquiren,  
Jasmine Anne Quintos, Rizalyn M. Kolman  
Virgen Milagrosa University Foundation

After three (3) years of homeschooling due to the COVID-19 pandemic, Basic Education schools in the Philippines have been mandated to implement the Department of Education (DepEd) Order no. 034 series of 2022, which sets the start of classes and guidelines of the school calendar and activities for School Year 2022-2023 in accordance with its commitment to the resumption of five (5) days of in-person classes. With this DepEd order, students faced other challenges known as Balik Eskwela problems with regard to the transition from on-line distance learning to Onsite learning. This study aimed to determine the balik-eskwela problems of students while in transition from online to onsite classes. The researchers employed a quantitative descriptive design with a Google form survey –questionnaire as a tool for gathering data. statistics such as frequency counts, average weighted mean, and used the Pearson Product-Moment Correlation Coefficient in the analysis of data. Results show that students have problems on the learning environment, the COVID 19 virus fear of transmission, and financial instability. In terms of the correlation, study the found out that there is a significant correlation between the profile of the respondents and their balik-eskwela problem. Hence, it can be concluded that this transition affects the face-to-face or onsite learning of the students due to their balik-eskwela problems.

*Keywords: balik-eskwela, learning environment, face-to-face classes, onsite classes*



# ABSTRACT

## PANEL 15

02

### PERCEPTIONS OF BSED MAJOR IN VALUES EDUCATION STUDENTS TOWARDS FLEXIBLE LEARNING AT UNIVERSITY OF EASTERN PANGASINAN

Cristobal M. Cantor  
University of Eastern Pangasinan

This study aims to determine the perceptions of Bachelor of Secondary Education major in Values Education students towards flexible learning at University of Eastern Pangasinan during the second semester, academic year 2020-2021. The study collected respondents' profiles in terms of their sex and age. Further, it determines a significant difference between the perception of flexible mode of learning with respect to the age and sex of the respondents. The null hypothesis was tested at 0.05 levels of significance. There were 50 respondents in the study. The study used five-attribute sets of questionnaires to gather the needed data and frequency counts, percentage, weighted mean and used Analysis of Variance (ANOVA) for the treatment of data. This research used descriptive comparative. Based on the findings, the following are the conclusions: the majority of the respondents fall under 20-25 years old and most of them are females. The majority perception of the respondents towards flexible learning is positive. The most encountered obstacles of the respondents in the flexible learning environment are adjusting to the difference between face-to-face learning and online flexible learning. There is no significant difference in the perception of male and female respondents towards flexible learning. However, age has a significant effect on the perception of learners towards flexible learning; Specifically, the perception of respondents aged 19 and below towards flexible learning is statistically more positive compared to their 20 to 25 years old counterparts. Finally, the combined effect of age and sex does not have a significant effect on the perception of respondents towards flexible learning and the most iv preferred intervention in a flexible learning environment is the use of interactive instructional materials.

*Keywords: flexible learning, pandemic, values education*



# ABSTRACT

## PANEL 15

03

### PERFORMANS NG MGA MAG-AARAL SA FILIPINO SA SYNCHRONOUS AT ASYNCHRONOUS NA PAMAMARAAN GAMIT ANG INSTRUCTIONAL VIDEO

Jenny Rose A. Macaranas  
Pangasinan State University

The author conducted this study to determine the performance of students in Filipino in synchronous and asynchronous learning using instructional video as a teaching tool. This study used a quasi-experimental design. The questionnaire served as the researcher's instrument to know the profile of the respondents. The researcher also gave a test consisting of one hundred (100) items to obtain the performance results of students in Filipino in synchronous and asynchronous learning using instructional video. The researcher based questions from the lesson of Chapters 1-5 of the novel *Noli Me Tangere*.

In the collected data, the language the respondents most often use at home is Filipino so it can be reflected that the score they obtained is high or their performance level is very good. Most of the respondent's parents graduated from college and the average monthly family income is PHP15,000-20,000, this leads to the result that smart phones and laptops are the most used gadgets.

Based on the results, there is no significant difference in the level of performance of the two sections that used the instructional video in the asynchronous and synchronous learning. Although both sections achieved a very good level of performance, the section that the teacher guided or which underwent the synchronous learning still recorded a higher number of students who achieved a very good level of performance. Therefore, by providing guidance, the teacher encourages or improves students' learning.

The study found out that there is no significant relationship between the level of learning and the profile of the students based on the language at home, the gadget they use and the parent's level of achievement. However, it found a significant relationship between the level of learning and the profile of students based on gender and monthly family income.

This study discovered the use of instructional videos to be effective and efficient in cultivating the ability and increasing the performance of students. Therefore, this study suggests its use in the teaching of *Noli Me Tangere* and other literature to increase the performance level of students.

Meanwhile, the problem students face in the use of instructional video should be given a remedy. This includes the assumption of a strong internet connection in the school. Also smart TV in classrooms and smartphones or tablets for students should be provided where these are necessary for learning.

*Keywords: flexible learning, pandemic, values education*



# ABSTRACT

## PANEL 15

04

### INFLUENCE OF MOBILE TECHNOLOGIES TO THE PRE-SERVICE TEACHER'S MOBILE LEARNING

Joy Micaella C. Pascua, Yvonne Nicole C. Quinto, Roselyn E. Rioferio, Rosemarie E. Rioferio, John Norman C. Rodriguez, Imelda E. Cuartel  
University of Luzon

Students in higher education institutions utilize mobile devices persistently for academic purposes. These devices allow them to access online resources, collaborate with peers, and communicate conveniently. Additionally, mobile apps designed specifically for education proliferate to enhance students' learning experiences. The purpose of this qualitative descriptive case study is to explore college students' perceptions of the influences mobile technology has had on their education. The conceptual foundation for this study is Koole's FRAME (Framework of Rational Analysis of Mobile Education) model, which emphasized the interaction between the learner, the mobile device, and the social elements of mobile learning. Data collection includes information obtained from 50 pre-service teachers, through the use of a survey questionnaire using Google Forms. The research questions that guided this study were: How did these college students believe the three specific aspects of mobile learning (device, learner, and social) had influenced their collegiate experiences? During the analysis, recurring themes emerged. For instance, the widespread use of mobile devices among the students facilitate improved learning. Students also benefit from the way that mobile technology can be tailored to meet particular learning needs. In contrast, a negative social effect of mobile learning was evident from the students' perception of less interaction and collaboration with fellow students and faculty members. The findings in this study address the question of how the three components of mobile learning had influenced these Pre-service teachers' collegiate experiences, and provided additional insight on the use of mobile technology in academia.

**Keywords:** *Mobile technologies, Koole's FRAME model, Higher Education, Mobile learning.*





# ABSTRACT

## PANEL 15

05

### EFFECTIVENESS OF HYBRID LEARNING AMONG 2ND YEAR NURSING STUDENTS OF UNIVERSITY OF LUZON

Kyla Mae B. Palazo., Sharmaine B. Ungay, Hannah Louise M. Tinte, Romulo R. Caguimbal  
University of Luzon

Hybrid learning (HL) is an educational approach in which some students participate in person while others participate online. Instructors and facilitators use technology such as videoconferencing to teach both remote and in-person learners at the same time. Prior to COVID-19, hybrid learning practice was a blended learning approach in which parts of the lesson were delivered in person or online. People never imagined that there would be a need for very practical courses to be delivered entirely online. The pandemic has awakened and confirmed the importance of digital technology-based learning. In this regard, medical-related courses in nursing, in particular, have been greatly impacted by these changes and disruptions in nursing education and how they perceive views on training, their experiences, and changes in teaching methods. The study aims to determine the effectiveness of hybrid learning among 2nd year student nurses of University of Luzon (UL) to propose strategies in enhancing the effectiveness of learning using hybrid methods. The researchers focused on 51 second-year nursing students. The researchers used the descriptive research design with a survey questionnaire in this study. They also used Cronbach's alpha coefficient for the reliability of a set of survey items. Findings concluded that most students are more effective in face-to-face learning than in virtual learning when it comes to academic aspects. While the majority of students performed better in a skill laboratory with an actual scenario than in an online simulation. Having related learning experience, the majority of respondents were more effective in face-to-face learning with an actual scenario in the hospital than in virtual learning since they were able to communicate and interact with an actual patient. Furthermore, I found out that the most challenges that students encounter are lacking time during discussion and efficiency of online tools of learning.

*Keywords: Hybrid Learning, Nursing Students, University of Luzon*



# ABSTRACT

## PANEL 16

01

### ANALYSIS OF THE PRESENCE OF MICROPLASTIC CONTAMINANTS IN SEA SALT IN PANGASINAN

Kim David A. Carlos, Ghianabench A. Calimlim,  
Leressa B. Patungan, Jane Posadas  
Virgen Milagrosa University Foundation

Microplastic is a component of marine trash that may pose greater harm than larger plastics. Microplastics have been detected in sea salt years ago. Research has shown that sea salt, marine salt, and commercial salt contain different particle varieties, notably microplastics. This study utilized descriptive research design with laboratory analysis to determine the presence of microplastics in sea salt samples and classified and quantified in terms of their morphology. This study collected salt samples, filtered, and subjected these to optical analysis. The salt samples were from the JM Salt Manufacturing (an exporter of bagoong and patis products of Pangasinan) and the San Carlos City Public Market. Results show that all replicates exhibited microplastic particles with fragments being the most prevalent. Findings determined that JM salt Manufacturing has the least replicates with a mean abundance of 66 MPs per 100g of sea salt, while salt bought from San Carlos City Public Market has the purest replicates, containing only 37.67 MPs per 100g of sea salt. All samples revealed a significant mean microplastic abundance of 48.78 MPs. With an F-stat of 0.5087, it reveals that there is a significant difference between the sea salt of JM Salt Manufacturing and the commercial salt of San Carlos City Public Market. Hence it is recommended that further study be conducted to verify the findings of the current study by involving health-care professionals, increasing the sample size, and critically analyzing the impact of microplastics on human health. Furthermore, to raise the awareness of the people of the community about the impact of microplastics in sea salt on human health, digital information or flyers be provided as well as information on the purity of salt products that are being sold in a certain area like in a public market will be given and specified.

*Keywords: Microplastic, Contaminants, Sea Salt, Pangasinan*



# ABSTRACT

## PANEL 16

02

### CRANK-OPERATED WATER TREATMENT MACHINE FOR TURBIDITY AND COLIFORM BACTERIA REDUCTION IN RIVER WATER UTILIZING TAWAS $\text{KAl}(\text{SO}_4)_2$

Sarah Mae Eliang, Kresja Cyrill Munoz, Rean Pauline Orenza, Hannah Kaye Payomo,  
Doriz Athena Reyes, Rizalyn M. Kolman  
Virgen Milagrosa University Foundation

Increased water pollution in the Philippines is fast becoming a significant issue. Based on the results of 2016 government monitoring data, 58% of the groundwater tested in the Philippines was contaminated. The researchers thought of an innovative water treatment machine that is manually operated and sought to answer the problem, "Does the crank-operated water treatment machine reduce the coliform bacteria and turbidity in river water using Tawas  $\text{KAl}(\text{SO}_4)_2$ ? Is there a significant relationship between the amount of Tawas  $\text{KAl}(\text{SO}_4)_2$  and the number of water contaminants in the reduction of coliform bacteria and turbidity?" This study fabricated a crank-operated water treatment machine to reduce the coliform bacteria and turbidity in river water using Tawas  $\text{KAl}(\text{SO}_4)_2$ . It subjected ten liters of river water to pre-water and post-water analysis after using the machine for the possible reduction of turbidity and coliform bacteria count. The dependent t-test result showed that there is a significant difference among the pre-water and post-water test analyses of the three (3) different concentrations, based on their p-values in reducing turbidity ( $G1= 0.006$ ,  $G2= 0.015$ ,  $G3= 0.001$ ) and reducing coliform bacteria ( $G1= 0$ ,  $G2= 0$ ,  $G3= 0$ ) which were all less than the alpha level ( $\alpha=0.05$ ). Likewise, Pearson Correlation Test results showed that there is a strong positive correlation ( $r=0.9213$ ) between the amount of Tawas and the reduction of turbidity of water and a strong negative relationship ( $r=-0.0987$ ) between the amount of Tawas and the number of coliform bacteria being reduced in river water. Hence, it can be concluded that the crank-operated water treatment machine has the potential to reduce the turbidity and coliform bacteria count in river water.

*Keywords: Crank-Operated, Tawas, Turbidity, Coliform Bacteria, Water Pollution*



# ABSTRACT

## PANEL 16

03

### DESIGN AND FABRICATION OF BLUETOOTH-BASED TEXT-TO-BRAILLE MACHINE

Mark Stephen S. Alcain, Virgie M. Aquino, Ashley Russell D. Baysa, Seankhim S. Macaranas  
PHINMA University of Pangasinan

The act of designing and fabricating a Bluetooth-based text-to-braille machine aims at providing a means to learning and teaching basic braille fundamentals not only to visually impaired individuals but also to common men who are beginners regarding a form of literacy. Braille is an essential system of learning for visually challenged people, it is a method that enables them to read and write through specific placements of tactile dots along a smooth surface. The resources that are available for teaching said system specifically in rural areas is scarce mainly due to overwhelming costs and rather complex hurdles that are to be faced just to acquire a single unit of equipment; researchers meticulously designed a "brailler" (a device that can spell out conventional text in braille) that is affordable, functional, portable, and open to several modifications to cater towards the future specific needs of our demographic-- not to mention that since it operates through the use of a Bluetooth connection is completely wireless in practice.

*Keywords: Brailler, visually challenged*



# ABSTRACT

## PANEL 16

04

### PHOTOCOPAY KIOSK MACHINE

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Rock Rhandolf B Sison, Denver Razel D. Tamondong  
PHINMA - University of Pangasinan

Many students at the university are going outside to find a café, computer shop, or printing service to print needed documents. Printing, scanning, and photocopying documents make up a bulk in student duties. Some of the universities have no printing services on campus, with consequences of the students going outside of campus. The PhotoCoPay Kiosk Machine is a printing kiosk, stand-alone, self-service, and coin-operated machine. The purpose of this kiosk machine is to lessen the inconvenience of printing documents outside the university, which is inconvenient and can compromise the user's safety. It also aims to lessen the liability of the owners of the computer shops by having fewer employees to tend to the printing needs of customers. This machine is to be deployed inside the campus of each department office. It will be accessible for the students because the proponents provided instructions to be displayed on the screen on how to use the machine.

The consequences of the student going outside are the consumption of time to find a computer shop or printing service, the lack of staff inside the computer shop or printer, the long queue, the late passing of documents, and the late attendance of classes. This study used Quantitative-descriptive and developmental design. The 100 participants' sources of data for this study is the responses from the random CEA students of PHINMA University of Pangasinan, in Dagupan City. The simply and clearly worded questionnaire enables respondents to answer questions easily. For the data analysis, the researchers used percentage and Likert scales. The findings of the existing method of printing documents accumulate the largest percentage, which is 89 (59%) responses, using flash drives in transferring their documents, and through Likert's scale question, the survey's results reveal that the randomly selected CEA respondents strongly support the proposed project. The significance of this study is to minimize the number of students going outside of campus and lessen labor requirements of the computer shops.

*Keywords: computer shop, photocopier, printer, risk reduction, kiosk machine*



# ABSTRACT

## PANEL 16

05

### SUELO: RECYCLABLE PAPER INTO ENGINEERED WOOD PRODUCT

Cristian O. Gabriel, John Mark P. Lazo, Jewell Kian B. Lazona, Jordan B. Beltran  
Lyceum-Northwestern University

Today's fast-paced world allows more opportunities, specifically in modern-day construction, case in point: a current societal problem can be a sustainable solution. Moreover, engineered wood is one of the products of technological innovations. The purpose of this study is to present a new engineered wood product. Pangasinan has a thriving furniture industry, known for producing high-quality wooden furniture. Use of engineered wood would be beneficial to this industry supporting its rapid urban development and population growth. Environmental and economic aspects of the product were deliberated to better understand their effect on sustainability. The researchers relied on a theoretical perspective to explain the interrelatedness of wood and paper as construction materials. The general-level Wheel of Fiber proposed by Ervasti and Kauranen (2011) was taken into consideration. To gain a better understanding of its sustainability impact, this study does not only look into the environmental aspects of using wood composite materials for construction but also examines them in terms of economics. The choice of eco-friendly building products such as engineered wood products helps to mitigate the impact on the environment and ensures building with sustainability. In addition to environmental protection, the advantages of using sustainably produced materials in construction are much broader.

*Keywords: recyclable papers, construction materials, engineering*



# ABSTRACT

## PANEL 17

01

### CAN A SINGLE CITY SOLVE FLOODING? A CASE ANALYSIS OF DAGUPAN CITY

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University of Eastern Pangasinan

This paper presents the situation of Dagupan City as one of the flood prone areas in the Philippines. The paper examines how a single local government unit deals with the effects and impact of flooding on the socio economic and socio-political conditions of Dagupan City. One of the major conditions that leads to the shift of flooding is the creation of a channel that redirects the flow of water in the upstream Sinocalan River, from Banaoang, Calasiao which resulted in the increased vulnerability of many barangays in the city. The study utilizes action research in documenting the successful practices and stories in relation to the interaction of politics, governance, and development leading to disaster resilience and disaster-preparedness. Action research will be utilized since it highlights participatory processes in developing theory, practice, and action in pursuit of solutions to addressing pressing concerns to individuals and communities. Moreover, it is an area that emphasizes shared commitment to address democratic social change through the integration of theories and practices to promote learning and action. The study will be examined through the Co-Production Theory of Elinor Ostrom, which emphasizes the role of collective action in bringing about societal changes and developments. The paper documents how the city of Dagupan employs and replicates best practices to address the effects and impacts of perennial flooding.

*Keywords: Climate Change, Disaster Preparedness, Flooding, Collective Action*



# ABSTRACT

## PANEL 17

02

### FACTORS AFFECTING THE MANAGEMENT OF TYPE II DIABETES IN SAN CARLOS CITY, PANGASINAN

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Virgen Milagrosa University Foundation

Type II Diabetes Mellitus is a chronic disease that requires life-long treatment, and it must be effectively managed therapeutically. This study aims to classify the factors affecting Type II diabetes management among the respondents and to help improve adherence to their treatment regimen to prevent complications. The study utilized a descriptive-quantitative research approach. We selected 50 respondents from three barangays of San Carlos City using a probability-simple random sampling technique. Researchers administered a questionnaire survey that served as a tool in gathering data. Results show that respondents have an awareness of diabetes management to prevent further complications. However, they disagree on the social aspects and are uncertain about the economic aspect affecting the management of Type II Diabetes. The findings also show that the demographic profile of the respondents has a significant relationship with the factors affecting their management of Type II Diabetes. With this, it is necessary to have a school-based program that leads the community with regard to the information dissemination program, which could raise the awareness of the people about the different aspects or factors in the management of Type II Diabetes.

*Keywords: Type II Diabetes Mellitus, chronic disease, treatment regimen, diabetic*





# ABSTRACT

## PANEL 17

03

### KNOWLEDGE, ATTITUDES, AND PRACTICES ON ANTIBIOTIC USE AMONG NON-ALLIED HEALTH STUDENTS OF VIRGEN MILAGROSA UNIVERSITY FOUNDATION

Elyn Zyra Curameng, Ian Kenneth B. Laroco  
Virgen Milagrosa University Foundation

Antibiotics are widely used drugs for treating bacterial infections. However, antibiotic resistance continues to emerge and has been identified as a public health problem as high rate of antibiotic misuse persists. Hence, this study has been undertaken with the aim of determining the knowledge, attitudes, and practices towards antibiotic use of non-allied health students of Virgen Milagrosa University Foundation. The study used a descriptive research design. It collected data using a validated questionnaire covering students' demographic profiles and their level of assessment of the knowledge, attitude, and practices toward antibiotic use. It deployed the questionnaire online in combination with face-to-face distribution. A total of 245 participants participated in this study using purposive sampling. Findings reveal that the average knowledge score of the respondents was 50.16%, compared to 54.73% for the attitude score and 65.39% for the practice score. Age, department, and year of study did not significantly associate with knowledge, attitude, and practices toward antibiotic use, whereas gender has a significant relationship to knowledge, attitude, and practices. Based on this study, it can be concluded that a high proportion of non-allied health students have poor to moderate levels of knowledge, attitude, and practices toward antibiotic use. The findings advocate for intervention strategies to increase students' knowledge to imply a better attitude and practice toward antibiotics. For this purpose, antibiotics-related educational programs are essential to correct the misuse of antibiotics and to fight the emergence of antibiotic resistance.

*Keywords: Antibiotics, Knowledge, Attitude, Practice, Non-Allied Health Students*



# ABSTRACT

## PANEL 17

04

### RB-1 (RESCUE BOT-1): REMOTE-CONTROLLED SURVEILLANCE ROBOT FOR STRUCTURAL COLLAPSE SEARCH AND RESCUE OPERATION

John Patrick C. Calmerin, Ricky G. Cayabyab, Sonny C. Ejoc,  
Christian M. Tamondong, Arby Joy S. Ubando  
PHINMA University of Pangasinan

The Philippines' susceptibility to seismic activity due to its location on the "Pacific Ring of Fire" results in higher casualties from structural disasters such as infrastructure failures and building damage caused by earthquakes. This is why robots are to be made to provide functional assistance for humans. This study aims to produce a Remote-Controlled Surveillance Robot to be used for Search and Rescue/Retrieval Operations particularly when there is a Structural Collapse to gather information and help the rescuers locate survivors or other casualties. This study employed qualitative, descriptive, and developmental type of research design. This study also used both primary and secondary sources of data collection techniques, which are through observation and interview. The Bureau of Fire Protection (BFP) Mangaldan is the primary respondent for this study. The researchers wanted to know how this project can boost the search and rescue response of the BFP.

The researchers examined the capabilities of the RB-1 in terms of mobility, precision, and how the data is being transmitted to the rescuers. The hardware and software systems of the project are also considered to attain the purpose of the study. Based on the collected data, RB-1 is suitable for structural collapse search and rescue operations. The design project can move in rough and uneven terrain. It can climb up to 45 degrees from an angle based on several tests conducted by researchers. The RB-1 can be used for enough operation time having one (1) hour and 59 minutes of run time. Almost two (2) hours for its charging time of 48 minutes. The stable communication of the controller and the RB-1 can reach up to 140 meters, but the camera was still visible when it reached 160 meters. The researchers concluded that RB-1 is a big help in structural search and rescue operations. The robot can be an initial responder which will serve as a guide for the rescue team. This study could be an eye-opener for the government to invest in robotics when it comes to search and rescue operations.

*Keywords: surveillance robot, structural collapse*



# ABSTRACT

## PANEL 17

05

### ADAPTATION OF A REAL-TIME FLOOD MONITORING SYSTEM IN THE PROVINCE OF PANGASINAN

Geronimo A. Carvajal, Ron Neil Raineer Estrada, Hapilen Dacasin, Melvin Eucapor  
University of Luzon

Floods pose a significant threat especially to the city of Dagupan, Calasiao and shoreline municipalities, leading to substantial economic losses, risk in infrastructure, and endangering human lives. Traditional flood management approaches often rely on historical data and static infrastructure, which may not effectively address the dynamic and unpredictable nature of the flood events. Therefore, there is an increasing need for the province of Pangasinan with the collaboration of disaster management agencies to develop real-time flood mitigation strategies that leverage advanced technologies with data-driven approaches to enhance preparedness, response, and recovery effort. This research explores and investigates four (4) areas of advancement in flood monitoring suitable for deployment in the province of Pangasinan with the consideration of existing policies, budget and public response to the methodologies involved. The four (4) key areas of interest are remote sensing; predictive modelling; sensor networks; and decision support systems. Further investigation with the plotted criteria involved resulted in effective adaptation of more than one system, with recommendation of incorporating artificial intelligence to reduce the overall cost of the entire system.

*Keywords: Flood Monitoring System, Remote Sensing, Predictive Modeling, Sensor Networks, Artificial Intelligence, Pangasinan*



# ABSTRACT

## PANEL 17

06

### ANTIMICROBIAL STEWARDSHIP PRACTICES OF HOSPITAL PHARMACIST IN PRIVATE HOSPITALS IN PANGASINAN

Ma. Lorena T. Ancheta, Sheree G. Ganzon  
University of Luzon

Hospital pharmacists participate in antimicrobial stewardship programs; thus, are directly involved in planning and responding to pathogen outbreaks, which is of heightened importance during COVID-19 such they have been involved in developing local treatment protocols that repurpose antivirals and monitoring the use of antibiotics in cases of bacterial co-infections in COVID-19 patients. On the basis of the foregoing, this study aims to determine the implementation of antimicrobial stewardship practices of pharmacists in the prevention of cross contamination in the hospital in this time of pandemic in Pangasinan. This investigation utilized the sequential explanatory under the mixed method design and descriptive phenomenological qualitative research design. The quantitative phase of the study surveyed the knowledge of pharmacist-participants in the extent of antimicrobial stewardship practices of hospital pharmacies, while the qualitative phase of the study included the explanatory studies in order to help explain the quantitative results. Overall, the review and feedback ranked first with the mean of 2.71, followed by anti-microbial cycling with the mean of 2.69, formulary/restriction with the mean of 2.59, education/guidelines with the mean of 2.37, and computer assistance with 2.34. Further, the hospital-pharmacists in private hospitals who practice antimicrobial stewardship revealed the following common themes: Lack of Appropriate Knowledge and Training; Lack of Adherence to Guidelines; Lack of Program Implementation; Lack of Supplies; and Lack of Program Implementation.

**Keywords:** *Antimicrobial Stewardship, Hospital Pharmacists, Sequential Explanatory, Pangasinan*



# ABSTRACT

## PANEL 18

01

### GOVERNANCE OF SCIENCE EDUCATION IN SELECTED SCIENCE, TECHNOLOGY, AND ENGINEERING HIGH SCHOOLS IN REGION I

Angelo T. Manzano

Juan G. Macaraeg National High School  
Pangasinan State University - School of Advanced Studies

The study examines the governance of science education in selected science, technology, and engineering high schools in Region I. It aims to investigate various aspects of governance, organizational culture, and factors contributing to good governance as perceived by the school heads. The study employed a descriptive quantitative research method, involving 36 school heads as respondents selected through non-probability sampling. It used a questionnaire checklist to gather data, which were then analyzed statistically.

The findings reveal several key points. Most respondents had been serving their present schools for 12 years, with the majority having non-science majors teaching science subjects. The number of enrolled students varied across grade levels, with most schools having 65 students or fewer. Additionally, most schools had a Science Learning Resource Center and were classified as mega schools. The School MOOE was the primary source of funding for all surveyed schools, and 69.4% had reached Level 3 in terms of School-Based Management (SBM) practices.

The study found that the identified characteristics had no significant effect on the good governance of science education. However, the number of teachers and school size did have a significant effect on teacher engagement and leadership within the organizational culture. Based on the findings, the researcher concludes that school heads had recently been appointed to their positions, and the surveyed schools demonstrated good governance and a strong organizational culture.

The researcher forwards several recommendations, including establishing clear and compelling mission and vision statements, promoting regular communication, sustaining and enhancing teacher engagement, providing professional development opportunities, improving laboratory infrastructure and teacher training, fostering collaboration and inclusivity, and incorporating flexible scheduling and various learning modalities.

The study recommends using the proposed enhanced organizational culture model to improve good governance in science education in Science, Technology, and Engineering (STE) high schools in the region.

**Keywords:** Governance, Science education in Selected Science, Technology and, Engineering High Schools, Organizational Culture



# ABSTRACT

## PANEL 18

02

### PROGRESSIVE DEVELOPMENT OF HIGHER EDUCATION LEADERS THROUGH ACADEMIC LEADERSHIP CAPABILITY FRAMEWORK

Gloria C. Nemedez  
University of Eastern Pangasinan

Local universities and colleges (LUC) are higher education institutions that our local government units run serving as knowledge providers to their main stakeholders. As LUCs, its leaders should have the set of capabilities specific to managing an educational institution and lead academic personnel towards effectively educating the learners towards economic progress of their communities and towards progress of the nation as well.

This research is about the leadership capability of LUC's progressive academic development of the leaders of higher education institutions, specifically the LUCs of Region 1, through an academic leadership capability framework. It investigates the extent of practice of academic leaders on eight (8) leadership capabilities. It also tests if there is a difference between the extent of practices among the levels of leadership positions and across LUCs. The study seeks to use the results to design academic leadership development training plans to ensure progressive development of the institutions based on the identified academic leadership capabilities and practices. The study used the descriptive research design and utilized quantitative analysis with survey questionnaire as data gathering instrument. The respondents were almost the whole population of academic leaders of the four (4) participating LUCs of Region 1, namely University of Eastern Pangasinan, Urdaneta City University, Binalatongan Community College, and Ilocos Sur Community College. It shows that there is a significant difference among top level leaders and middle level leaders and operations levels on their perception of the extent of leadership capability practices. However, middle and operations levels have no significant difference between them.

*Keywords: leadership capability, local universities and colleges (LUCs), progressive academic development*



# ABSTRACT

## PANEL 18

03

### TOWARDS QUALITY GLOCAL TEACHERS: ASSESSMENT ON TEACHING PERFORMANCE OF PRE-SERVICE TEACHERS IN THE NEW POSSIBLE

Cipriano Q. Mendoza Jr.  
University of Eastern Pangasinan

In the context of globalization, innovation, disruptive technologies and emerging infectious diseases, teachers have a key role to play in assessing the student performance, school effectiveness, and efficiency of the quality of production of educational institutions. This study aims to examine pre-service teachers' pedagogical practices in 22 elementary and secondary cooperating schools in the province of Pangasinan by identifying the level of teaching performance in terms of lesson planning, demonstration teaching, teacher's instructional skills, communication skills and teacher's personality. It utilized the descriptive research design with all the 170 teaching interns during the academic year 2022-2023 as respondents. In general, the teaching performance of the pre-service teachers was described as excellent. However, there are areas that need to be improved and sustained to enhance their pedagogical teaching practices. Based on the findings, proposed measures to enhance the teaching performance of teaching interns are crafted and suggested.

*Keywords: Glocal teachers, pre-service teachers, teaching interns, teaching performance*



# ABSTRACT

## PANEL 18

04

### CULTURAL COMPETENCE CORRELATES OF INDIGENOUS PEOPLES EDUCATION TEACHERS IN THE PROVINCE OF PANGASINAN

Glory T. Joven  
Carmelo John E. Vidal  
University of Luzon

Teaching the indigenous learners using cultural knowledge, prior experiences, frames of reference and performance styles of ethnically diverse learners will make their learning more relevant and effective for them. Hence, this study aims to determine the level of cultural competence of teachers toward the Indigenous Peoples Education (IPEd) curriculum in Pangasinan along the professional domains of: diversity of learners; curriculum; social regard for learning, learning environment; assessing, feedbacking, and reporting, professional growth and development, and community linkages for basis of designing of a framework for IPEd teachers in the implementation of the program. The researchers employed the descriptive comparative correlational research method involving the two (2) groups of evaluators assessing the level of cultural competence of 50 IPEd teachers in the two (2) schools division in the Province of Pangasinan and are further classified as indigenous IPEd teachers – the Igorots and the non-indigenous IPEd teachers - Pangasinenses and Ilocanos. Based on the seven (7) domains, the learning environment emerged at the top rank with a weighted mean rating of 3.17 (moderate level of cultural competence. This implies that the learning environment is safe, orderly, and free of destruction such that the teaching - learning process is effective, however, more emphasis should be given such that IPEd teachers will attain a high level of competence. Conversely, IPEd Curriculum garnered the lowest mean rating of 2.76 implying that the IPEd teachers are having a moderate level of cultural competence. An overall significant relationship exists between the three (3) professional characteristics of both groups and respondents and the level of cultural competence of IPEd teachers. The findings serve as baseline in upscaling cultural competence of teachers with the ultimate objective of strengthening, enhancing, and sustaining all the seven (7) domains of the IPEd curriculum.

*Keywords: Cultural Competence, Indigenous People Education, Correlation, Pangasinan*





# ABSTRACT

## PANEL 19

01

### ASSESSMENT IN THE UTILIZATION OF FLIPPED CLASSROOM STRATEGY IN TEACHING SOCIAL SCIENCE-BASED GENERAL EDUCATION

**Leandro A. Fernandez Jr.**  
Pangasinan State University

This study determines the Assessment in the Utilization of Flipped Classroom Strategy in Teaching Social Science-Based General Education particularly in Understanding Self, Readings Philippine History, The Contemporary World, Life and Works of Rizal and Ethics in the nine (9) campuses of Pangasinan State University. The study used the Quantitative-descriptive correlation, during the 1st and 2nd Semester, school year 2021-2022 with 99 faculty respondents. It used a questionnaire to collect data. The researcher used simple frequency counts and percentages in the profile of the respondents, an average weighted mean and frequency counts to the extent and degree of seriousness of the challenges encountered in the utilization of flipped classroom strategy, and significant relationship between the profile to extent of utilization and degree of challenges to extent of utilization. The researcher found out that most of the faculty during the academic year 2021-2022 are young adult, majority of whom are female and single. Also, most of them have Master of Arts /Master of Science degree, teaching in PSU for one (1) to five (5) years, while majority of them are Instructor I with school-based awards and recognition. Further, they have attended only few seminar/training/conferences. The Summary of Extent of Utilization in flipped classroom strategy got the rating of 3.75 with a descriptive of (Highly Utilized). While the degree of seriousness of the challenges they encountered in the utilization of flipped classroom strategy got the rating of 3.53 with descriptive of (Very Serious) There is significant relation between the extent of utilization of flipped classroom strategy to respondent profile and also the extent of utilization of flipped classroom strategy to the degree of seriousness of the challenges the faculty encountered for the null hypothesis to be rejected. Results show that the degree of seriousness of the challenges encountered is not significantly related with the respondents' profile variables. Hence, the null hypothesis is not rejected. Results show that the degree of seriousness of the challenges encountered is not significantly related with the respondents' profile variables. Hence, the null hypothesis is not rejected. Lastly. Results revealed that Status of Employment is significantly associated with the degree of seriousness of the challenges encountered along Preparation got 0.213. Meanwhile, respondents' sex, civil status, and awards/recognition received were found to be not significantly related to the degree of seriousness of the challenges encountered

**Keywords:** *Flipped Classroom, Flexible Learning, Hybrid Learning*



# ABSTRACT

## PANEL 19

02

### MEMORY ENHANCER GAMES: AN INTELLIGENT LEARNING TOOL

Frederick F. Patacsil, Victor Sherwin Galangam  
Pangasinan State University - School of Advanced Studies

Karen C. De Vera  
Calasiao Comprehensive National High School

The present situation exposes students to technologies that may either be educationally effective or distractive. Most of them are having a hard time learning in a traditional classroom setup, are easily distracted, and have difficulty remembering lessons just learned and prerequisite skills needed in learning new lessons. Game-Based Intelligent Tutoring System (GB-ITS) is a technology that provides an individualized learning experience based on student's learning needs. GB-ITS mimics a teacher doing one-on-one teaching, also known as tutoring, which is more cost-efficient than human tutors. This study developed a general-purpose Memory Enhancer Games system, in a form of a GB-ITS. This study conducted at Calasiao Comprehensive National High School, identified the game type that best enhances memory and the game features for this proposed system through a questionnaire by nine (9) ICT teacher respondents. The developed system in this study has undergone validity testing by eight (8) ICT teachers and professors from Schools Division I of Pangasinan, and of a University in Dagupan City, and acceptability testing by 100 senior high school students of Calasiao Comprehensive National High School, 1st semester of school year 2022-2023, using Likert scale to determine its appropriateness as an intelligent learning tool. The results of the game design questionnaire confirmed the studies of which elements were ideal for a GB-ITS, and both the validity and acceptability survey questionnaires with overall weighted means of 4.57 and 4.08, show that the system is a valid and acceptable intelligent learning tool. The developed MEG can also be of use for testing game features for educational effectiveness and can also contribute to any future study, which the researcher will conduct to test whether a general-purpose GBL or GB-ITS model would compare; if will not equal the effectiveness of GBLs designed for delivering specific contents or subjects.

**Keywords:** *Game-Based Intelligent Tutoring System, Memory Enhancer games, Drill and Practice, General-Purpose GB-ITS*



# ABSTRACT

## PANEL 19

03

### PERSPECTIVE OF PUBLIC ELEMENTARY SCHOOL TEACHERS ON LEARNING ACTION CELL SESSIONS

Myla R. Africa

Pangasinan State University - School of Advanced Studies

The researcher conducted this study to determine the level of effectiveness of the implementation of Learning Action Cell (LAC) sessions in enhancing teachers' proficiency in the district of Bautista, Division of Pangasinan II. It establishes the profile of the teachers in terms of sex, age, civil status, teaching position, highest educational attainment, field of specialization, number of LAC attended, number of years in the teaching position, and number of memberships to professional organizations. It also determines the level of effectiveness of the implementation of LAC on enhancing teachers' proficiency along classroom management, interpersonal communication, utilization of technology, learners' assessment and evaluation, and utilization of teaching strategies and resources. The study also established the significance of the relationship between the perceptions of teachers on the level of effectiveness of the implementation LAC sessions in enhancing teachers' proficiency and their profile variables. Lastly, the study determined the problems encountered by the teachers before, during, and after the implementation of LAC. Based from the findings, the researcher will prepare an action plan that would intensify the implementation of LAC.

The study used the descriptive method of research with a questionnaire-checklist as data gathering instrument. It used the total enumeration in this study since there were only 172 public elementary school teachers in the District of Bautista. However, only 120 or 69.77 percent responded or returned the filled-out instruments. It submitted data gathered to appropriate statistical tools.

The majority of the respondents are female, middle-aged, married, occupies Teacher 3 position; have earned units in the masteral program; specialized in General Education; have been in the service for many years; have attended few LAC sessions, and are members to only a few professional organizations; the implementation of LAC sessions was perceived highly effective in enhancing teachers' proficiency along classroom management, interpersonal communication, utilization of information technology, learner assessment and evaluation, and utilization of teaching strategies and resources; the position that teachers hold and their membership to professional organizations greatly influenced their perceptions on the effectiveness of the implementation of LAC sessions in enhancing teachers' proficiency, and that the problems the respondents encountered in the implementation of LAC are moderately serious.

Based from the findings and conclusions of the study, the researcher highly recommends that teachers may be encouraged to complete their masters or doctoral degrees and attend more LAC sessions; school administrators may continue to conduct on regular basis LAC sessions and carefully select topics, which cater to the needs of teachers and subsequently enhance their teaching proficiency; careful planning and coordination among organizers/implementers, facilitators, and teachers should be done and that the conduct of LAC should be monitored and evaluated; resource speakers or experts may be invited to discuss on the selected topics, and a similar study may be conducted in a different setting and include variables which the researcher/s may deem it vital.

**Keywords:** Game-Based Intelligent Tutoring System, Memory Enhancer games, Drill and Practice, General-Purpose GB-ITS



# ABSTRACT

## PANEL 19

04

### UTILIZATION OF ANIMATED VIDEO ASSISTED INSTRUCTION IN THE GENERAL CHEMISTRY IN A PANGASINAN SENIOR HIGH SCHOOL

Jhared C. Calimlim  
University of Luzon

Using videos in the digital classroom has been extensively researched and has demonstrated high benefits for many different types of students. With the relatively recent availability of free, high-quality video online, it also makes a perfect addition to blended learning environments. Students, parents, and teachers all agree on the effectiveness of using animated video-assisted materials as a teaching tool. This study aims to determine the effectiveness of the animated video-assisted instruction in improving the performance of Grade 11 Senior High School students in General Chemistry particularly in the topic Acid-Base Equilibria in order to enhance the transfer of learning in the virtual classroom in the new normal. This study used the true experimental research design and it employed both a control group and a means to measure the change that occurs in both groups. It was conducted at the Senior High School Department of University of Luzon during the new normal SY 2020- 2021. The results reveal that the students exposed in Animated-Video Assisted Instruction (AVAL) performed better than the students exposed in the traditional lecture approach in teaching the concepts in General Chemistry 2 during the pandemic. It concludes that utilizing AVAL augurs well in this time of pandemic in view of the effectiveness of approach as an alternative to the face-to-face modality in disruptive times as long as the teachers are not remiss of properly guiding their students during their online classes.

*Keywords: Animated-Video Assisted Instruction, General Chemistry, Senior High School*



# ABSTRACT

## PANEL 20

01

### ANTI-BULLYING INTERVENTION (ABBI) PROGRAM: GROUNDING TEACHERS AND COUNSELORS IN THE USE OF LITERATURE

**Razeale G. Resultay, Rudjane C. Tunac, Mary Joy O. Macaraeg**  
Pangasinan State University

This study addresses the development and validation of an Anti-Bullying Bibliotherapy Intervention (ABBI) Manual which espouses a form of Bibliotherapy that combines two types - developmental and prescriptive. The descriptive, and research and development methods were used. The manual was developed based on the conducted online survey and comprehensive bibliographic review. The ADDIE model was used as a framework in developing the manual and the Echer's (2005) validation steps were employed. The Manual is valid and could be utilized by teachers and counselors after subjecting it to face and content validity using the Delphi technique. A measure of scale reliability using Cronbach's Alpha (Intraclass correlation average measures or reliability coefficient) and the level of internal consistency of the raters' score were used to measure of internal consistency, that is, how closely related a set of items are as a group.

*Keywords: Bibliotherapy, Bullying, Intervention Manual, Capacity Building, Violence*



# ABSTRACT

## PANEL 20

02

### LIVED EXPERIENCES AND CHALLENGES OF TEENAGE STUDENTS WITH SEPARATED PARENTS

Jasmin M. Gacutan

Pangasinan State University - School of Advanced Studies

This study focuses on the experiences of 15 teenage students with separated parents in senior high school. The participants vary in age, grade level, birth order, family size, family income, and parental occupations. Despite facing challenges in their family situations, the participants demonstrate high cognitive abilities and emotional intelligence. Themes generated from their experiences include emotional distress, mixed feelings, rationalization, realization, physical and environmental shifts, social interactions, and spiritual wavering. Challenges the participants face include lack of psychosocial support, self-pity, envy, and parental rejection. Despite these difficulties, the participants show resilience and a strong will to pursue their dreams for a better future. The study concludes that active parental involvement, support from educators and counselors, a supportive school environment, emotional well-being, open communication, financial assistance, resilience-building, and community partnerships are crucial in addressing the needs of teenage students with separated parents. The study recommends various strategies and interventions to support these students and suggests future research to improve case-based counseling techniques for this population.

**Keywords:** *Psychological attributes, Experiences, Challenges, Case-based Counseling Techniques*



# ABSTRACT

## PANEL 20

03

### REPRODUCTIVE HEALTH KNOWLEDGE AMONG JUNIOR HIGH SCHOOL STUDENTS IN PANGASINAN

Cherry Mae R. Mamaril  
Pangasinan State University - School of Advanced Studies

This descriptive study examines the status of Reproductive Health Knowledge Among Junior High School students in San Carlos City, Pangasinan. The researcher investigates students' profiles, their knowledge of various reproductive health topics, and the relationship between their profiles and reproductive health knowledge. Data collected from 293 randomly selected Junior High School students from public schools in the Division of San Carlos City. Statistical Analysis techniques such as frequency count, percentage distribution, weighted mean, Kendall Tau's – b coefficient, Point Biserial Correlation Coefficient, and Spearman-rank Correlation Coefficient were employed.

The profile of Junior High School students reflects a predominantly female population, with most students in grade 9. The parents' educational background varies, but there is a prevalence of high school and college graduates. The majority of mothers' occupation is none, while fathers are mostly self-employed, and most of the family monthly income is below Php10,957. Roman Catholicism is the dominant religion, and an authoritative parenting style is commonly observable. Social media engagement is a popular pastime among students, and parents serve as the primary source of information.

The findings reveal that the respondents show a high level of knowledge regarding the female and male reproductive systems, courtship and friendship, family responsibilities, and the role of parents. However, the study observes a moderate level of knowledge regarding sexually transmitted diseases, contraception, masturbation, and sex-related questions, family planning, pregnancy, and abortion. Furthermore, the study identifies a significant relationship between some of the students' profile variables such as sex, grade level, father's educational attainment and occupation, religion, hobbies and sources, and their reproductive health knowledge. The study recommends several actions to enhance reproductive health knowledge among Junior High School students.

*Keywords: reproductive health, knowledge, junior high school*



# ABSTRACT

## PANEL 20

04

### **"SANA PAYAGAN NA KAMI": A SOCIOLOGICAL STUDY OF LIVED EXPERIENCES OF LGBTQ HIGH SCHOOL STUDENTS IN SELECTED CATHOLIC SCHOOLS IN PANGASINAN**

**Franklin Q. De Guzman**  
University of the Philippines-Diliman  
PHINMA University of Pangasinan

This paper seeks to sociologically investigate the lived experiences of LGBTQ Catholic High School students in selected schools in Pangasinan.

The author implored qualitative methods through in-depth semi-structured interviews with three Catholic students and one recent alumna who identify themselves as LGBTQ. The researcher transcribed and organized the results through themes. He triangulated pertinent findings to Church and school documents available and follow up interviews from three faculty members and three administrators who have recent experience in or are currently teaching and working in Catholic high schools in Pangasinan. He implored the Foucauldian framework which centered on power, discipline and discour, to discover experiences of exclusion and inclusion, which the author translated as challenges and possibilities.

The result says that policies aligned with the Catholic Church's teachings on sexuality, which is heterosexual exist in Catholic schools that exclude LGBTQ students especially in expressing their gender identity as such. Micro-aggression, lack of institutionalized support and LGBTQ information are also seen as main challenges for inclusion in Catholic schools for LGBTQ students. However, resistance and negotiations among LGBTQ students among their classmates, staff, especially teachers and administrators create some spaces of acceptance for them. In other words, there exist restricting policies for LGBTQ's expression in Catholic schools that normalize behavior and mold specific identity. However, there is a lenient implementation that resistance and negotiation among agents brought about. Though restricting, these are tolerable, but this does not mean Catholic schools must not find way to be more inclusive to LGBTQ students, who are persons with dignity, under her care.

*Keywords: Catholic Education, LGBTQ, Inclusion, Foucault, Sociology of Education*

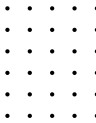




# ABSTRACT

## PANEL 20

05

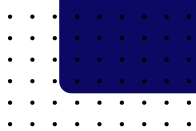


### PREVALENCE OF FAKE NEWS IN RELATION TO THE RESPONSIBLE NETIZENSHIP AMONG PANGASINAN CRIMINOLOGY STUDENTS

Sheilah Mae A. Carayugan  
University of Luzon

Fake News deceive people. It is an act of spreading misinformation intentionally with the purpose to misguide others in order to gain financial returns or political gains. The study aims to know how responsible criminology students are, being netizens, in today's cyber world in terms of the ability to identify fake news, and ways to prevent it from spreading as they are going to be law enforcers someday. The scope of this study focused mainly on the selected Pangasinan Criminology students in University of Luzon. For the data collection instrument, the study uses a dichotomous formula to interpret the results of the answers to the given questionnaire answered by 288 respondents. This study also followed the quantitative research format and conformed to the use of inferential statistics, in which had been used as a guide for the researcher to be able to achieve and produce a close-ended survey questionnaire. Major findings of the study revealed that in terms of responsibility and awareness in netiquettes, political manipulation and bias in story selection, the majority of the students are doing sourcing and fact-checking: ways in which the media are able to support assertions with evidence. However, there are specific media outfits that the respondents feel they can rely on. In a nutshell, the students were aware that the fake news is prevalent online, and the netiquettes in being a responsible netizen are used and applied well and carefully to identify it. This explained that the respondents were equipped with proper critical thinking in following responsible netizenship. With this, the need for proper guidance in assessing and determining it revealed that the students were ready in these days that fake news is prevalent online.

*Keywords: Fake News, Netizenship, Criminology Students, Pangasinan*





# ABSTRACT

## PANEL 21

01

### THE CONCEPT OF "GAWAT" IN PANGASINAN

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University of the Philippines-Diliman

This paper examines the social, cultural, and linguistic significance of rice in Filipino culture, focusing mainly on Pangasinan. It presents the different cultural beliefs associated with rice from cultivation to consumption. Various linguistic expressions that employ the metaphorical use of rice are discussed to show how rice has penetrated the consciousness of its users by using it as a linguistic resource in describing particular experiences and situations. The study also analyzes the Pangasinan concept of "gawat", a term people usually associate with the difficulty experienced during the lean months, to show how unique this concept is in the language. The study also compared the term with other semantically related terms in other Philippine languages, particularly Ilocano and Tagalog.

*Keywords: Pangasinan, dialectology, language variation*



# ABSTRACT

## PANEL 21

02

### DIALECTOLOGY OF PANGASINAN: A PRELIMINARY STUDY

Francisco C. Rosario, Jr.  
University of the Philippines-Diliman

Pangasinan speakers have observed among themselves that the language they speak varies depending on the city or town where they come from. Although this observation is common among the speakers, no actual study that provides empirical evidence and explains possible reasons behind these perceived variations in the language has been conducted. This preliminary study used the basic concepts and methods in dialectology – a subfield of sociolinguistics focused on variations and differences in how to use language. Social factors such as geographic location, socio-economic status, age, and gender, among others, influence a speaker's use of language. The study collected linguistic data from Pangasinan speakers in 17 municipalities and cities of the province and compared and analyzed these to identify the phonological and lexical variations in the language. Researchers also created maps to visually illustrate the variations and show the dialect areas of Pangasinan. The study concludes that geographic location and, more importantly, the history of migration and language contact mainly with the Ilocano speakers in the province, contributed to these variations in the Pangasinan language.

*Keywords: Pangasinan, dialectology, language variation*



# ABSTRACT

## PANEL 21

03

### SEMANTIC AND SYNTACTIC ANALYSIS OF THE PANGASINAN EXPRESSION "SIRIN"

Romeo DG. Reloza, Maria Liza B. Alvendia, Andrea S. Banaag, Jenifer A. Canengneng,  
Ara Joyce D. Estaris, Sarah Lapada, Christian L. Mamaril  
Pangasinan State University

The researchers conducted the study to analyze semantically and syntactically the Pangasinan expression "sirin." It aims to help non-native speakers of the Pangasinan language to understand the different levels of meaning of the Pangasinan expression "sirin" to avoid misconception.

The researchers used the seven (7) types of meaning by Leech to analyze the different meanings of the expression "sirin." Out of the seven (7), the conceptual meaning of "sirin" turned out to be used to emphasize a point. Under associative meaning, "sirin" turned out to express persuasion in different situations. Said expression also meant willingness. For thematic, "sirin" could be added to a sentence already complete in thought. The placement or position of said expression does not affect the meaning of the sentence.

Syntactic analysis reveals that "sirin" can function as an adjective and as an adverb in a sentence.

With the analysis, the researchers strongly recommend that this study be submitted to the Center for Pangasinan Studies for broader reach of native and non-native speakers' enlightenment about the Pangasinan expression "sirin." The researchers also recommend that agents of learning and good communication like teachers, students and other entities of academic community and outside of it, especially the native speakers of Pangasinan, to have an interest in and appreciate more their native tongue to preserve and invigorate it even further.

Finally, the use of Leech-Murcia models as tandem in semantic and syntactic analysis of an expression is a good combination for other similar studies.

*Keywords: sirin, Leech-Murcia models*



# ABSTRACT

## PANEL 21

04

### REVITALIZING PANGASINAN LANGUAGE THRU ARTIFICIAL INTELLIGENCE

Ron Neil Raineer G. Estrada  
University of Luzon

Our Pangasinan language is the number eight largest language in the Philippines, but disparately rendered as an endangered language. Topographical makeup and diversification had evolved, together with business expansions, which shrank the Pangasinan-speaking communities where nearby Iloko-speaking municipalities expanded. Efforts have been made to preserve and promote the Pangasinan language, including the establishment of language programs, cultural events, and publications. This research explores the potential of artificial intelligence (AI) by harnessing its computational power and language processing capabilities in language preservation initiatives to foster cross-cultural collaborations and knowledge sharing. It is shown that connecting communities, linguists, and AI researchers, collaborative platforms can facilitate the exchange of language resources, expertise, and tools, ultimately strengthening efforts to revitalize our Pangasinan language. Modern innovative approaches within this research are: machine learning, natural language processing, and digital preservation. With the appropriate alliance of these three (3) key areas and with the emergence of digitalization even in the rural areas of the province then the efficacy of revitalization is apparent.

*Keywords: Artificial Intelligence, Machine learning, Natural language processing, Pangasinan Language*



# ABSTRACT

## PANEL 22

01

### BANYUHAY: COMMUNITY EXPERIENCES OF STUDENT-NURSES OF VIRGEN MILAGROSA UNIVERSITY FOUNDATION

Eunice Delos Reyes, Rosalyn G. Rosal  
Virgen Milagrosa University Foundation

Community nursing experience is one of the most important learnings a nurse can have. It plays a big part for a future nurse. The objective of this qualitative phenomenological study is to explore the experiences and challenges student nurses of Virgen Milagrosa University Foundation encounter in their community nursing. A total of 18 informants met the study's criteria and took part in a semi-structured interview. The study utilized an interview guide in the gathering of data. It employed Collaizi's method of data analysis. Three (3) themes emerged from the data. In each theme, there were subthemes. The first theme deals with Tribulations on community engagement pedagogies, which include the subthemes: (a) engaging people's lives, (b) remote areas, (c) willingness to cooperate, and (d) established attachment. The second theme is Insurmountable obstacles in a community including the subthemes: (a) participation restriction, (b) behavioral disputes, and (c) health concerns. The third theme is enriching experiential learning, which includes the subthemes: (a) building connection, (b) enhancing resilience, (c) nurturing positive viewpoints, and (d) motivational influence. Despite the challenges experienced in community nursing, student nurses still find ways to step up and face every challenge. During community nursing, most of the informants learned the situations in the community, had challenges but then resolved with their coping mechanisms, and experience building connections with the people in the community. Among recommendations that came out of the findings are: VMUF College of Nursing must have a strategic and concrete plan for community health nursing in order to establish a better learning pedagogy; it must continue to have good teamwork between faculty and students for quality services in the community; and communities must also enhance skills by continually motivating to promote healthy living in the community.

*Keywords: banyuhay, community nursing, community engagement, experiential learning*



# ABSTRACT

## PANEL 22

02

### STUDENTS' SATISFACTION ON HOSPITALITY AND TOURISM MANAGEMENT PROGRAM OF AN HEI IN PANGASINAN

Racquel M. Mejia, Jeanica C. Joson, Alvin O. Carillo, Marvex P. Cacanando  
University of Luzon

Tourism and hospitality are expanding global industries resulting in an increased demand for skilled managers to lead and develop international organizations. The International Tourism and Hospitality Management program equips students with the tools, techniques, and concepts necessary to analyze the major influences affecting the international hospitality business environment, as well as a deep-rooted understanding of the issues currently shaping the international hospitality management. For industry-based programs such as hospitality, part of a student's experience and collegiate preparation includes practical experience and an understanding of how the industry operates in a professional setting. To garner industry exposure and experience for students, many collegiate programs offer internships or cooperative-learning experiences to provide valuable experience within controlled and monitored industry settings (Beggs, Ross, & Goodwin, 2008; Dickerson & Kline, 2008). This study aims to determine the level of satisfaction of the students in Hospitality and Tourism Management of University of Luzon, an HEI in Pangasinan, as a baseline data to improve the services the university provides. The researchers used the descriptive survey method in the conduct of the study for the collection of the data in order to arrive at the answer to the problems the study addresses. The identified problems affecting the students' satisfaction are: Lack of Financial, Lack of Cooperation, Lack of Equipment, Lack of Communication between Teacher and Students, Lack of Preparation, Lack of Interpersonal Skills. Based on the results of the study, the researchers therefore conclude that among the problems encountered by the Hospitality and Tourism Management students, interpersonal skill is the most essential part to enhance their self-efficiency. The faculty's performance of teaching affects largely their attitude, the level of satisfaction of the students and their academic performance.

**Keywords:** *Students Satisfaction, Hospitality and Tourism Management Program, HEI, Pangasinan*



# ABSTRACT

## PANEL 22

03

### INTERNATIONAL OJT EXPERIENCE OF PANGASINAN HRM STUDENTS

Marvex P. Cacanando, Girlee R. Bustillo, Oscar Paolo C. Abalos, Sherrie Mae B. Inigo, May Ann B. Rosario, Apple Joy C. Centino, Marc Aaron T. Macaalay, John Kenneth Paetan  
University of Luzon

With the increasing pressures and opportunities of globalization, the integration of international linkages has become an essential mechanism for the internationalization of Higher Education Institutions (HEIs). Many universities have taken great strides to increase intercultural understanding through processes of organizational change and innovations. International on-the-job training (OJT) is an opportunity for students to be part of this. This study aims to determine the students' experiences and challenges they meet in their International OJT for the college to develop various realignments and interventions for the student preparation for their local and international practicum program. Specifically, the study seeks to assess the experiences of HRM students of University of Luzon, Dagupan City, Pangasinan as to acquired learning skills, factors that influence their performance, and their level of satisfaction towards their on-the-job training in Thailand. The researchers used the descriptive method with a checklist questionnaire. Findings show that UL HRM students highly acquired the following skills in their OJT experience in Thailand: social skills, time management skills, and competence skills. Three factors influence student's performance namely: financial factors, emotional factors, and social external factors. UL HRM students were highly satisfied with their OJT experience in Thailand. The researchers conclude that international on-the-job training is very helpful for students to be exposed to other organizational cultures, understand and manage diversity, and learn and adapt to new skills.

**Keywords:** *International OJT, Thailand, Hotel and Restaurant Management Students, Pangasinan*





# ABSTRACT

## PANEL 22

04

### PERSPECTIVE ON PANGASINAN YOUTH PARTICIPATION IN ORGANIZATIONS

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It is a controversial issue that most nation-states do not favor involving youngsters to shape the world's future. The purpose of this study is to open the eyes of people who have misconceptions about youth as a nuisance in world development and to refute wrong notions about the negative impact of youth in changing the world. Through this descriptive research study, the researcher deepened the narrative of how Pangasinan youth and their participation contributed to positive change. The respondents were members of local and international organizations with an age range of 15 to 24 years old. The data has presented that the youth members of their respective organizations have advocacies that fuel them in mobilizing themselves in fulfilling their roles in society towards a better future. The motivation of the youth is very high which manifests that the youth have a great initiative to help and assist the community towards change. The support and recognition is likewise very high, and they determined that having been part of organizations, their wits and skills is a great key to nation-building. And the measures to take to inspire young citizens further, the collaboration of the government is a must, especially in promoting Republic Act 8044 and that the youths are also beneficiaries of these changes. Beyond doubt, youth participation has a significant role in helping the nation-state to advance. This study has proven that youth participation in decision-making and in any socio-civic activities matters. Youths are not a nuisance to world development, rather, they are one of the great elements that could enhance and innovate the future. Therefore, by refuting the misconceptions more youth will be inspired to take up their roles in nation-building, and both adults and youth could work hand-in-hand toward a sustainable future.

*Keywords: Perspective, Youth Participation, Local and International Organizations, Positive Change, Nation-Building, Sustainable Future*



# ABSTRACT

## PANEL 22

05

### THE EFFECTIVENESS OF MUSIC THERAPY TO REDUCE STRESS LEVEL AMONG 2ND YEAR NURSING STUDENTS OF UNIVERSITY OF LUZON

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Music is the best remedy for the mind. It has a wide cultural range, happens frequently, and had an impact on most people's daily lives, whether it be as a crucial aspect of leisure and entertainment activities, a part of religious and spiritual lives, or a tool to help people relax and keep their composure in test-preparation or situations involving a heavy workload. Academic work is the most frequent factor in student stress. It has also been demonstrated that there is a strong negative relationship between students' academic achievement and their degree of stress. The nursing program is believed to be the most challenging bachelor's course. The healing of the ill is not usually linked to therapeutic requirements. It can start with a sensation of relief or comfort, the release of repressed emotions or agony, the drive to do menial tasks, or even just a fleeting moment of joy. This study aimed at the Effectiveness of Music Therapy to Reduce Stress Level among 2nd year Nursing Students of University of Luzon. The result of this study served as a basis in effectiveness of using music therapy in reducing stress level of the 2nd year nursing students. The study uses the descriptive quantitative method. The study limits its coverage to the fifty-one (51) 2nd year nursing students at the University of Luzon for the school year 2022-2023 only. It used the Cronbach's alpha coefficient for the reliability of a set of survey items. Findings reveal that, since students listen to music, it is useful in lowering their stress levels and calming them down, according to studies among second-year nursing students. The daily demands of academics, exams, and school activities combined with anxiety and worries about the future in unstable times frequently bring about stress. Majority of students lack coping mechanisms and stress management techniques needed to help them cope. Moreover, this study concluded that music is a fantastic stress reliever and has the capacity to calm the mind.

*Keywords: Music Therapy, Stress Level, University of Luzon*



# ABSTRACT

## PANEL 23

01

### FINDING A TOWN'S TOURISM NICHE: CULTURAL MAPPING AS A MEANS OF TOWN BRANDING FOR LOCAL DEVELOPMENT, A CASE STUDY OF BINALONAN, PANGASINAN

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LGU Binalonan

The challenge for localities in marketing their towns to tourists is that they do not have a brand to their advantage. Having no niche of the tourism market, usually based on visitors' particular interests or needs, will make the destination undistinctive. The place being studied is Binalonan that is why the holistic approach of using cultural mapping for cultural heritage tourism and town branding is highly contextualized and may not reflect the overall effects of utilizing it in the whole Philippines.

The Local Government Unit and stakeholders conduct cultural mapping to identify their unique cultural resources while also correctly recording heritage resource for future reference, in this case, for tourism. This qualitative case study research aims to understand the phenomenon attributed to the Municipality of Binalonan's policies on heritage tourism and cultural mapping initiatives to help the town's creation of its brand which aims to boost local developmental growth.

In conclusion, culture is the engine of economic development as it helps improve the attractiveness of destinations. As a result, history and cultural heritage are frequently discovered to be essential facets of a place's identity and landscape. Therefore, when developing the tourism sector of Binalonan, we are incorporating relevant local cultural characteristics. This heritage tourism research has also proven that cultural assets can improve and locals' connection with what is promoted and leads to a good attitude toward tourism development.

Town branding through cultural mapping project aids in the development of a distinct identity for Binalonan so that it may stand out and effectively express its advantages and qualities to potential investors, visitors, or inhabitants. This is the town's way of projecting images and shaping people's perceptions of the town. As such, it aims to elicit affective responses from customers, resulting in the formation of meaningful relationships between people and places.

*Keywords: Town Branding, Cultural Mapping, Binalonan*



# ABSTRACT

## PANEL 23

02

### RECOVERY STATUS AND PROSPECTS OF AN AGRITOURISM ESTABLISHMENT IN MANGATAREM, PANGASINAN

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Part of the government project is to transform Mangatarem as an agritourism site. This study aims to determine the recovery status and prospects, the challenges encountered, and to propose development strategies to improve the agritourism in Mangatarem after the Covid19 Pandemic. The study utilized Collaizi's Method of Data Analysis as this allowed the researchers to interpret qualitative data, identify meaningful information and organize it into themes or categories such as (a) personal, (b) business, and (c) tourism, in which the business aspect covers the management, marketing, financial, and technical category of the agritourism site.

Based on the data gathered, for personal category, the participant experienced a sense of fulfillment, as they provided employment for some of the locals. The business entity was also able to meet client expectations by having an adequate availability of supply, making on-time deliveries, and maintaining high quality of food products.

For the business category, the establishment gave continuous jobs for their old employees, and they were able to increase their profit due to their on-line shopping platform.

Lastly, under the tourism category, the establishment was able to allow more visitors and tourists inside the site. Apart from that, it increased the awareness of people through immersions and by collaborating with guides and schools to have their educational trip in their establishment.

However, said establishment encountered challenges, such as expensive freight and delivery cost, cancellation from clients due to different political beliefs, loss of other clients due to closure of business, and the risks that the covid 19 virus brought.

Basing on the gathered data and the conclusions, this study recommends that the proposed development strategies be implemented, and the establishment should coordinate with the local government unit for a better formulation of an agritourism plan, which will benefit not only the participant but also other agritourism establishments.

*Keywords: agritourism, mangatarem, pangasinan*



# ABSTRACT

## PANEL 23

03

### RELIGIOUS TOURISM: FORMATION AND TRANSFORMATION OF SPANISH-ERA ROMAN CATHOLIC CHURCHES IN PANGASINAN

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The Philippines has abundant cultural heritage structures, almost all coming from the Spanish era (1521-1898). Churches are one of the important structures built as these provide an opportunity for individuals to connect with their faith on a deeper level and strengthen their relationship with the Divine Being. It is increasingly important to promote religious tourism in the Philippines because of the abundance of religious sites and activities, especially in the province of Pangasinan. Many pilgrimage sites are associated with significant events or figures in history, making them popular tourist destinations. Pangasinan abounds with notable Spanish-era Roman Catholic churches as well as interesting pilgrimage sites that will encourage to pray, reflect and inspire spiritual life.

This study aims to describe the establishment or formation of Spanish-era Roman Catholic churches in Pangasinan, and examine the social, cultural, and historical conditions that facilitated its establishment and transformation. Moreover, it identifies significant changes and explains the impacts performed by these churches in the lives of its people and development of the different municipalities or cities.

This is important in understanding the local history of Pangasinan as well as the development of each municipality and city. It traces historical foundation highlighting salient points, such as the contexts of its formation and transformation by using descriptive method of research through the qualitative approach by using two types of sources which includes primary and secondary sources consisting of written and pictorial evidence. In addition, an oral history was also conducted to supplement more information necessary for the study.

*Keywords: Religious Tourism, Pilgrimage, Churches, Pangasinan*



# ABSTRACT

## PANEL 23

04

### SUSTAINABLE TOURISM PRACTICES OF JOVELLANOS BEACH RESORT IN SAN FABIAN, PANGASINAN

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Sustainable tourism practices are initiatives that sectors and enterprises in the tourism industry like beach resorts undertake in order to protect the environment and its flora and fauna while delivering tourism activities. These practices aid beach resorts to lessen the impact of their services in compromising the condition of their ecological surroundings and the local communities. Thus, this study investigates the sustainable tourism practices along water and energy consumption management, waste management, and environmental management of Jovellanos Beach Resort, one of the most well-known beach resorts in San Fabian, Pangasinan. The paper utilized a descriptive design, qualitative in nature, and made use of interview guides in the collection of data. Results of the study reveal that the beach resort executes various sustainable practices to conserve water; maintain the cleanliness of its beach; follow proper waste management including handling, collection, and segregation; and manage water pollution via sufficient water drainages. On the other hand, the beach resort consumes too much energy which can pose a large amount of carbon footprint that is ecologically unfriendly. The said practices however, are not sufficient in the long run and need further enhancement, so this study introduced proposed measures to the beach resort management to strengthen its sustainable tourism practices, and to promote and achieve sustainability.

*Keywords: Sustainable Tourism Practices; Jovellanos Beach Resort; Water and Energy Consumption Management, Waste Management; Environmental Management*



# ABSTRACT

## PANEL 24

01

### JAPAN IN THE IMAGINATION OF PANGASINENSE NOVELIST F. SIONIL JOSE: LOCATING LITERATURE IN ARLING KABANWAHAN

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De La Salle University

In *Arling Kabanwahan* (which can be simply described as an indigenization of Area Studies focusing on the study of other civilizations from the Filipino viewpoint in Filipino language), majority of intellectual productions concentrate on Filipino migrants in other countries, wherein the disciplinary focus is historical. This study aims to contribute to a possible new trend in *Arling Kabanwahan*: literature as a source of understanding on other civilizations. As a case study toward this aim of giving space for literature in *Arling Kabanwahan*, we will explore how Japan is depicted in the novels of Pangasinense novelist F. Sionil Jose. It is based on the reason that every serious reader of Jose will notice that Japan is one of the country's most commonly mentioned in his novels. It is rooted in the critical location of Japan both in the biography of the novelist (as one who experienced the Second World War) and the biography of the country (as one which experienced love during the 1896 Revolution and hate during the Japanese Occupation). This love-hate complex, which is rooted in the experience of the nation, is also represented in the depiction of Japan by Jose in his novels. Through this, the intricate interconnections between literature, biography, nation, and international relations could be showcased.

*Keywords:* F. Sionil Jose, Japan, *Arling Kabanwahan*, novel, literature



# ABSTRACT

## PANEL 24

02

### LIFE AND WORKS OF CARLOS BULOSAN AS AN INSTITUTIONAL COURSE: ANALYSIS OF TEACHING PERFORMANCE AND STRATEGIES EMPLOYED IN UNIVERSITY OF EASTERN PANGASINAN

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The inclusion of Life and Works of Carlos Bulosan as an institutional course in all degree programs of the University of Eastern Pangasinan (UEP) is one of the realizations of the university's mission and vision. College instructors handling the said course play a vital role in improving student learning and in achieving the course outcomes. Hence, this study aims to determine the teaching performance and teaching strategies that instructors handling the course in the College of Teacher Education employ. Specifically, it determines the level of teaching performance of instructors handling the course along with their instructional skills, communication skills, classroom management, and personality. It also determines other activities in the university that provide a venue for the dissemination of knowledge and understanding of Bulosan's life and works as a global literary and social movement icon. This study uses ethnographic design and a descriptive method. The respondents are the two instructors handling the course, three peer evaluators, and 383 second year and third year BEED and BSED students. Instructors' self-evaluation instrument, peer observation form, face-to-face and on-line classroom observation, contextual interviews, and analysis of teaching documents such as syllabus, students' performance evaluation form and evaluation tools will be used to gather the needed data. Findings reveal that the respondents find instructors as outstanding in their respective teaching performances.

*Keywords: life and works of Carlos Bulosan, teaching performance, teaching strategies*





# ABSTRACT

## PANEL 24

03

### **PANGASINAN IS IN THE HEART: ISANG PAGSISIYASAT SA KASAYSAYANG BUHAY NI CARLOS BULOSAN (1913-1956) BILANG PANGASINENSE SA KONTEKSTO NG KASAYSAYANG PAMPOOK NG PANGASINAN**

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University of the Philippines-Los Baños

The celebrated Filipino-born American writer of *America is in the Heart* (1946), Carlos Bulosan (1913-1956), is known to have written his semi-autobiographical work profoundly involved in the labor union movement in the United States. Bulosan demonstrated his advocacy towards socio-political issues and the international proletariat during the surge of the Great Depression (1929-1939). His literary work underscores the struggles he faced in dealing with racial discrimination while living in the United States. As Filipino migrants began to recognize Bulosan as a prominent figure of the early Filipino diaspora—studies about him merely revolved around his biographical accounts in the United States, his way of thinking, Marxism, Socialism, Literary studies, and related perspectives. Unfortunately, his early stages in life are rarely tackled, specifically his life in the land of his birth—Pangasinan. Before Bulosan “isinapuso” or “gave his heart” or took to heart the United States, it is crucial to know how he gained consciousness in Pangasinan society during his time and how Pangasinan played a significant part in Bulosan's lifetime relating to the quotidian struggles he experienced in the United States. This paper will delve into and analyze two branches of Bagong Kasaysayan (New History)—Kasaysayang Buhay (Life History) and Kasaysayang Pampook (Local History). Consequently, this paper will focus on narrating the relevance of an individual's role and value on the one hand—and contextualizing local history on the other as a part of a broader Kasaysayang Bayan. In the first 12 chapters of *America is in the Heart*, one must draw the connection between the value and local history of Pangasinan where Bulosan lived during his formative years.

*Keywords:* Carlos Bulosan, Pangasinan, Local History, Life History, History



# ABSTRACT

## PANEL 24

04

### THE POLITICO-HISTORICAL INFLUENCE OF CARLOS BULOSAN IN THE KATIPUNAN NG MGA DEMOKRATIKONG PILIPINO (KDP)

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The twentieth century in the United States witnessed waves of immigration by Filipinos in different parts of the country. Between 1903 and 1934, thousands of pensionados and sakadas left the Philippines to study and work respectively. Among these early migrant workers was Carlos Bulosan who worked and later became a labor leader in the fields and docks of California and Washington. Young Filipino-Americans, some of whom were activists of the Union of Democratic Filipinos or Katipunan ng mga Demoratikong Pilipino (KDP) founded in 1973, later unearthed and honored his writings, which were essentially buried after his death in 1956. The primary goal of this working paper is to explore the extent of Bulosan's influence, particularly his works and ideas, on the KDP's mobilization against the martial law regime of Ferdinand Marcos and for Filipino migrant rights in the 1970s and 1980s. To understand his place in the KDP, I utilize various historical sources, such as memoirs, newspapers, government and organizational documents, as well as journal articles. These then are explained through the lenses of framing processes theory. The initial results show that Carlos Bulosan's political life was framed by the KDP to legitimize and transform its meanings for the advancement of the US-based Filipino social movement.

*Keywords: Carlos Bulosan; Filipino-American; framing, KDP; social movement*



# ABSTRACT

## PANEL 25

01

### COMPARATIVE ANALYSIS AND CHARACTERIZATION OF BIOLUMINESCENCE IN ACANTHODRILIDAE EARTHWORMS AND EUPHAUSIIDAE KRILL FROM AGUILAR, PANGASINAN

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The Acanthodrilidae family of bioluminescent earthworms, often referred to as phosphorescent worms, emit a unique yellow light through the processes of bioluminescence and biofluorescence. These organisms, found extensively around the globe, including in the Philippines, were contrasted with the Euphausiidae family's krill - diminutive, bioluminescent crustaceans resembling shrimp that were found worldwide, in all oceanic regions. Even post-mortem, all krill species retained their bioluminescent properties. In the Philippines, these crustaceans were commonly traded as alamang paste or in raw or dried forms.

The primary purpose of this study is to closely observe and analyze the bioluminescent attributes of both organisms, utilizing a descriptive research design. Specimens were procured from local habitats and public markets for experimental observation. This research focused primarily on Aguilar, Pangasinan, assessing the availability of these bioluminescent species in this specific locale.

The insights gained from this study proved valuable for a range of educational purposes, from creating engaging trivia for the general public to devising fun scientific activities for children, and even enhancing laboratory exercises for medical technology or biology students. These organisms offered a convenient method for demonstrating bioluminescence, reinforcing lessons on bioluminescence or chemiluminescence, particularly those exploring clinical applications of this natural phenomenon.

The research observed that *M. phosphoreus* released a glowing coelomic fluid as a defensive response to mechanical, electrical, and chemical stimulation, highlighting the critical role of bioluminescence for this earthworm. In contrast, krill displayed a yellow light bioluminescence as they decayed, which intriguingly endured longer than anticipated. Nevertheless, the bioluminescence in live krill specimens remained unexplored. While this study's findings had more relevance for educational settings than clinical contexts, this paved the way for additional research. Recommended future investigations encompassed exploring their ecological and geographical distribution, conducting histological and microscopic examination of coelomic cells, extracting bioluminescent materials, identifying factors influencing their bioluminescence, and performing spectral analysis. The application of transferable skills acquired from medical laboratory science proved highly beneficial in the study of *M. phosphoreus* and *Euphausia* species.

**Keywords:** *bioluminescence, earthworms, krill, Aguilar*



# ABSTRACT

## PANEL 25

02

### IN VITRO DETERMINATION OF THE ANTIBACTERIAL PROPERTY OF ETHANOLIC EXTRACT AND ALKALOID CONSTITUENT OF HAGONOI (CHROMOLAENA ODORATA) LEAVES

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Bacterial infection is a common problem among people. If not treated early, this infection may worsen causing further damage to the health of an individual. Synthetic antibiotics are expensive thus this study looks for an alternative antibacterial agent. This study aims to determine the level of effectiveness of hagonoy (*Chromolaena odorata*) leaves ethanolic extract and the alkaloid constituent against *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*. Hagonoy is a weed that is abundant in the province of Pangasinan. The young leaves of hagonoy have undergone phytochemical screening and sensitivity testing using disk diffusion method. The study used the zone of inhibition to indicate the effectiveness of the extracts against the bacteria. It used Amoxicillin as the control antibiotic.

Phytochemical screening yielded positive results for the presence of alkaloids, saponin, flavonoids, polyphenol and volatile oil. For quantitative analysis of the young leaves of the hagonoy plant, 85% moisture content, 25% total ash and 10% acid-insoluble ash were determined. The zones of inhibition from hagonoy ethanolic leaves extract were 20.33mm (susceptible) for *Staphylococcus aureus*, 17mm (intermediate) for *Escherichia coli* and 17.33mm (susceptible) for *Pseudomonas aeruginosa* while for the alkaloidal constituent which had a rating of resistant with 18.67mm for *S. aureus*, 12.33mm for *E. coli* and 0 mm for *P. aeruginosa*. Positive control 25% amoxicillin yielded zones of inhibition of 25.33mm (susceptible) for *S. aureus*, 8mm (resistant) for *E. coli* and 19.67mm (susceptible) for *P. aeruginosa*. The study observed a significant difference between the zone of inhibition between the treatment for *S. aureus* and *E. coli*. It recommends that further studies using the other active constituents and their mechanism of action should be conducted.

**Keywords:** *hagonoy, ethanolic extract, S. aureus, E. coli, P.aeruginosa*



# ABSTRACT

## PANEL 25

03

### **IN VIVO ANTI-THROMBOCYTOPENIC ACTIVITY OF ALUGBATI (*BASELLA ALBA* L.) LEAF AQUEOUS EXTRACT IN ETHANOL-INDUCED THROMBOCYTOPENIC WHITE MICE (*PEROMYSCUS LEUCOPUS*)**

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**Honelly Mae S. Cascolan**  
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This experimental study aimed to investigate the effectiveness of Alugbati (*Basella alba* L.) leaf extract as an anti-thrombocytopenic remedy in ethanol-induced thrombocytopenic white male rats. World Health Organization reported that dengue emerged as the world's most widespread and rapidly increasing vector-borne disease. Dengue is a fever flu-like ailment propagated by female mosquitos of the *Aedes aegypti* species (Chavda, et al 2022). Fifty-four (54) white male rats were ingested with 0.6 ethanol to induce thrombocytopenia, thereby simulating one of the most common signs of Dengue Fever. Hematology tests revealed effective results for increasing blood platelet levels of white rats after administration of Alugbati or Malabar spinach leaf extracts in (25%, 50%, 75%, and 100%). Among the four treatments, Treatment 1, 25% concentration of Alugbati has the lowest mean of  $73 \times 10^6 / \mu\text{L}$  of platelets, and Treatment 4, 100% concentration extract has the highest mean of  $323 \times 10^6 / \mu\text{L}$  of blood platelets. There is no significant difference between 75% and 100% of Alugbati aqueous leaf extracts, and the positive control, prednisone. ANOVA with a post-hoc TUKEY HSD Test Result shows an F-value of 7.4743724 with a p-value of 0.0021. The p-value corresponding to the F-statistic of one-way ANOVA is lower than 0.05, suggesting that one or more treatments are significantly different. Various in vivo and in vitro studies revealed that alugbati is enriched with active substances/principles having medicinal potential (Deshmukh and Gaikwad 2014). Qualitative phytochemical screening shows that Alkaloids, Sterols, Flavonoids, Tannin, and Phenols were found present in the oven-dried alugbati leaves. Malabar spinach is high in vitamin A, vitamin C, iron, calcium, zinc, and folate (vitamin B-9), the biologically active components that promote blood platelet levels. The researcher recommends that Science teachers will continue to educate the students in promoting alugbati as a medicinal plant, its cures, and its nutritional value.

*Keywords: Anti-thrombocytopenic activity, Alugbati, Low blood platelet, Dengue Fever*



# ABSTRACT

## PANEL 25

04

### THE EFFECTIVITY OF THE ANTIBACTERIAL OINTMENT FROM THE ALKALOID AND TANNIN CONTENT OF ANNONA RETICULATA L. LEAVES AGAINST GRAM-POSITIVE AND GRAM-NEGATIVE BACTERIA

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IA. M.A. Manuel, R. L. Domingo  
Lyceum-Northwestern University

The researchers undertake this study to evaluate the efficacy of an antibacterial ointment they formulated using the alkaloid and tannin content of *Annona reticulata* L. leaves, which they collected in Pangasinan where this species is in abundance and enjoys a wide distribution. The descriptive method encompassed a phytochemical screening process, confirming the presence of several phytochemical constituents in the *A. reticulata* leaves, including alkaloids, tannins, flavonoids, and steroids. The experimental method, meanwhile, focused on validating the efficacy of the alkaloid-tannin ointment against gram-positive and gram-negative bacteria via antibacterial sensitivity testing. Furthermore, patch and scratch tests evaluated skin sensitivity in order to assess the safety and potential skin reactions the formulated alkaloid-tannin ointment may have elicited.

The outcomes reveal no significant discrepancy between the antibacterial activity of the formulated alkaloid-tannin ointment and the commercial antibiotic product, cefalexin. Notably, the alkaloid-tannin ointment demonstrated greater efficacy against *Staphylococcus aureus*, a gram-positive bacterium, than against *Escherichia coli*, a gram-negative bacterium. These findings suggest that the formulated ointment can provide antibacterial action comparable to the commercially available cefalexin. An evaluation of the alkaloid-tannin ointment's skin sensitivity show that the product is safe for application, with minimal to no skin reaction observed.

Based on the study's outcomes, future research should explore the isolation of other active constituents present in *A. reticulata* leaves and other parts of the plant to identify additional constituents with antibacterial activity. Further clinical tests are warranted to solidify the efficacy claims of the formulated Alkaloid-Tannin ointment. Researchers recommend further studies on its efficacy against a broader range of bacteria, both gram-positive and gram-negative. Additionally, more extensive experimentation and laboratory analysis should be conducted to explore other potential medicinal benefits of the *A. reticulata* plant. Lastly, stability testing should be performed on the formulated alkaloid-tannin ointment to establish its stability and shelf-life.

**Keywords:** *Annona reticulata*, antibacterial ointment, alkaloid, tannin, *Staphylococcus aureus*, *Escherichia coli*



# ABSTRACT

## PANEL 26

01

### ANTAS NG KAKAYAHAN NG MGA MAG-AARAL SA PAG-UNAWA NG MAIKLING KUWENTO: BATAYAN SA PAGBUO NG SUPPLEMENTARYONG MATERİYAL

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Ang pag-aaral na ito ay may layuning tukuyin ang antas ng kakayahan ng mga mag-aaral sa pag-unawa ng maikling kuwento na batayan sa pagbuo ng supplementaryong materyal. Sa pag-aaral na ito ay ginamit ang diskriptibong disenyo. Ang instrumentong ginamit sa paglikom ng datos ay isang talatanungan na inihanda ng mananaliksik. Ang unang bahagi ay patungkol sa profayl ng mga mag-aaral na kinabibilangan ng kasarian, uri ng genreng pampanitikan na binabasa at wikang ginagamit sa tahanan. Ang ikalawang bahagi ay ang pagsusulit na nagsilbing instrumento sa pagtukoy sa antas ng kakayahan sa pag-unawa ng mga mag-aaral sa maikling kuwento.

Ang mananaliksik ay bumuo ng 50 katananungan para sa lagumang pagsusulit na hango sa maikling kuwentong mula sa una hanggang ikatlong markahan ng asignaturang Filipino 9. Mula sa resulta ng pagsusulit, natukoy kung anong antas ng kanilang kakayahan sa pag-unawa at ang least mastered competency na naging batayan sa pagbuo ng supplementaryong materyal upang mapataas ang antas ng pag-unawa sa talasalitaan at pag-unawa sa nilalaman ng maikling kuwento.

Gumamit ng Complete Enumeration kung saan lahat ng Grade 9 sa Mataas na Paaralan ng Catlino D. Cerezo ang naging respondent. Sa siyamnapu't dalawa o 92 respondent ng nasabing paaralan, natukoy na marami ang nasa mataas na antas ng kakayahan samantala kaunti lamang ang nasa pinakamababang antas ng kakayahan. Bagaman marami ang nakakuha ng mataas na iskor ay dapat pa ring gabayan at hikayatin ang mga mag-aaral na magbasa nang magbasa, mag-aral upang lalong mapataas ang kanilang antas ng kakayahan sa pag-unawa sa akdang binabasa.

Walang makabuluhang ugnayan ang antas ng kakayahan sa kasarian at wikang ginagamit sa tahanan. Bagaman nakitaan ng makabuluhang kaugnayan ang uri ng genreng binabasa sa antas ng kakayahan ng pag-unawa ng mga mag-aaral sa maikling kuwento.

Sa nabuong paglalagom, karamihan sa naging respondent ay mga babae. Ang pinakamaraming genreng binabasa ng mga mag-aaral ay maikling kuwento. At ang wikang ginagamit sa kanilang tahanan ay wikang Filipino kungkaya't lumabas na mataas ang nakuhang iskor ng mga respondent na nasa mataas na antas ng kakayahan ng pag-unawa. Kabilang sa inilalahad na rekomendasyon ng mananaliksik ay makabuo pa ng mas maraming supplementaryong materyal ang mga guro. Ang materyal na ito ay may ibat-ibang gawain na makatutulong sa mag-aaral upang mapataas ang antas ng pag-unawa sa ibat-ibang panitikan.

**Keywords:** *Antas ng kakayahan sa Pag-unawa, Supplementaryong Materyal, Maikling Kuwento, Least Mastered Competency*



# ABSTRACT

## PANEL 26

02

### INTEGRATING MUSIC IN TEACHING MATHEMATICS AMONG KINDERGARTEN PUPILS

**Joy Dela Merced Mangabay**

Pangasinan State University - School of Advanced Studies Satellite

The main purpose of this study is to determine the performance of the kindergarten pupils of Bayambang Central School, District 1, Bayambang, Pangasinan during the school year 2021-2022. The study specifically aimed to determine the profile of the kindergarten pupils who were considered least learned in the domain Mathematics, specifically in number recognition. The levels of performance of the kindergarten pupils in mathematics before and after exposure to the treatment (integrating music in teaching mathematics) were also determined. It also determined the significance of the difference of the kindergarten pupils' performance in mathematics before and after the experiment. Lastly, the significance of the relationship of the level of performance of the pupils in mathematics after exposure to the treatment and their profile variables was also established.

*Keywords: integrating, performance, mathematics, number recognition, kindergarten learners, intervention*





# ABSTRACT

## PANEL 26

03

### LETTER RECOGNITION THROUGH ART ACTIVITIES AMONG KINDERGARTEN LEARNERS

**Madona Ora Mateo**

Pangasinan State University - School of Advanced Studies Satellite

The study aims to determine the effectiveness of using art activities in teaching letter recognition to kindergarten learners of Bayambang Central I School, Bayambang, Pangasinan during the school year 2021-2022. Its specific objectives, to wit are: establish the profile of kindergarteners; determine the level of performance of the kindergarten learners on letter recognition before and after exposure to art activities; determine the significance of the difference of the levels of performance of the learners before and after exposure to art activities; and determine the significance of the relationship between the levels of performance of kindergarteners in letter recognition and their profile variables.

The study used the single-group pretest-posttest quasi-experimental design with a 25-item achievement test as main data gathering tool. The researcher conducted the study during the intervention year 2021-2022 with 25 kindergarteners identified as least learned in the domain Language, Literacy, and Communication. The experiment lasted for six (6) weeks, from July 4, 2022 to August 12, 2022. The researcher submitted data gathered during the pretest and posttest to appropriate statistical tools.

The study found that most of the least learned kindergarten learners in Language, Literacy, and Communication are male; have art materials and do art activities at home; are provided with reading materials, and have home reading activities. It was found, too, that the performance of the kindergarteners on letter recognition improved when taught using art activities. Moreover, the study found that art activities are effective in teaching letter recognition to kindergarteners. Lastly, the study found that the profile variables of the kindergarten pupils were not significant correlates of their level of performance on letter recognition.

Based from the findings and conclusions the study recommends that school administrators encourage teachers to provide their respective pupils with art activities in teaching the competencies in other developmental domains. Likewise, teachers may adopt the art activities

the researcher utilized in teaching letter recognition to their pupils. They, too, may continue to create more activities, which they can utilize in teaching the concepts, skills, and values in the different learning areas or developmental domains. Teachers may encourage parents to continue providing their children with art and reading materials, and may conduct art and reading activities at home. Lastly, a similar study may be conducted in the other domains of development or learning areas.

**Keywords:** *art activities, letter recognition, performance, kindergarten learners, least learned*



# ABSTRACT

## PANEL 26

04

### PAGBUO AT BALIDASYON NG SANAYANG AKLAT SA KOMUNIKASYON AT PANANALIKSIK SA WIKA AT KULTURANG PILIPINO

Crystal Mae G. Basa  
Eastern Pangasinan Agricultural College

Ang pag-aaral na ito ay may layong mabuo at mabalideyt ang inihandang sanayang aklat sa Komunikasyon at Pananaliksik sa Wika at Kulturang Pilipino. Sinukat nito ang antas ng kaalaman ng mga mag-aaral kaugnay sa mga kasanayang pampagtuturo sa asignatura. Binigyang-diin nito ang mga least mastered competencies ng mga mag-aaral sa baitang 11, ang antas ng kabisaan batay sa pagsusuri ng mga eksperto, at ang antas ng pagtanggap ng mga guro sa sanayang aklat na ginawa ng mananaliksik.

Ang mga mag-aaral ng Eastern Pangasinan Agricultural College- Sta. Maria Pangasinan ang respondante sa pag-aaral. Ang mga datos na nalikom ay ginamitan ng palarawang pagsusuri gamit ang SPSS tulad ng frequency counts, percentage distribution at average weighted mean.

Natuklasan sa pag-aaral na ang mga mag-aaral ay may mataas na antas ng kaalaman sa learning competencies sa asignaturang Komunikasyon at Pananaliksik sa Wika at Kulturang Pilipino. Malawak ang kanilang kaalaman sa mga kasanayan bagaman mayroon din sa kanila ang hindi nakasasabay. Ang mga paksang may kinalaman sa kasaysayan ng wika, mga bahagi ng pananaliksik, at ang mga ideya tungkol sa bahagi ng pangungusap ang naging kahinaan ng mga mag-aaral na maituturing na kanilang least mastered competencies. Mabisa ang sanayang aklat ayon sa mga nagbalidong mga eksperto. Lubos na katanggap-tanggap sa mga guro ang sanayang aklat na Komunikasyon at Pananaliksik sa Wika at Kulturang Pilipino.

Bagaman lumabas na mataas na ang kaalaman ng mga mag-aaral tungkol sa asignatura, maaari pa ring mapabuti ang least mastered competencies ng mga mag-aaral. Ang binuong sanayang aklat ay magiging malaking tulong para sa pagkatuto ng mga mag-aaral lalo na at naglalaman ito ng mga interakatibong gawain na lalong magpapaunlad sa kasanayan ng mga mag-aaral.

Ang pag-aaral na ito ay lalong nagpatunay na ang isang guro para maging epektibo ay kailangang maging maparaan at malikhain sa paglikha ng kagamitang pampagtuturo tulad ng sanayang aklat dahil ito ay makatutulong sa pagtuturo at pagkatuto.

*Keywords: Sanayang Aklat, Komunikasyon at Pananaliksik sa Wika at Kulturang Pilipino, Least Mastered Competencies*



# ABSTRACT

## PANEL 26

05

### SOCIO-PRAGMATIC ERRORS IN ENGLISH AMONG GRADE 9 STUDENTS ENGAGED IN VARIOUS COMMUNICATIVE SITUATIONS

Reb Cassey M. Trinidad

Mataas na Paaralang Juan C. Laya

Pangasinan State University - School of Advanced Studies

Socio-pragmatic competence is integral to the achievement of communicative competence, which is aligned to the grade level standards of the Grade 9 English learning subject as per curriculum of the Department of Education (DepEd). This study identifies the socio-pragmatic errors in English manifest in the formal and informal communication corpora collected from Grade 9 ESL learners. Research participants are 32 female and male Grade 9 learners at the Mataas na Paaralang Juan C. Laya, San Manuel, Pangasinan during the school year 2022-2023.

Among the salient findings of the study, both the female and the male groups of Grade 9 learners use Ilokano (primary) and Filipino (secondary) as medium of communication in both domestic and non-domestic settings of socialization. They have a consistently very low exposure to native speakers of English, and a fair exposure to non-native speakers of English. They have a fair extent of exposure across different types of printed reading materials in English, and a consistently low exposure across different types of digital reading materials in English, as well as a fair exposure across different types of media in English. They generally use English at a "low" extent, both in cases of written communication and oral formal and informal communication. They experience communicative discomfort in English ranging from low to high levels. They also use different communication strategies ranging from "fair" to "high" frequency of use.

Omission/inappropriate expressions used for courtesy; Misuse of modals; Absence of gender fair language; and Inappropriate word choice characterize the types of socio-pragmatic errors Grade 9 learners manifested, occurring at different frequencies in both their oral, written, formal, and informal communication. Moreover, there is a significant difference in the learners' frequency of committing socio-pragmatic errors across oral, written, formal, and informal communication, and across the different types of socio-pragmatic errors. Grade 9 ESL learners with higher extent of English language use in both formal and informal communicative situations are also the ones susceptible to commit higher frequency rates of socio-pragmatic errors.

Based on the information analysis of the research findings, this study identified several gaps, problems, issues, and concerns relative to the English language learning of the Grade 9 learners. The study offered list of relevant intervention programs and projects anchored on various types of intervention strategies.

**Keywords:** *Socio-Pragmatic Errors, Communicative Situations, Intervention Strategies*



# ABSTRACT

## PANEL 26

06

### STRATEGIES IN PROMOTING SOCIO-EMOTIONAL LEARNING (SEL) AMONG KINDERGARTENERS

Paulane R. Navalta  
Pangasinan State University

The purpose of this study is to investigate the different strategies that teachers use in promoting socio-emotional learning (SEL) among kindergarteners. The participants in this study were the 65 kindergarten teachers from 45 schools in Urdaneta City, Pangasinan. The researcher employed a descriptive method to understand the various strategies teachers use to foster SEL and the survey questionnaire as the main data-gathering tool. For the survey questionnaire, the researcher used a google form that contains the following: the profile of the kindergarten teachers, the strategies and the challenges encountered in promoting SEL. After the kindergarten teachers accomplished the survey questionnaire, the researcher gathered and consolidated the data for analysis. The study utilized gathered quantitative data in order for the researcher to propose an action plan to enhance the strategies of the kindergarten teachers in promoting SEL.

Majority of the respondents are female, married, categorized as Teacher III, with specialization in Early Childhood Education. They have been teaching for 6-10 years, with 11-20 pupils per class, and have attended few trainings/seminars related to socio-emotional development. Teachers are highly engaged in various strategies in promoting SEL. The profile variables of the teachers influenced significantly the level of engagement on various strategies employed by teachers. Likewise, the respondents encountered challenges in promoting SEL.

Based on the results and conclusions from the study, the researcher recommends to offer professional development opportunities, incorporate structured play activities, embed SEL practices into the daily routines, provide resources and workshops for parents, collaborate with community organizations to provide additional support and resources, and examine the importance of sustained support in fostering teachers' confidence and competence in promoting SEL.

*Keywords: socio-emotional learning (SEL), kindergarteners, strategies, challenges, early childhood education, descriptive method, action plan*



# ABSTRACT

## PANEL 27

01

### COLLABORATION OF NON-GOVERNMENTAL ORGANIZATIONS AND THE LOCAL GOVERNMENT UNIT OF BAYAMBANG FOR COMMUNITY DEVELOPMENT

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Bayambang Municipal Association of Non-Governmental Organizations

This study utilized the descriptive-quantitative research design to determine the extent of Non-Governmental Organizations (NGOs) and Local Government Unit (LGU) collaboration in the community development of Bayambang, Pangasinan. There are 170 respondents in the study representing the different NGOs in the municipality of Bayambang while LGU was represented by 16 respondents. A survey questionnaire was used in data collection. Results show that there is one (1) NGO being represented by an International Organization. All of the NGOs considered in the study used donations, membership fees, and monthly dues as their source of income in funding any projects or activities of their association except one (1) which has a source of funding from DSWD and Kasama Kita sa Barangay Foundation. NGOs extent of collaboration in community development is seen as very high in Disaster Risk Reduction Management Programs compared to LGU which has more on Health and wellness program. Results also show that both NGOs and LGUs encountered problems in their collaboration in community development though each has respective roles and responsibilities stipulated. NGOs respondents' perceived that in their collaboration there are problems considered in a state of moderately serious compared to the state of the problems of LGU which is described as less serious. Moreover, it was found that there is a significant difference in the extent of collaboration of NGOs and LGUs along health and wellness programs and environmental management programs. The findings of the study may serve as the basis for to review of the Annual Investment Plan of LGU of Bayambang where NGOs and LGU collaborate on different programs for community development and be considered in their action plan.

**Keywords:** *Non-Governmental Organization, Community Development, Collaboration, Local government Unit*



# ABSTRACT

## PANEL 27

02

### MANAGEMENT PRACTICES OF LOCAL SOCIAL WELFARE AND DEVELOPMENT OFFICERS OF PANGASINAN

Richard A. Dizon  
Lyceum-Northwestern University

The field of social work in the Philippines has evolved over time, influenced by local and international developments. It operates under the Department of Social Welfare and Development (DSWD) and plays a vital role in supporting vulnerable populations through various methods such as social casework and community organization. However, challenges persist due to a shortage of professionals. Collaboration between practitioners, local government units, and the DSWD is crucial for effective service delivery. Research on social work management practices is essential for improving services and supporting the well-being of vulnerable populations.

This study is focused on the assessment of management practices of Local Social Welfare and Development Officers (LSWDOs) and their clients' satisfaction by employing a mixed method of research. The respondents of this study were the Local Social Welfare and Development Officers of Pangasinan and their respective clients.

The study did not find any significant associations between the profile variables and management practices. Client satisfaction with LSWDO services was generally positive, but there were areas for improvement, such as project proposal recommendations and staff supervision. Surprisingly, no significant correlation was found between management practices and client satisfaction, indicating the importance of considering other factors like staff competence and communication effectiveness.

Challenges faced by LSWDOs included limited resources, inadequate facilities, staff conflicts, and lack of support from higher authorities. Thematic analysis revealed additional challenges such as emotional unpreparedness, limited professional advancement, political intervention, and difficulties in case management.

Based on the findings, a five-year development plan was proposed to enhance management practices and increase client satisfaction. This plan focuses on addressing challenges through resource allocation, facility improvements, training, conflict resolution, and enhanced support.

Overall, this comprehensive study provides insights into the strengths, weaknesses, and challenges of LSWDO management practices. It offers valuable recommendations for improvement, aiming to ensure effective service delivery and enhance client satisfaction.

*Keywords: management practices, challenges encountered, local social welfare and development, client satisfaction.*



# ABSTRACT

## PANEL 27

03

### THE SUSTAINABLE LIVELIHOOD PROGRAM OF THE DEPARTMENT OF SOCIAL WELFARE AND DEVELOPMENT: IT'S SOCIO-ECONOMIC IMPACT ON THE BENEFICIARIES IN PANGASINAN

Gilberto S. Carino, Josefina B. Bitonio  
Lyceum-Northwestern University

The study assessed the implementation of the Sustainable Livelihood Program of the Department of Social Welfare and Development (DSWD) and analyzed its socio-economic impact on the beneficiaries in the province of Pangasinan. The study used the descriptive-evaluative approach which focused on 425 program beneficiaries. It assessed the socio-economic conditions of the beneficiaries based on the DSWD's indicators such as economic sufficiency and social adequacy. Covering the study period 2015- 2019, it is found in the study that the beneficiaries' economic status remained insufficient although their social security remained sufficient. Moreover, findings pointed out that the size of the family and type of program availability, positively influenced the economic and social status of the beneficiaries. In terms of income, the study found out that there was an uneven income/livelihood assistance given to family members.

Based on the findings, it is recommended that a policy be formulated to address the concern of equitable access to livelihood assistance. Further studies could be done on how to improve the implementation of the Sustainable Livelihood Program of the DSWD to be able to better address the living conditions of the underprivileged program beneficiaries.

*Keywords: Socio-Economic Impact, Sustainable Livelihood Program, Economic Status, Social Status*



# ABSTRACT

## PANEL 27

04

### ENTREPRENEURIALISM OF AGRICULTURE-BASED ONE TOWN ONE PRODUCT (OTOP) VENTURES IN PANGASINAN, PHILIPPINES

Dyann S. Ramos, Amalia U. Giron-Dela Cruz  
University of Luzon

This study aims to empirically analyze the entrepreneurialism, in terms of its five aspects related in management and personnel, marketing, technical, financial, and socio-economic, of the agriculture-based One Town One Product (OTOP) initiatives in the Province of Pangasinan with the end in view of developing a community-based entrepreneurship model in building sustainable communities in the Philippines. Moreover, this study hopes to serve as an instrument in promoting OTOP program awareness, more particularly the agriculture-based products. This study is a descriptive survey research with the employment of mixed methods, both qualitative and quantitative, particularly triangulation research method of data collection and analysis so as to capture the details and adequate information. Respondents of this study were 149 entrepreneurs in the selected nine municipalities of 5th and 6th Districts of Pangasinan, wherein participation of Local Government Unit and Department of Trade and Industry officers, who oversees the OTOP program, is also considered. The statistical tools used in the analysis and interpretation of data and hypothesis testing are frequency counts, percent distribution, weighted mean, and ANOVA. Based on the findings of this study, there is a concurrence as to the extent of entrepreneurialism of agriculture-based One Town One Product (OTOP) initiatives as the OTOPreneurs perceive. There are significant differences that exist along the aforementioned aspects of entrepreneurialism, with the different variables and factors considered, as supported by the difference in management, direction, implementation and execution of the OTOP movement in each local government unit, in each implementer and in each entrepreneur. The Developing Societal Relationship (DSR) – OTOPreneurialism Model as developed in this study could help promote the entrepreneurialism of agriculture-based OTOP initiatives, hence, the study strongly recommends its adoption and make it as an integral part of the entrepreneurial guide of OTOP business and entrepreneurial spirit of prospective OTOPreneurs.

*Keywords: Entrepreneurialism, One Town One Product, OTOPreneurialism*





# ABSTRACT

## PANEL 27

05

### RICE CAKE BUSINESS PRODUCTION IN CALASIAO, PANGASINAN

Chigozie Joan Uzu, Jean V. Ramos  
University of Luzon

This investigation provides not only the ideal scenarios in operating a rice cake production business but also considers events that may cause losses for the operator. Further, the study highlights problems Bella's Puto business encounter served as the basis in proposing remedial courses of actions to improve the operation of the said business. Aimed at exploring the processes in the operation of puto making business and how to survive in the business particularly in rice cake industry, this study aims to assess the status and problems of Bella's puto in Calasiao in order to improve its current operations, to offer services to its target customers, and to address its manpower, technical and financial concerns. The study used the descriptive assessment method of research to analyze the status of the business operation of an entity. It analyzed using the information gathered from the interview guide, which dealt with the operations of Bella's Puto Calasiao in terms of management, technical, and financial aspects. With the comprehensive revisit of the problems the said establishment encountered in the study, it can be noted that Bella' Puto business in Calasiao is a fast-growing business, which produces puto in Calasiao. It is however just to say that the business provides its customers with satisfaction as well as employment to the people of Calasiao. The financial statement of the business shows that the rate of increase in terms of profit shows that Bella' puto business in Calasiao is profitable to any investor. In general, the business operation of Bella' Puto needs minimal adjustments on addressing the challenges in terms of management, technical and financial aspects to sustain its business operation.

*Keywords: Rice Cake Business Production, Puto making business*



# ABSTRACT

## PANEL 27

06

### PERFORMANCE EFFICIENCY OF THE DEVELOPMENT PROJECTS OF SELECTED MUNICIPAL GOVERNMENTS IN PANGASINAN

Christian R. Mamaril  
University of Luzon

The Local Government Code of 1991 mandates the Local Government Units (LGUs) to allocate 20% of their share from the National Tax Allotment for development projects. However, underspending, lack of absorptive capacity, and politics of public service could possibly affect their performance. Therefore, this study aims to determine the performance efficiency of the development projects of selected municipal governments in the Second District of Pangasinan. Specifically, it will explore the status of the development projects in terms of Budgetary System, Public Service Delivery, Implementation, and Monitoring and Evaluation; the performance of the development projects along with the areas of Infrastructure Capital, Human Capital, Intellectual/Technological Capital, and Natural Capital; and the identification of development projects related-problems. This study employed a descriptive-evaluative approach. The information for this study was gathered from the existing records of the four (4) selected municipalities, which include Basista, Bugallon, Mangatarem, and Urbiztondo, through the Municipal Planning and Development Office/Council (MPDO/MPDC). In analyzing the data, the study employed Data Envelopment Analysis using RStudio. Results show that the Municipality of Basista is concluded as the most efficient municipality, and it can be attributed to the scale, cost, and the number of projects implemented. The remaining municipalities need more adjustment to become fully efficient. Further, the majority of the 20% Development Fund for development projects are mostly invested along with Infrastructure Capital. Such spending is a "noisier signal" for political gain than those who have less visible outputs. At the same time, Intellectual/Technological Capital appear neglected since there is no budget allotment. In addition, most of the development projects are inclusive, completed for an average period of 12 months, and contributed to the Philippine Development Plan and Sustainable Development Goals in meeting the targets and objectives.

*Keywords: Development Projects, Performance Efficiency, Municipal Governments, Data Envelopment Analysis*



# ABSTRACT

## PANEL 28

01

### APPRAISAL OF THE MATHEMATICS STUDENTS' COMPETENCIES VIS-A-VIS THE BSED MATHEMATICS PROGRAM OUTCOMES OF UNIVERSITY OF EASTERN PANGASINAN

Glen S. Diwag, Anruf Gil D. Fernandez, Kathleen Joy L. Alcausin, Jamaica B. Corpuz,  
Andrea Gayle D. Hidalgo, Marianne A. Ocumen  
University of Eastern Pangasinan

This study aims to appraise the mathematics students' competencies vis-a-vis the BSED Mathematics Program outcomes of students of University of Eastern Pangasinan. It determined Respondents' profile in terms of general mathematics grade, year level and senior high school track/strand and their perceived level of mathematics competencies. This study involved 87 pre-service teachers across all year levels. The study utilized the descriptive correlational method. Frequency counts, percentages, averages, ANOVA, and used t-tests for the treatment of data. Findings reveal that half of the BSED major in Mathematics students are from the senior high school GAS and HUMMS strand/track. Further, students are highly competent in application of mathematics in different curricular areas. A proposed intervention program was also provided to enhance master sets of competency skills.

*Keywords: appraisal, competencies, mathematics education, program outcomes*



# ABSTRACT

## PANEL 28

02

### MODELING MATHEMATICS PERFORMANCE BASED ON THE STRESS LEVELS OF GRADE 7 STUDENTS

Saira R. Manzon

Pangasinan State University - School of Advanced Studies

Numerous students claim to experience different levels of stress due to a variety of circumstances. This study developed a model that predicts students' Mathematics performance based on their levels of stress. The study utilized a survey questionnaire and a descriptive-correlational design. The students still managed to deliver a very satisfactory performance in Mathematics despite having moderate levels of academic-related stress, physiological-related stress, social-related stress, and psychological-related stress, and low-level of environmental-related stress, according to the results. Additionally, there was a slight association between Mathematics performance and psychological-related stress, but there was a significant negative relationship between mathematics performance and academic-related stress, physiological-related stress, social-related stress, and environmental-related stress. Furthermore, the study discovered that social-related stress and environment-related stress were the strongest among all the indicators of how well the students performed in Mathematics. With this, the researcher recommends that the developed regression model, which aimed to enhance the student's performance in Mathematics, be adapted.

*Keywords: stress, stress levels, Mathematics performance, regression model*



# ABSTRACT

## PANEL 28

03

### STRATEGIC INTERVENTION MATERIAL FOR MATHEMATICS 7

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Pangasinan State University - School of Advanced Studies

This study analyzes the developed Strategic Intervention Materials (SIM) in Mathematics 7 focusing on the least mastered competencies in the Division of Urdaneta. The study employs the descriptive-developmental method utilizing the DepEd prescribed Evaluation Rating Sheet for Print Resources. The study analyzed data using frequency, percentage, and summation. Additionally, it utilized Flesch Reading Ease Score to determine the level of readability index of the SIM.

The respondents for this study from the Division of Urdaneta City included two (2) Education Program Supervisors, two Principals, two (2) Head teachers, and four (4) Master Teachers from different public schools in the Division. The researcher implemented purposive sampling as a sampling scheme.

Based on the findings, the study identified the least mastered competencies in Mathematics 7 as expressing rational numbers from fraction form to decimal form and vice versa; as well as performing operations on rational numbers.

The developed Strategic Intervention Material underwent a rigorous validation process and the study found it valid considering its content, face, presentation and organization, and accuracy and up to datedness of information.

It also exhibited a fairly easy level of difficulty and is appropriate for seventh-grade students. Therefore, this researcher strongly recommends its use in public and private schools.

**Keywords:** *Least Mastered Competencies, Readability, Strategic Intervention Materials, Validity*



# ABSTRACT

## PANEL 28

04

### THE GAMIFICATION EXPERIENCES, CHALLENGES, AND PRACTICES OF TEACHERS IN TEACHING MATHEMATICS AT BONUAN BUQUIG NATIONAL HIGH SCHOOL

Rhona Mae D. Corpuz, Mariel M. Ferrera  
Universidad de Dagupan

One of the challenges of distance learning during the COVID-19 crisis is keeping the learners engaged. The Mathematics teachers' role becomes crucial for making sure that the learners stay engaged and motivated in learning mathematics. Gamification is the process of incorporating game elements such as points systems, leaderboards, or badges related to games into learning activities to increase students' engagement and motivation. It is timely and widely used in online learning. There is a need to explore the role of teachers in using gamification, particularly in mathematics. This study explored the experiences, challenges, and practices of secondary teachers in teaching mathematics using gamification. Moreover, this qualitative study used a thematic approach to analyze the gathered data. Seven (7) public secondary mathematics teachers participated in the study through purposive sampling. The study made use of researcher-made focus group interview guide questions and examined them using both cold and warm analysis. The study finds that the elements such as points, leaderboards, and rewards of gamification in teaching mathematics improved students' performance as they were engaged, motivated, competitive, and eager to learn. However, teachers encountered challenges such as the inadequacy of learners' needs for connectivity and intensive gamification planning with the use of gamification. It is recommended that teachers be provided with enhancement seminars and webinars involving gamification to address such challenges.

*Keywords: Mathematics Instruction, Intensive Gamification Planning, Gamification Practices, Extrinsic and Intrinsic Motivation, Leaderboard*



# ABSTRACT

## PANEL 29

01

### APPRAISAL OF THE SCIENCE STUDENTS' COMPETENCIES AND SCIENTIFIC LITERACY VIS-A-VIS THE BSED SCIENCE PROGRAM OUTCOMES OF UNIVERSITY OF EASTERN PANGASINAN

Blessma Joy Abenes, Joyce Ann M. Rabago, Ericka B. Borja, Jhen Lee Mae V. Drequito,  
Joshua V. Tabayoyong, Venalen B. Tabula, Reynaldo G. Veniegas II  
University of Eastern Pangasinan

Pre-service teachers majoring in science should exhibit a thorough mastery of scientific concepts, skills, attitudes, and principles. Hence, the researchers conducted a study to evaluate the BSED Science students' level of scientific literacy, level of science competencies in terms of understanding scientific concepts and principles, scientific inquiry in teaching, and science teaching and assessment and the relationship and difference between the respondents' science competencies and scientific literacy. The research design was descriptive correlational method. It used the purposive sampling to get the number of respondents. Researchers employed a survey questionnaire to gather the data via Google forms and in-person administration. To analyze the data, statistical tools used were weighted means, frequency distribution, t-test, ANOVA, and Spearman Rho. Findings reveal that respondents' level of science concepts and principles, scientific inquiry in teaching, and science teaching and assessment methods are excellent. This study found out also that there is no significant relationship between students' competencies and scientific literacy.

*Keywords: appraisal, program outcomes, science competencies, science education*



# ABSTRACT

## PANEL 29

02

### IMPLEMENTATION OF SCIENCE PROCESS SKILLS BY TEACHERS AMONG JUNIOR HIGH SCHOOL STUDENTS IN SCHOOLS DIVISION OFFICE PANGASINAN II

Ginalyn Ambroce-Pinpinio  
Pangasinan State University - School of Advanced Studies

The study focuses on identifying the level of implementation of science process skills among Junior High School students and the problems teachers under Schools Division Office Pangasinan II encounter during COVID-19 pandemic. The researcher gathered data from 56 schools under Districts 4, 5 & 6 - Schools Division Office Pangasinan II and surveyed 150 respondents teaching science in junior high school using Google Form to answer the survey questionnaire the study adopted from different existing research studies. It utilized the descriptive-correlational research as the research design to classify and describe the phenomenon systematically and accurately.

The study shows that in terms of level of implementation of science process skills by teachers, an overall weighted mean of 4.48 was recorded where respondents fully implemented various scientific concepts related to science process skills. Science teachers agreed that 10 out of 12 problems were being encountered and 12 out of 12 coping mechanisms have been deployed to implement science process skills. Results reveal that there is a significant positive relationship between the profile variables such as grade level taught of the respondents and the level of implementation of science process skills along communicating.

The researcher recommends to 1. implement innovative methods of teaching instruction prescribed under RA 10533; 2. prioritize building students' skills thru locally produced teaching and learning instructional materials and 3. participate in teacher education and training programs.

*Keywords: science process skills, implementation, scientific concepts, coping mechanisms, problems encountered*





# ABSTRACT

## PANEL 29

03

### INTEGRATION OF SUSTAINABLE DEVELOPMENT GOALS IN SCIENCE EDUCATION AMONG STEM TEACHERS IN THE THIRD CONGRESSIONAL DISTRICT OF PANGASINAN

Genesis S. Parel

Calasiao Comprehensive National High School

Emmanuel Ross B. Tomas

Pangasinan State University - School of Advanced Studies

The integration of Sustainable Development Goals in Science Education, particularly in the Senior High School Program, plays a crucial role in developing the necessary skills to address rampant economic, cultural, political, and environmental issues and achieve the Agenda 2030. This descriptive study henceforth quantitatively analyzed the awareness and integration of these goals in the lessons of all STEM III-b teachers in schools that offer STEM in the Third Congressional District based on Education for Sustainable Development (ESD), Global Citizenship Education (GCED), and Climate Change Education (CCE). With a narrow gender gap in the population of predominantly young and new teachers with high educational attainment, awareness of the Global Goals and its integration into their lessons is evident, although improvements could still be made, especially in the existence of DepEd-sponsored training related to the SDG and mastery of ESD and GCED Integration. SDG Integration in Science also strongly and positively correlates to the awareness and educational attainment of STEM III-b Teachers; thus, pursuing post-graduate studies, seminars, and other related activities that raise awareness about SDG and the criteria that build its integration into Science Education can yield more excellent outcomes. Along with the United Nations and its sub-organizations, the Department of Education, furthering its efforts to reach out to teachers, will support this endeavor. In turn, as harbingers of the aspirations of Agenda 2030, STEM teachers in the district can further hone their abilities in integrating SDG, particularly in providing supplementary activities in science that reach out to the community and other linkages, as well as efforts to improve engaging learners in varying homogenous grouping during science experiments to enhance collaborative learning and inclusion of affective domain in objectives to promote elements of peace, justice, societal awareness, and accountability among learners in teaching science.

*Keywords: Global Goals, science education, STEM iii-b Teachers.*



# ABSTRACT

## PANEL 29

04

### PATTERNS AND TRENDS OF LIFE SCIENCE RESEARCH AMONG SCIENCE, TECHNOLOGY AND ENGINEERING (STE) IMPLEMENTING SCHOOLS IN PANGASINAN, PHILIPPINES

Mark Angelbert B. Dulay  
Tayug National High School  
Pangasinan State University - School of Advanced Studies

This study examines the patterns and trends of Life Science research among Science, Technology, and Engineering (STE) Program implementing schools in Pangasinan, Philippines. Data collected from Science Investigatory Projects (SIPs) students conducted over an eight-year period were the bases of the research. The study aims to gain insights into the content of these projects and how it has changed over time, focusing on the research questions, design and methodology, results and discussion, and conclusion and recommendation.

The results show a variable pattern in the number of Life Science projects throughout time, exhibiting both highs and lows. Most of the research topics in the life science area deal with finding statistically significant variations among variables, assessing efficiency, and investigating phytochemicals. The experimental design was the research design that was most frequently utilized, and the preferred research methodologies were plant identification, local data collection, drug formulation, and in-lab experiments. The study used ANOVA and other statistical analysis techniques. The projects' findings frequently noted the existence of phytochemicals, effectivity of the sample, and significant differences across groups.

Based on the results, future student researchers in the field of life sciences may investigate topics including biodiversity studies, ecological dynamics, the effects of pollution on ecosystems, genetics, biotechnology, and the therapeutic potential of natural products. The researcher recommends a budgeted lesson plan that focuses on helping students gain knowledge and research skills by integrating the trends of Science Investigatory Projects in Pangasinan. The budgeted lesson plan covers topics such as developing researchable problems, compiling pertinent readings, organizing research designs, selecting writing tools and techniques, and comprehending the use of statistics in research.

This study provides the understanding of student engagement and achievement in scientific study and offers suggestions for future research and educational support by offering insightful information about the patterns and trends of Life Science research among STE implementation schools in Pangasinan.

**Keywords:** *Patterns, Trends, Life Science Research, Science Investigatory Project, Pangasinan*



# ABSTRACT

## PANEL 30

01

### BUSINESS ADMINISTRATION STUDENTS' COMPETENCE ON SAP ONE IN THE UNIVERSITY OF LUZON, DAGUPAN CITY, PANGASINAN

Sherryl D. Delos Santos  
University of Luzon

Systems, Applications and Products (SAP) set out on a path that would not only transform the world of information technology, but also forever alter the way companies do business. Business software has been a basic necessity for business entities nowadays. Integration of technology in the business administration curriculum is one of the remedies in matching industry business processes and university education programs. University of Luzon (UL) is one of the higher educational institutions in Pangasinan that introduced SAP Business One software to business administration students as part of their course program. This research aims at determining the level of competence of the UL-College of Business Administration students in the use of SAP. Data from a survey involving UL-College of Business Administration students, who already took up the subject ELC 101(SAP), were primarily used in the analyses. For purposes of validation, informal interviews were employed. There are eight (8) areas identified in SAP Business One, namely: Overview and Fundamentals of SAP Business One, Master Data; Document Handling; Purchasing-Accounts Payable; Sales-Accounts Receivable; Inventory; Bankin; and Financials. Major findings reveal that in most areas respondents are moderately competent and must be given enough attention to improve the performance of Business Administration students in the use of SAP software. Various emerging and constraining factors were also identified by the students during the training that affected their level of competence. These involved unavailable databases; limited time in hands-on training; lack of training facilities; limited training for faculty members on effective teaching strategies on computerized systems; lack of interest among students to study computerized systems; and complexity of the systems and technical problems. Different measures were also provided along with the problems the students encounter to improve the competence in the use of SAP Business One software. Further, targeting the factors affecting the students' performance, will not only help in providing detailed and interactive discussion during the training but will also aid teaching staff with technical and educational support to achieve better learning outcomes and to effectively and efficiently implement the use of SAP Business One.

*Keywords: Systems, Applications and Products (SAP), Business Administration*



# ABSTRACT

## PANEL 30

02

### PERCEIVED EFFECTIVENESS OF THE LEARNER CENTERED STRATEGIES EMPLOYED BY VALUES EDUCATION INSTRUCTORS

Allen Christian V. Torres, Judy D. Bernardino,  
Shiela Marie L. Castañeda, Erica Mae T. Soriano  
University of Eastern Pangasinan

Due to an ever-changing environment, students transition from being passive consumers of information to active participants in activities and the teaching and learning process known as learner-centered strategy. Additionally, the teacher used a variety of teaching strategies to meet the needs of the students, although not all of these strategies were successful in engaging their attention and effective to the learners. Therefore, the goal of this study is to determine which learner-centered strategies, as perceived by the students of the Bachelor of Secondary Education major in Values Education program at the University of Eastern Pangasinan, are most effective.

To gather the data, the researchers used Likert-scale survey questionnaires for the students who enrolled in Bachelor of Secondary Education major in Values Education Program A.Y 2021-2022. Two expert instructors in the field of education validated the aforementioned questionnaire and tested the same for reliability through Cronbach Alpha values, which yielded  $0.8 \leq \alpha < 0.92$  for all items in each individual teaching method. Further, researchers distributed the questionnaires using Google Form and statistically treated the collected data using Friedman's Test for Repeated Measure.

Results show that research-based learning is significantly perceived as the most effective learner-centered strategy while experiential learning is the least effective. However, the agreeability of respondents on which learner-centered strategy is best is low, which implies significant differences in opinions for strategy effectiveness.

**Keywords:** *learner-centered strategies, values education, teacher education, perceived effectiveness*



# ABSTRACT

## PANEL 30

03

### COOPERATIVE STORYTELLING IN ENHANCING STUDENTS' SPEAKING PROFICIENCY IN A PANGASINAN HEI

Joanne F. Ubaldo  
University of Luzon

Speaking proficiency is one of the domain tools in entering the workforce; thus, improving the students' speaking skills must be given primacy during their years in education. However, with the apparent decline of the students' speaking proficiency level, the traditional method of teaching might not be enough to aid the needs of students; hence, there is a need to seek the strategy, cooperative storytelling, as an innovative method. As students can learn speaking more effectively when they are into a valuable context, they are provided an environment to foster their speaking skills, and collaboratively interact as they creatively express themselves. In view of this, the author designed the present study to determine the effectiveness of Cooperative Storytelling Strategy (CSS) in enhancing the speaking skills of the college students. Targeted respondents exhibited low performance during interactive discussions and speaking activities. Moreover, this study employed a pre-experimental method, and utilized pre-intervention speaking test and post-intervention speaking test. The researcher used a 2-week intervention timeline with activities linked to CSS. The areas of speaking skills magnified and tested on this study are vocabulary, articulation, and grammar, as determined with an assessment rubric. Results show that the pre-intervention test scored an average weighted mean of 1.85 (fair), while post-test results have an average weighted mean of 3.08 (satisfactory), indicating that there is an improvement among the students' speaking proficiency level. Finally, as CSS has been proven to be an effective intervention in enhancing the speaking proficiency of the students, the researcher highly recommends an implementation or utilization of the Cooperative Storytelling Strategy (CSS) to enhance the speaking proficiency of the University of Luzon students, and can, in turn, use this ability at work when they graduate and can be at par with other professionals on the global stature.

*Keywords: Speaking proficiency, Cooperative Storytelling Strategy, UL Students*



# ABSTRACT

## PANEL 30

04

### ENGLISH GRAMMAR ERROR ANALYSIS AMONG PANGASINAN CRIMINOLOGY STUDENTS

Jesús S. Aquino  
University of Luzon

Grammar is the structural foundation of our ability to express ourselves. Schools teach English grammar for students at the various levels of the academic ladder to be able to communicate effectively, especially in written English. Since criminology students registered a dismal performance in the English Proficiency Test and have to tackle the writing requirements in college such as writing police reports, investigative reports, progress reports and documentaries among others, the researcher conducted this study to analyze the errors in English grammar of the Pangasinan Criminology students with the end view of developing a supplementary reference guide in order to improve respondents' competence in English grammar. The study used the descriptive survey method. A total of 230 Criminology students comprised the respondents. The study used a grammar test as the instrument in gathering needed data. It used frequency count, percentage and ranking to treat the data. Among the five aspects of grammar included in this study, students committed more errors in the use of prepositions and conjunctions. Likewise, errors in the use of pronouns, use of antecedents, the use of verb forms and the sentence structure in a grammar test were notably high in terms of score results. Three perceived factors linked to the errors of criminology students in English grammar: Students' Low Motivation in Learning the Second Language (L2); Teacher Factor and Interlingual Interference. Thus, the errors manifested in the English grammar test only stresses that students' proficiency in English is deteriorating and could potentially influence their academic performance, more so, their work as police officers in the future.

*Keywords: English Grammar, Error Analysis, Supplementary Reference Guide*



# ABSTRACT

## PANEL 30

05

### PERCEPTION OF SHS STUDENTS ON THEIR COURSE PREFERENCE BASED ON STRAND

Angelica A. Barte, Marc Darylle E. Bagot, Kim Kylie F. Crisostomo, William Patrick D. Felix,  
Cristine Joy B. Laureano, Ryan Christian O. Puyat  
University of Luzon

Today, it is up to the senior high school students, especially those in grade 12, to choose the future career they want to pursue. We can say that they have their criteria and ideas for the courses they want because they could decide to follow their Senior high school strand or specialization. The Senior High School (SHS) program is a great help that provides ample time and opportunity to decide and discover their talents and knowledge, which could be used in choosing a course and, eventually, a desirable work. (Dean, 2018)

The purpose of this research is to learn about the factors that influence the selection of college courses and to help them lessen the burden of selecting a course that is not aligned with their strand.

In this study, the researchers used interview guide questions to gather the data from ten (10) grade 12 students studying at the University of Luzon Senior High School that is needed in order to achieve its objectives. They used a descriptive phenomenology research design.

The findings foresee that it will be hard for the students to adjust when they reach college. Taking a course that does not align their current strand will make them struggle. In summary, the participants responded that they would be having a problem with the subject that they didn't take in their current strand and that they will encounter at their tertiary level.

The researchers imply that the students have different perceptions on why they shift their courses in college. But their passion and own desire are more important than the difficulties that they will face in college.



# ABSTRACT

## PANEL 31

01

### CONSUMER ACCEPTABILITY OF TELESCOPE SNAIL (TELESCOPIUM TELESCOPIUM) BAGOONG

Jun Jupiter M. Garcia, Jane S. Lopez, Krysteen Margarette R. Abrajano, Zoe Yanna Ysabel Borreros,  
Kevin Ace L. Caalim, Rachelyn C. Repudas, and John Russel C. Silvino  
Lyceum-Northwestern University

Bagoong is one of the native delicacies in Pangasinan that is usually used as a food seasoning and sauce. Mostly, bagoong is made from anchovies and krill, which are fermented with salt. This research study highlights the telescope snail in making bagoong. Telescope snail is also known as horn snail and bagongon in Filipino. In 2018, Luay, et al. determined the potential of telescope snail as an anticancer agent. Thus, this study aims to utilize this medicinal shellfish in innovating the famous bagoong - the product shall be called telescope snail bagoong.

The product has undergone sensory and price evaluation in order to determine consumer and price acceptability. Sensory evaluation involved the use of 9-point hedonic scale to study the level of likeness of the product in terms of taste, texture, aroma, and appearance. The identified price of the product, which is ₱80 per 100-gram-bottle, underwent price evaluation.

Respondents to this study were 100 students from Lyceum-Northwestern University-College of Business Education who were conveniently selected to evaluate the telescope snail bagoong. Based on results, telescope snail bagoong is a desirable and reasonably priced food product. The study also recommends the development of value-added telescope snail products that can be promoted as a livelihood to the community. Furthermore, future researchers may study the nutritional content of the telescope snail bagoong.

*Keywords: Telescopium telescopium, bagoong, sensory evaluation, price evaluation*





# ABSTRACT

## PANEL 31

02

### FLOATABLE AUTOMATIC MILKFISH FEEDER POWERED BY PHOTOVOLTAIC

Febrey Lamsen, Chesed De Vera, Al-Afif Abdullah  
Lyceum-Northwestern University

Milkfish is one of the most important fish products of Pangasinan. The milkfish feeding process is mostly done manually, making it more laborious for farmers and consuming huge amounts of time. It makes them go around the fishery, but it often happens that some milkfish are not given enough food. To lighten the work of the farmers, the researchers developed a floatable and automatic milkfish feeder powered by solar panel, a feeding mechanism and a floater with mechanical assembly to help farmers to ensure the feeding distribution and to dispense an accurate amount of food in a specific time into the pond, instead of manually feeding the fish. We calculated the data such as pellet dispenser and rotary feeder feeding capacity per unit time and tested the critical load check and stability completely. We also conducted visual tests for the prototype. The study used the JGY-370 12v direct current (DC) worm motor to move the rotary feeder, which is responsible for the transport of pellets to be dispensed to the outlet. On the other hand, the pellet dispenser that delivers feeds on the fish used the RS385-ST 12V DC motor. The Arduino UNO microcontroller is the crucial part of the system for the system to work. After collecting and building the whole device with the combination of the feeding system and the floater design, the researchers have tested its effectiveness, stability, and operation. With those factors, it was tested and calculated. Using the floatable and automatic milkfish feeder powered by solar, the outcome of the study showed that there was an average of time consumed in a revolution of 8.068 seconds and weight of pellets average of 30.4 grams per revolution, thus ascertaining that the feeding system effectively aids in the distribution of feeds. The total weight of materials or load carried by the floater was 26.2 kilograms. It is less than the calculated critical load thus, the floater was considered stable. The length of the pellet when it was thrown by the pellet dispenser is 144.17 cm. Additionally, there was an average of 114.7 cm of pellet range, which is suitable for the milkfish. In addition, 15.23% of energy (sun) flowing to the panel is converted to electricity. As a result, it is concluded that the design of the feeding mechanism and floater is operational and suitable for feeding milkfish.

*Keywords: Milkfish, photovoltaic system, solar energy, automatic feeder*



# ABSTRACT

## PANEL 31

03

### SMART-RAFT: AN AQUACULTURE SYSTEM USING MULTIFUNCTIONAL AUTOMATED ROBOT TECHNOLOGY FOR MILKFISH AQUAFARMING

Patrick Jaus P. Catabay, Angelica Mae B. Obcena, Lenald Dc. Pacleb,  
Junnel S. Soriano, Dana Fe E. Uy  
PHINMA University of Pangasinan

Aquaculture is the regulated reproduction, growth, and harvesting of some water species in both marine and freshwater habitats. According to Aypa (1995), the aquaculture business in the Philippines has a promising future. It has become the most dynamic sector in Philippine fisheries since the decline of marine fisheries began in 1976. However, it is largely agreed that the first fishponds were brackish water fishponds, with bangus or milkfish being the first species to be farmed. The study's concern is that the aquaculture sector has a scarcity of data on the current state of aquatic farming along with its ways of what is called conventional aquatic farming. Given that there are few technologies available to track aquacultural developments, the researchers devised the concept of shifting from traditional to smart aquaculture. The SMART-RAFT performs multifunctional functions: Roving, Aeration, Feeding, and Tracking.

The roving automatically moves around the pond with its propellers and an ultrasonic sensor to detect any barrier to steer clear of it and continue its smooth maneuver. The aeration aims to circulate the oxygen flow of water in the pond. The feeder function can automatically feed the fish around the pond using its servo motor to engage systematic distribution. And lastly, the tracking wherein at certain times of the day, the sensors (water temperature, pH level, turbidity) gather data and send it via a text message to the owner through the means of the GSM module. It also can store the said data locally through the SD card for easy access. The experimental method is utilized wherein it focuses on the development and application of a specific piece of equipment, the SMART-RAFT, in the target project population and location.

*Keywords: multifunctional automated robot; roving; aeration; feeder; tracking*



# ABSTRACT

## PANEL 31

04

### UTILIZATION OF SQUASH (*CUCURBITA MAXIMA*) PEEL IN MAKING CRACKERS

Jun Jupiter M. Garcia\*, Louise Jean S. Aquino, Ma. Krisma Hannah F. De Guzman, Tatiana Tassel D. Esteves, Kristine Alyssa V. Noma, and Kineth C. Salayog  
Lyceum-Northwestern University

The research study underlines the utilization of squash peel, a food waste in making crackers. Moreover, the squash peel cracker has undergone sensory and price evaluation in order to determine consumer and price acceptability. Sensory evaluation involved the use of 9-point hedonic scale to examine the level of likeness of the product in terms of taste, texture, aroma, and appearance. The price of the product, which is ₱10 per 28-gram-pack was also evaluated. We selected 100 residents of Brgy. Lucao, Don Basilio St., Dagupan City, to evaluate the squash peel crackers. Based on findings, squash peel crackers are a feasible and affordable food product. The study also suggests developing value-added products made out of food wastes to promote zero waste and create sources of livelihood to the community.

*Keywords: Cucurbita maxima, squash peel, crackers, sensory evaluation, price evaluation*



# ABSTRACT

## PANEL 32

01

### IMPACT EVALUATION OF UNIVERSITY COMMUNITY EXTENSION SERVICES IN PANGASINAN

Alvin O. Carillo  
University of Luzon

Heeding the call for a synergetic outreach program, the College of Business Administration (CBA) in coordination with the Office of Integrated Extension Services took the challenge by actively participating in all the major holistic projects that bind the UL Community to work as one for the well-being of the target beneficiaries and the community. This study aims to investigate the impact of the extension programs and activities the college provides to its partner communities. It employs a descriptive-evaluative method using a survey questionnaire and interview. Results indicate that the respondents are aware of the different extension programs and activities of the college. They agreed that the school extension programs help the community, especially in the enhancement of skills, livelihood, gift giving, health, and in the awakening of the spirit of volunteerism in them. Respondents also perceive the necessity of improving and sustaining the community extension programs of UL College of Business Administration. Respondents' suggestions and opinions imply that the school extension services must be enriched specifically on the 1. provision of valuable and effective projects, seminars, activities, and programs; 2. proper strategies to promote active participation of residents in all extension programs; and 3. creation and allocation of time for more livelihood programs. The extension services of the school need sustainability and equity to empower the people in the community and pursue relevant and effective projects wherein continuous monitoring and evaluation should be done consistently. As a result of the study, an action plan focusing on four (4) goals, namely: 1. quality and excellence, 2. relevance and responsiveness, 3. access and equity, and 4. efficiency and effectiveness, was formulated for the improvement of the extension services.

*Keywords: Impact Evaluation, Community Extension Services, Pangasinan*



# ABSTRACT

## PANEL 32

02

### DEVELOPMENT OF A SECURE AND EFFICIENT BARANGAY-BASED INFORMATION MANAGEMENT SYSTEM FOR LGU PANGASINAN

Alpha Joy G. Ramos, Eugene G. Silang  
University of Luzon

One of the sectors that have benefited greatly from computer technology is the government, particularly the barangay units. The development of a secure and efficient Barangay-based Information Management System aims to automate the processes and transactions in the barangays of the LGU Pangasinan. The project used the Rapid Application Development cycle as the development methodology to ensure that the system's requirements are met and that it meets the stakeholders' needs. The research also focuses on the security aspect of the system by implementing a database mirroring feature and following backup schemes to minimize downtime in case of hardware failure. The Development of a Secure and Efficient Barangay-based Information Management System will revolutionize the barangay's operations and transactions, providing a more secure and efficient service to its residents. The system's implementation will help the barangay unit keep up with the digital age, making it easier for them to manage their daily activities and transactions while improving the quality of services provided to their constituents by eliminating the problems and errors encountered during the manual processes. By implementing the system, the barangay chairman and secretary will be able to make and keep records, announcements, reports and services electronically. This will enable barangay officials to respond to residents' needs more efficiently and shorten the times it takes to process transactions. Moreover, residents will be able to electronically fill out required forms of barangay certificates using the system, eliminating the need for face-to-face transactions. The system's implementation is expected to improve the overall services the barangay provides to residents.

**Keywords:** *Barangay-based Information Management System, Rapid Application Development, Pangasinan LGUs*



# ABSTRACT

## PANEL 32

03

### FORTIFYING PUBLIC WIFI NETWORK SECURITY TOWARDS A DIGITAL COMMUNITY IN PANGASINAN

Chris Mark C. Aquino, Diosdado C. Caronongan  
University of Luzon

The paper focuses on fortifying the security of public Wi-Fi networks towards a digital San Carlos City, Pangasinan. It presented risk mitigation measures based on the assessed network vulnerabilities and identified security management challenges. The study adopted the National Institute of Standards and Technology (NIST) Security Testing and Assessment Methodology with Nessus as the vulnerability scanning tool. Further, it conducted a survey of security challenges faced by the network administrators of the public Wi-Fi networks in the city, augmented with expert opinions obtained through interviews. The study identified the most common vulnerabilities as unencrypted connections, weak passwords, rogue access points, man-in-the-middle attacks, and phishing, and recommended strategies for mitigating these threats, such as implementing strong encryption protocols, user authentication mechanisms, and regular software and firmware updates. The study concluded by highlighting the need for improved security measures to protect users from potential threats, despite the challenges faced by operators of public Wi-Fi networks in detecting and preventing attacks while balancing security with usability.

*Keywords: Public wi-fi network Security, network vulnerabilities, NIST Security Testing and Assessment Methodology, Pangasinan*



# ABSTRACT

## PANEL 32

04

### LOCAL YOUTH COUNCIL (SANGGUNIAN KABATAAN) MEMBERS MANAGEMENT SKILL NEEDS IN PANGASINAN

Jimmy Bhoy T. Galliguez, Aldrin A. Aquino  
University of Luzon

The Local Government Code of 1991 provides for the creation of a Sangguniang Kabataan (SK) in every barangay. It is to be composed of a chairperson, and seven council members. This serves as the youth legislative body in every local village or community. It initiates policies, programs and projects for the development of the youth in their respective political territories. The study aims to determine the management skill needs of local youth council members in the Municipality of Manaoag, Pangasinan. The study used the descriptive survey method to describe the extent of management skill needs of Sangguniang Kabataan members and described the factors attributed to their management skills. Overall, the grand mean of the summary of the extent of management skill needs of the SK members along the management aspect of Planning, Organizing, Leading, and Controlling is 3.67 with a descriptive equivalent of highly needed. All the items in the factors attributed in the management skills of the SK are highly attributed with the weighted mean ranging from 3.48 to 3.73. The overall mean of the factors attributed to the extent of management skills of the SK members is 3.61 with the descriptive equivalent of highly attributed. SK members need assessment or management skill training to fully promote the youth welfare and the development of their peers and to perform their mandated powers and functions effectively.

*Keywords: Local Youth Council, Management Skill, Pangasinan*



# ABSTRACT

## PANEL 32

05

### POLICE DRUG ENFORCEMENT OPERATIONS IN THE PROVINCE OF PANGASINAN

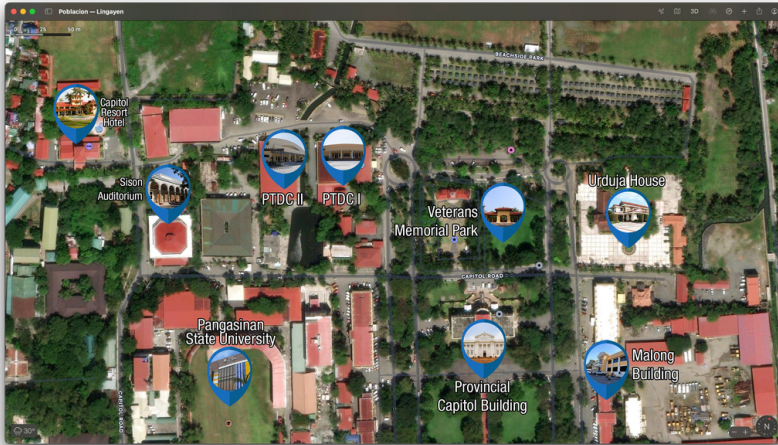
**Leo S. Llamas, Esther B. Vedaña**  
University of Luzon

Illicit drug production, trafficking, and use remain a matter of shared concern as these hinder development and pose a threat to security among countries across the globe. This study centered on the efficacy of the implementation of the drug operations campaign of the Philippine government before and after the implementation of the intensified drug operations to specifically provide a glimpse on the impact of the drug campaign towards the peace and order situation in Pangasinan. To this end, this study aims to assess the police drug enforcement operations in the province consistent with the formulation of measures for continuous improvement of the drug demand and supply reduction efforts in Pangasinan. This research utilizes the descriptive method design conducted in the three (3) municipalities of the Province of Pangasinan considered the top 3 with high crime rates with regards to drug-related cases. The respondents of this study are the ten (10) Law Enforcers, five (5) Barangay Captains and five (5) Civil Society Organizations with the total of 60 respondents in the three (3) Municipalities in the Province of Pangasinan. Based on the analysis of the data the extent of implementation of anti-drug war operations as perceived by Police Officers along the three (3) aspects are: (1) awareness, highly implemented ( $x=3.56$ ); efficiency, highly implemented ( $x=3.57$ ); and transparency, highly implemented ( $x=3.79$ ). Similarly, the extent of implementation of anti-drug war operations as perceived by the Barangay Chairman are: awareness ( $x=3.40$ ); efficiency ( $x=3.67$ ) and transparency ( $x=3.56$ ). All aspects rated highly implemented. Finally, the Senior Citizens group also assessed the extent of implementation as highly implemented with the following means: Awareness, 3.31; Efficiency, 3.67; and Transparency, 3.57. As to the portrait of the three (3) aspects, the overall pooled mean is 3.52 (highly implemented). The aspect of efficiency topped the rank, followed by transparency, and awareness. The highly implemented status of the anti-drug war campaign is an indicator of the efficient and effective roles and responsibilities the police officers undertook in partnership with the barangay and senior officials.

*Keywords: Police Drug Enforcement, Drug Demand and Supply Reduction, Pangasinan*



# CONFERENCE MAPS



# CONFERENCE VENUES



## SISON AUDITORIUM

Also known as the Cultural Center of Pangasinan (CCP), the Sison Auditorium is a grand establishment that stands to preserve, develop, and promote culture and arts of Pangasinan and a premier venue for events such as government meetings, programs, international conventions, cultural shows, theater plays, weddings, debuts, and concerts, among others.

## PANGASINAN TRAINING AND DEVELOPMENT CENTER I

PANGASINAN TRAINING & DEVELOPMENT CENTER I (PTDC I) is one prime venue ideal for large-scale trade events, industry conventions, corporate and social functions, and even international exhibitions. It serves as a home and venue for various activities in recognition of the earnest effort to develop Pangasinan.



## PANGASINAN TRAINING AND DEVELOPMENT CENTER II

PANGASINAN TRAINING AND DEVELOPMENT CENTER II (PTDC II) is a state-of-the-art structure of Pangasinan that is twice bigger than the PTDC I, situated within the Capitol Compound in Lingayen, Pangasinan. The PTDC II boasts of modern facilities and amenities matched with distinctive sophisticated designs.



## CAPITOL RESORT HOTEL

The Capitol Resort Hotel fronts the Lingayen Baywalk, a local hangout hotspot for families, friends and guests from all over. Equipped with its own event venues, swimming pool, café, restaurant, and a wide grassy field where guests can stroll and play, if not resting in the bahay kubo sets available on the premises.





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Vice Governor, Committee Chair on Education, Arts, and Culture

**HON. RAMON RONALD V. GUICO IV**

Mayor, Municipality of Binalonan

**PHINMA-University of Pangasinan**

**Lyceum-Northwestern University**

**University of Luzon**

**Universidad De Dagupan**

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**University of Eastern Pangasinan**

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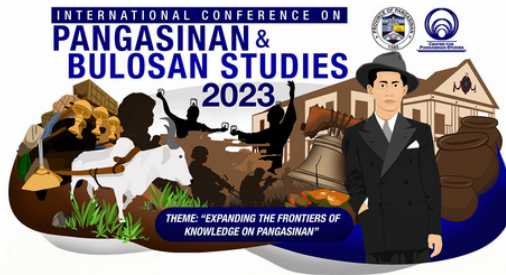
**Teatro Francisco**

**UL NSTP-ROTC Color Guards**

**Koro Universidad**

**Aniweng na Cuerdas Rondalla**





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UDD

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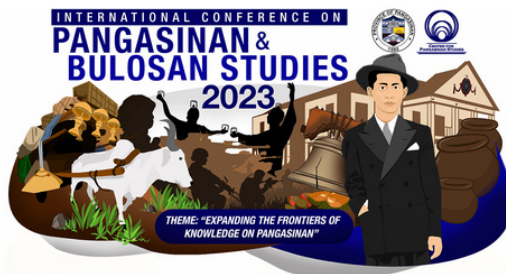
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