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2nd NATIONAL REDi CONGRESS

NOVEMBER 29, 2023 | VIA ZOOM

BOOK OF ABSTRACTS

Navigating the Frontiers of Innovation: Fostering Sustainable Development and Gender Inclusivity in Higher Education Institutions (HEI's)

"Navigating the Frontiers of Innovation: Fostering Sustainable Development and Gender Inclusivity in Higher Education Institutions (HEIs)"

Concept Note

In the context of the "new normal," where virtual gatherings have become the norm, the theme also emphasizes the adaptability and resilience of HEIs in coping with the challenges brought about by unprecedented circumstances. By embracing technological advancements and virtual platforms, 2nd REDi National Congress ensures that knowledge exchange and capability building continue unhindered.

The chosen theme aims to encapsulate the essence of the REDI Congress organized by the RSU-REDi unit. It emphasizes the pivotal role of Higher Education Institutions (HEIs) as "nebulae of innovations" where research and development (R&D) activities flourish, creating a galaxy of new ideas and discoveries. These innovations are confined within the academic realm and extended through extension activities catering to marginalized and underserved sectors.

Furthermore, the theme highlights the all-encompassing nature of the congress, where all papers produced by faculty, staff, and students are considered for presentation. Regardless of whether the research is externally, institutionally, or privately funded, initiated by individuals themselves, or stems from academic pursuits like theses, dissertations, and term papers, each contribution holds equal value in advancing the frontiers of knowledge.

Overall, the theme "Navigating the Frontiers of Innovation: Fostering Sustainable Development and Inclusivity in Higher Education Institutions (HEIs)" aims to motivate, inspire, and unite stakeholders within HEIs in their collective endeavor to create a brighter future through cutting-edge research, inclusive practices, and a commitment to sustainable development.

The REDI Congress, which began in 2020, is an annual activity of the RSU-REDi unit in its commitment to highlight quality and high-impact R&D and extension outputs in the congress. Believing that a congress like this can help sustain the culture of sharing towards future-ready HEIs, it aims to virtually gather university faculty, teachers, graduate students, and experts for scholarly interactions, knowledge exchange, and capability building in the new normal.

All papers completed by faculty, and staff, including externally funded research, institutionally funded projects, and privately funded initiatives, as well as theses, dissertations, term papers, and advisee's theses/dissertations (with consent of primary researchers), are considered for presentation at the congress.

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Message of the University President

It is my immense pride and honor to welcome you to the 2nd National REDI Congress, organized by Romblon State University.

I am thrilled to see all of us converging on this momentous occasion to celebrate outstanding research projects and studies that aim to bring forth positive impacts to our institutions, communities, and country at large.

Last year's REDI National Conference was a resounding success. All participants created a vast network and collaborated in presenting their findings, which truly resonated with the university's call for positive changes and innovative practices.

We are elated to gather once again today, providing a stage for all our researchers to share their work and insights.

This year's theme, "Navigating the Frontiers of Innovation: Fostering Sustainable Development and Gender Inclusivity in Higher Educational Institutions," highlights the key role that SUCs and HEIs play in the implementation of sustainability principles and gender equality.

As members of the academe, we are in a unique position at the forefront in realizing and accomplishing Sustainable Development Goals (SDGs), and our efforts can serve as benchmarks for other sectors related to health, society, and the economy. Through the conduct of these programs, we provide a platform for various HEIs to collaborate, discuss, and strategize towards successfully implementing sustainable development.

Through your research projects, programs, and studies, you can identify gaps and necessities at various levels and sectors. From these, you can envision and propose changes that transform conventional practices into innovative and forward-thinking actions. Your findings may improve communities in terms of transportation, cultural appreciation, infrastructure policies, security, and environmental protection. They can propel governments to effectively carry out policies and further support HEIs to expand their contribution to the SDGs of the community.

As part of the conference, we are also advocating for gender

Prof. Dr. Merian P. Catajay-Mani

University President

inclusivity. With equal opportunities provided to all members of the academe, regardless of gender and other social norms, we can intensify our efforts toward social mobility and continue the fight against various issues such as gender-related violence, abuse, harassment, and discrimination.

As we draw insights, realizations, and lessons from our research presenters, may we always keep in mind that our ultimate goal is to utilize these new learnings and transform them into innovative practices to create ripples of change in our institution and beyond.

May we always remember that our problems in society can only be solved through precise and sophisticated thinking, a scientific perspective, with the willingness to go the extra mile despite resource inadequacies, and think outside the box. Explore ideas that have never been explored, so we can apply unique solutions that delve deep into the root causes of the problems.

As we begin this congress, let us build more connections, collaborate with other members of this event, and inspire more people to think, innovate, and create. Let our collective efforts echo in the corridors of academia, influencing policies, fostering inclusivity, and contributing meaningfully to the Sustainable Development Goals.

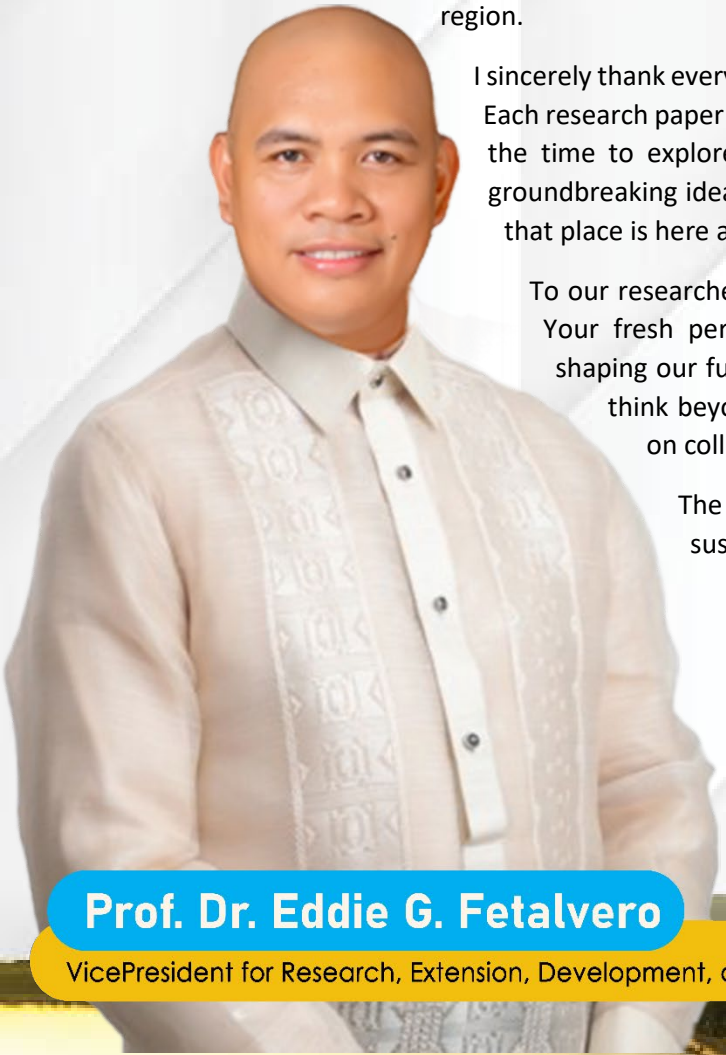
The 2nd National REDI Congress is not just a celebration of achievements but a call to action, urging us all to contribute to a brighter, more sustainable future through the impactful intersection of research, education, and inclusivity.

Thank you for being part of this inspiring journey, and may our shared commitment to excellence continue to shape the landscape of higher education and societal progress.

Message of the Vice President for Research, Extension, Development, and Innovation

I am filled with immense gratitude and pride as we publish the Book of Abstracts for the 2nd National Research, Extension, Development, and Innovation (REDi) Congress, and I can't express enough the significance of this virtual event. Our theme, "Navigating the Frontiers of Innovation: Fostering Sustainable Development and Gender Inclusivity in Higher Education," encapsulates the spirit of progress we seek. It's not just about embracing the new; it's about steering that innovation towards a future that is both sustainable and inclusive.

This book is a testament to our collective journey, showcasing our efforts to address the goal of the Philippines towards research and development. The depth and diversity of the research papers included here reflect our expertise and, more importantly, our shared passion for creating evidence-based solutions that resonate with the needs of our communities, particularly our indigenous peoples in the region.



I sincerely thank every member and stakeholder for your invaluable contributions. Each research paper is like a booth offering something unique and valuable. Take the time to explore, engage, and exchange thoughts. Remember, the most groundbreaking ideas often come from the most unexpected places; hopefully, that place is here at the 2nd National REDI Congress.

To our researchers, please know that you are the trailblazers of tomorrow. Your fresh perspectives and curiosity are the catalysts for innovations shaping our future. So, don't be afraid to challenge the conventional and think beyond the boundaries of what is known. And, of course, keep on collaborating, networking, and linkage!

The journey ahead is exciting. Cheers for a more innovative and sustainable Philippines! Mabuhay tayong lahat!

Prof. Dr. Eddie G. Fetalvero

VicePresident for Research, Extension, Development, and Innovation

Keynote Speaker

DR. ELMER-RICO E. MOJICA

Associate Professor I PACE University

- PhD, University at Buffalo, Buffalo, New York, 2010 Chemistry
- MS, UP Los Baños, Laguna, Philippines, 2003 Agricultural Chemistry
- BS, UP Los Baños, Laguna, Philippines, 1998 Agricultural Chemistry
- PROFESSIONAL MEMBERSHIPS:
    - American Chemical Society
    - Society of Applied Spectroscopy
    - Council on Undergraduate Research

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Center Chief, Bureau of Fisheries and Aquatic Resources-National Integrated Fisheries and Technology Development Center

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Associate Dean, Graduate School, Marinduque State College

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Retired Professor, CEAT
University of the Philippines Los Baños

DR. CRIS EDWARD F. MONJARDIN

Civil Engineering Program Chair, SCEGE
Mapúa University

Extension Evaluators

DR. MARIA ELIZA CRUZ

Associate Professor, San Beda University

DR. DOREEN R. MASCARENAS

Extension Director, Marinduque State College

8:00 AM OPENING PROGRAM

Doxology & National Anthem
Yagting Kanugkog
Romblon State University Official Chorale Group

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Vice President for Research, Extension, Development, and Innovation

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Prof. Dr. Merian P. Catajay-Mani, CESE
University President

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Dr. Bilshan F. Servañez
Director for CiLearned

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Dr. Elmer-Rico E. Mojica
Associate Professor, Dyson College of Arts and Sciences, PACE University

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Director for Research, Development, and Innovation

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Jewelle V. Olarte
Head for RDI Publication

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Engineering, Development, and Innovation
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Environment, Agriculture, and Natural Sciences
(EANS Room)

Social Sciences, Humanities, and Education
(SHE_1 & SHE_2, Rooms)

Supervision, Administration, Leadership, and Management
(SALM_1 & SALM_2 Rooms)

12:00 NN LUNCH BREAK

1:00 PM CONTINUATION OF PRESENTATIONS

4:30 PM CLOSING PROGRAM

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Dr. Orfelina I. Manzo
Director for Extension and Technical Advisory Services

RSU Hymn
Yagting Kanugkog
Romblon State University Official Chorale Group

EANS

Environment, Agriculture, and Natural Sciences

Acceptability Level of Gaylang (*Cyrtosperma merkusii*) Corm Flour as Polvoron

Jannette S. Erispe
Romblon State University – Cajidiocan Campus

The main objective of this study is to determine the acceptability of Gaylang (*Cyrtosperma merkusii*) corm flour as polvoron. This was conducted at Romblon State University-Cajidiocan Campus during the second semester of the 2021-2022 academic year. The study aimed to investigate the characteristics of flour derived from Gaylang root crops in terms of color, odor, texture, and aroma and the acceptability level of polvoron derived from Gaylang root crops in terms of taste, color, texture, and aroma. The researchers used a quantitative evaluation design to make the two treatments. The product was presented to the respondents, and the checklist of characteristics served as the instrument for gathering the data. The data gathered were carefully analyzed and interpreted through various statistical tools such as frequency count and weighted mean. The data collected showed that the flour derived from Gaylang root crops has a cream color, smells like ordinary flour, and has a fine texture. They also conclude that the acceptability level of polvoron derived from Gaylang root crops in terms of taste, color, aroma, and texture is acceptable. Lastly, researchers uphold trial 2 is the most acceptable of the three trials in the acceptability level of Gaylang (*Cyrtosperma merkusii*) corm flour as polvoron.

Keywords: Gaylang corm flour, polvoron, acceptability, quantitative evaluation, root crop-based products

Changes in Soil Chemical Properties and Bacterial Community Composition of Jujube Orchard due to Oil Cake Fertilization

Denver I. Walitang* [1,2] and Tongmin Sa [1,3]

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[2]College of Agriculture, Fisheries and Forestry, Romblon State University, Romblon
[3]The Korean Academy of Science and Technology, Seongnam

Organic fertilizer application in agricultural land improves soil microbial processes, fertility, and yield. In particular, stable changes in soil chemical composition through multi-year fertilization of organic fertilizers are thought to cause changes in the microbial community. Here, the effects of oil cake amendments (CO) on soil bacterial diversity, community profile, and enzyme activity were evaluated and compared to those amended with chemical fertilizer (NPK). The ordination plot distinguished and clustered both treatments, showing differential effects of soil chemical factors on the microbial communities of each treatment. *Proteobacteria, Verrucomicrobia,* and *Bacteriodetes* were significantly more abundant in OC-amended soil than in the NPK-received soil, indicating changes in community diversity and composition concurrent to the changes in soil pH, Ca, and Mg contents. These changes in microbial community structure and composition could also be observed from the phylum to the genus level in both NPK and CO-amended soils, partially explained by differences in soil chemical factors. Compared to the NPK-amended soil, the OC soil also contains a significantly higher abundance of predicted functional genes related to nutrient cycling, decomposition, and plant growth promotion. Collectively, these results support the use of an unconventional organic fertilizer positively altering bacterial populations in jujube orchards.

Keywords: Jujube, soil chemical properties, bacterial community, oil cake, organic fertilization, Illumina sequencing

Induction of Microbe-Mediated Responsive Proteomes by *Methylobacterium oryzae* CBMB20 on the Salt-Tolerant and Salt-Sensitive Rice Genotypes towards Enhanced Salt Tolerance

Denver I. Walitang* [1,2] and Tongmin Sa [1,3]

[1]Department of Environmental and Biological Chemistry, Chungbuk National University, Cheongju
[2]College of Agriculture, Fisheries and Forestry, Romblon State University, Romblon
[3]The Korean Academy of Science and Technology, Seongnam

Salt stress creates combinatorial plant stress conditions encompassing ion toxicity, physiological drought, nutritional imbalance, and oxidative stress. Both salt-sensitive and salt-tolerant rice genotypes are still greatly affected by increasing salinity. On the other hand, plants also recruit microbes, establishing plant-microbe interactions that lead to a complex array of microbe-mediated plant responses and result in a cumulative overall enhancement to salinity. Applying proteomics to rice-microbe interactions helps elucidate dynamic microbe-mediated responsive proteomes towards salt stress tolerance. Results show that under severe salt stress conditions, rice proteomes, in terms of abundance and identity, are mainly influenced by salt stress, rice genotypes, and the effect of inoculation with Methylobacterium oryzae CBMB20. Interestingly, the endophytic plant growth promoting M. oryzae CBMB20 mediated changes in the salt-stressed salt-sensitive IR29, resulting in proteomes similar to those of the salt-tolerant FL478. There are common upregulated and downregulated DAPs in both IR29 and FL478 due to salt stress, indicating similar mechanisms of salt stress tolerance and similar biological and molecular processes severely affected by salt stress conditions. However, inoculation with the plant growth-promoting M. oryzae CBMB20 resulted in common upregulated DAPs between the M. oryzae CBMB20 inoculated IR29 and FL478, indicating common mechanisms of microbe-mediated salt stress tolerance. In addition, there are genotype-specific DAPs with restored functions due to M. oryzae CBMB20 inoculation in IR29 and FL478 indicating additional key proteins essential for microbe-mediated salt stress tolerance. This study showed that the multifaceted PGP Methylobacterium oryzae CBMB20 mediated proteomic changes in rice genotypes under salt stress conditions, further enhancing stress responses in salt-sensitive and salt-tolerant rice cultivars.

Keywords: Methylobacterium oryzae CBMB20, proteomics, LC-MS/MS, plant growth promotion, rice, salt stress, salt tolerance

Microbe-Responsive Proteomes during Plant-Microbe Interactions between Rice Genotypes and the Multifunctional *Methylobacterium oryzae* CBMB20

Denver I. Walitang* [1,2] and Tongmin Sa [1,3]

[1]*Department of Environmental and Biological Chemistry, Chungbuk National University, Cheongju*

[2]*College of Agriculture, Fisheries and Forestry, Romblon State University, Romblon*

[3]*The Korean Academy of Science and Technology, Seongnam*

Rice is colonized by plant growth-promoting bacteria (PGPB) such as *Methylobacterium,* leading to mutually beneficial plant-microbe interactions. As modulators of the rice developmental process, *Methylobacterium* influences seed germination, growth, health, and development. However, little is known about the complex molecular responsive mechanisms modulating microbe-driven rice development. Applying proteomics to rice-microbe interactions helps us elucidate dynamic proteomic responses mediating this association. In this study, 3908 proteins were detected across all treatments, of which the non-inoculated IR29 and FL478 share up to 88% similar proteins. However, intrinsic differences appear in IR29 and FL478, as evident in the differentially abundant proteins (DAPs) and their associated gene ontology terms (GO). Successful colonization of *M. oryzae* CBMB20 in rice resulted in dynamic shifts in proteomes of both IR29 and FL478. The GO terms of DAPs for biological process in IR29 shifts in abundance from response to stimulus, cellular amino acid metabolic process, regulation of biological process and translation to cofactor metabolic process (6.31%), translation (5.41%) and photosynthesis (5.41%). FL478 showed a shift from translation-related to response to stimulus (9%) and organic acid metabolic acid (8%). Both rice genotypes also showed a diversification of GO terms due to the inoculation of *M. oryzae* CBMB20. Specific proteins such as peptidyl-prolyl cis-trans isomerase (A2WJU9), thiamine thiazole synthase (A2YM28), and alanine—tRNA ligase (B8B4H5) upregulated in IR29 and FL478 indicate key mechanisms of *M. oryzae* CBMB20 mediated plant growth promotion in rice. Interaction of *Methylobacterium oryzae* CBMB20 to rice results in dynamic, similar, and plant genotype-specific proteomic changes supporting associated growth and development. The multifaceted CBMB20 expands the gene ontology terms. It increases the abundance of proteins associated with photosynthesis, diverse metabolic processes, protein synthesis, cell differentiation, and fate potentially attributed to the growth and development of the host plant. The specific proteins and their functional relevance help us understand how CBMB20 mediate growth and development in their host under normal conditions and potentially link subsequent responses when the host plants are exposed to biotic and abiotic stresses.

Keywords: proteomics, LC-MS/MS, plant growth promotion, *Methylobacterium*, rice

Influence of Different Organic Fertilizers and Mulching on the Production and Postharvest Quality of Sweet Pepper (Capsicum anuum L.)

Violijim R. Arangote
Surigao del Norte College of Agriculture and Technology

The present study evaluated the effects of different organic fertilizers and mulching on sweet peppers growth, yield, and post-harvest quality. This was conducted at the SNCAT Vegetable Laboratory, Surigao del Norte College of Agriculture and Technology (SNCAT), Magpayang, Mainit, Surigao del Norte, 8407, Philippines. The study employed a two-factorial research design laid out in RCBD. Factor A was composed of 4 different organic fertilizers (vermicompost, goat manure, and chicken manure), and Factor B was mulching (plastic mulch and rice straw). The treatments were combined into 8 treatments with 3 replications. The data obtained was analyzed using two-way ANOVA and LSD post hoc test using STAR v.2 software. The result revealed that the combination of vermicompost with rice straw shows higher means in plant height, stem diameter, number of leaves, number of days to flowering, and number of fruits with a significant difference to the control. Meanwhile, chicken manure with rice straw application shows a significant difference in fruit weight and fruit diameter, yield (ton/ha -1) between control and control. Similarly, post-harvest parameters in applying different organic fertilizers revealed a significant difference compared to the control group. Mulching using organic rice straw shows a significant difference compared to plastic mulching in the growth and yield parameters but no significant difference in the post-harvest quality parameters of sweet pepper. Thus, the application of vermicompost and chicken manure and mulching rice straw significantly affects the growth and yield and provides good post-harvest quality on sweet pepper. Furthermore, chicken manure with rice straw also increases the % OM of soil from 3.7% to 4.5%.

Keywords: sweet pepper cultivation, organic fertilizer, mulching, growth parameters, post-harvest quality

The Freshwater Prawn of San Agustin, Romblon: An Assessment for Potential Source of Cultivable Species

Xyrra Jeremiah C. Mazo*, Jeric B. Gonzalez and Maria Joana Cristina C. Macalisang
Romblon State University – San Agustin Campus

Freshwater prawn is an essential aquatic animal found in the streams of San Agustin. It is the main ingredient for the municipality's native delicacy called "sarsa". In the locality, freshwater prawn culture was practiced using stocks from the wild. A freshwater prawn hatchery facility benefits upscale production and provides sustainable livelihood opportunities for these small-scale growers. Thus, as a preliminary study, this study assessed the inland waters of San Agustin Romblon for potential stocks of cultivable freshwater prawn species. The assessment was conducted using shrimp pots in the middle and upper streams of the seven barangays of San Agustin. The sampling was conducted last August-December 2022. A total of three species were found in the selected sites. These include the Macrobrachium lar, Macrobrachium latimanus and Macrobrachium placidulum. These species range from a weight of 39.8 g to a total length of 120.6 mm, larger than the freshwater prawn specimen obtained in other places in the country. Selected San Agustin streams are potential broodstock sources for these freshwater species. M. latimanus and M. lar were the most dominant species found in the streams of selected barangays in San Agustin. M. lar was common in all sites while M. latimanus was the most dominant species. Freshwater prawn fishing significantly contributes to the economic status of locals by engaging all ages and sexes in providing additional sources of livelihood. Macrobrachium lar, which is cultured in other countries, and Macrobrachium latimanus could be subjected to investigatory studies on their reproductive biology and breeding and culture trials.

Keywords: abundance, distribution, freshwater prawns, Macrobrachium species

Abundance and Composition of Macroplastics Litters along the Coastal Areas of San Agustin, Romblon

Jessie R. Cacharro, and Jeniel A. Santos*
Romblon State University – San Agustin Campus

This study was conducted to determine the status of plastic litter in the 15 coastal barangays of San Agustin, Romblon. The result of this study showed that a total of 990 items of plastic litter were collected over a cumulative area of 2,064 m² in 15 coastal barangays of San Agustin, Romblon with a density of 6.94 items per m². The highest density of macroplastic litter was recorded at Brgy. Dubduban, Camantaya, and Long Beach, where frequent beach activities occurred, are municipalities with the greatest number of coastal settlers. Food packaging (38%, n=373 items) was found to be the most frequent plastic litter, followed by polyethylene bags, plastic bottles, and plastic cups. Based on the Clean Coast Index (CCI), 80% of the coastal area of San Agustin (12 out of 15) was considered very clean to moderately clean, while the remaining areas were categorized as dirty to extremely dirty. Hence, a stricter plastic waste policy was recommended to maintain the clean status of coastal areas of San Agustin Romblon.

Keywords: macroplastics, Clean Coast Index (CCI), marine litter

Mapping the Coast of San Agustin for *Kappaphycus striatus* Farming Potentials: A Preliminary Study

Angelou M. Moreno, and Jeniel A. Santos*
Romblon State University – San Agustin Campus

Seaweed farming is an emerging industry in the southern part of Tablas Island (e.g., Looc and Sta. Fe). The presence of local traders/exporters in the province ensures the marketing aspects of seaweeds in Romblon. However, stable production of a minimum production of three (3) tons per month is required by these traders. Hence, this study aims to assess the quality of waters and their suitability for seaweed cultivation on the coast of San Agustin Romblon. The environmental parameters of water quality measured were water temperature, salinity, pH, DO, turbidity, phosphate, water depth, and water movement. The quality of coastal waters is analyzed descriptively and compared with seawater quality standards for marine macrophytes, while the suitability of the waters is determined based on the results of the calculation of criteria, scoring, and weighting compiled into the water suitability matrix for seaweed cultivation. Based on the gathered data, 10 coastal barangays of San Agustin were suitable (60%, n=6) to very suitable (40%, n=4) in terms of water quality parameters. However, it is recommended that the farming site should be approximately 100 meters from the shoreline to meet the required cultivation depth of K. striatus. Lastly, this study is preliminary and may underestimate environmental analysis due to limited sampling.

Keywords: GIS, macrophytes, seaweeds, water quality, San Agustin

Microplastic Assessment of Table Salt used in the Province of Romblon

Jeric B. Gonzalez* and Merry May M. Mejares
Romblon State University – San Agustin Campus

Microplastics have been detected in table salt in various studies. These microplastics are believed to originate from various sources, including plastic waste and pollution in the oceans and freshwater systems. Most microplastic studies focused on lakes, bay, fish, mollusks, and air. Only a few studies of microplastic contamination in table salt have been conducted. Thus, an assessment of microplastic contamination in the table salt of Romblon was realized. Table salt from 17 municipalities was assessed to detect, identify, and quantify the microplastic contamination using the microscopy method. This study revealed that all table salt being consumed by Romblomanon was contaminated by microplastics, specifically, polyesters (PES), polyethylene (PE), polyethylene terephthalate (PET), polystyrene (PS), and polyamide (PA). The table salt consumed in Romblon province was dominated by Polyester (PES) microplastic, comprising 91%. The highest microplastic concentration, especially polyester (PES), was observed in Concepcion, with 323 microplastics per gram of table salt.

Keywords: contamination, microplastics, polyesters, Romblon, table salt

Species Composition, Abundance, and Conservation Status of Macrobenthic Invertebrates in Sibuyan Island Romblon Philippines

Jeric B. Gonzalez* and Charry M. Mangaya
Romblon State University – San Agustin Campus

The marine ecosystem of Sibuyan Island is one of the underrated research areas in the Romblon. Most researchers' eyes across the country focused on the terrestrial, particularly Sibuyan Island. Although Sibuyan Island is dubbed as "Galapagos of Asia", studies on its marine biodiversity and utilization of marine resources are scant. Hence, this study was realized. This study assessed the species composition, abundance, diversity, and conservation status of important macrobenthic invertebrates in shallow reefs and seagrass beds surrounding the island. This study was conducted last July to August 2022 in coastal areas of Sibuyan Island. The survey was conducted in three municipalities. Four sites were established, two in pristine areas and the other in disturbed areas. An English et al. (1997) survey method with 100-meter transects was used. A total of 39 species of microbenthic invertebrates were identified in the shallow coastal water of Sibuyan Island, Romblon, Philippines. All study areas were dominated by sea urchins specifically Echinometra mathaei (Blainville,1825). The majority of the species belonged to the IUCN "Not Evaluated" category and the highest species richness was recorded in Magdiwang and Cajidiocan. However, Magdiwang was found to be the most diverse among all areas. In terms of evenness, the highest index across three areas was observed in San Fernando Meanwhile, the highest dominance index was recorded in Cajidiocan. Based on the findings and conclusions of this study, it is suggested that a follow-up study of macroinvertebrates be conducted annually. It is recommended that the sampling sites established should be monitored. Intensive follow-up studies are recommended, particularly in monitoring the population of Holothuria scabra (Jaeger, 1833). To provide the necessary recommendations for the sustainability of the Sibuyan Island marine ecosystem, a more detailed study of the entire Island of Sibuyan and careful monitoring are required.

Keywords: diversity, macro-invertebrates, Sibuyan Island

Assessing the Monetary Value of Seasonal Climate Forecast on Rice Yield in Victoria Through Decision Tree Analysis

Wilma C. De Los Santos*, Macario B. Masagca, Jr., Darius M. Abog, Jaesma A. Asinas, Randy A. Quitain, Jessie Ray B. Mangundayao, and Christian Anthony C. Agutaya,
Mindoro State University

This paper examines the economic benefits of using seasonal climate forecasts for rice production in Victoria, Oriental Mindoro, Philippines. The value of these forecasts was determined through decision tree analysis, which calculates the monetary worth of the forecast. The Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) Seasonal Climate Forecast (SCF) is used as a reference for this analysis, providing probabilistic rainfall forecasts categorized as below normal, near normal, and above normal. To assess the economic value, the income was compared between scenarios with and without using SCF. The prices set by the National Food Authority (NFA) and traders were utilized to calculate the income difference. Traders' palay price is Php 13.00 per kilogram (kg), while the NFA's price is Php 19.00 per kg. The results indicate that, at the trader's price, the value of the outcome using the probabilistic rainfall forecast in the decision tree analysis is 24% higher than the value without the forecast. At NFA's price, the value of the outcome is 10% higher. The findings demonstrate how climate information significantly impacts crop yield and contributes to increased income for farmers. This study highlights the importance of utilizing climate forecasts in farming decisions and the economic differences associated with and without using the SCF. Incorporating science-based decision-making in the cropping calendar and farm decision-making processes can help farmers effectively manage and adapt to climate risks. Additionally, the study suggests implementing policies to enhance the use of SCF for rice farming in Victoria. Farmers can achieve higher yields during climate extremes by utilizing climate forecasts. Giving value to and effectively utilizing SCF in farm decision-making can play a crucial role in optimizing rice production. This study underscores the benefits of climate forecasts and encourages the adoption of policies that promote their use in rice farming.

Keywords: monetary value, seasonal climate forecast, rice yield, decision tree analysis, Victoria, Oriental Mindoro

The Potential of Vermicast, Cow Dung, and Native Chicken Manure as Organic Fertilizers on the Culture of *Nannochloropsis occulata*

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The yellow-green algae Nannochloropsis sp. is one of the most commonly used microalgae in marine hatcheries. Due to its high nutritional value, it is cultivated in semi-mass or mass scales in the aquaculture hatchery industry for food for larvae and juvenile bivalves, fish larvae, and other important live food organisms such as rotifer (Lubián et al., 1982; Tawfiq 1999). By the mass production of Nannochloropsis occulata, the researchers aimed to assess the potential of different types of organic fertilizer, most specifically vermicast, cow dung, and native-chicken manure in culturing Nannochloropsis occulata. The study undergoes three (3) trials consisting of nine experimental treatments comprising (T1-5% vermicast, T2-10% vermicast, T3-15% vermicast) (T1-5% cow manure, T2-10% cow manure, T3-15% cow manure) (T1-5% native chicken manure T2-10% native chicken manure T3-15% native chicken manure). Cell density, average density, and cell-specific growth rate of Nannochloropsis occulata were assessed for four (4) days and were calculated using a Neubauer hemocytometer and analyzed using One-way Analysis of Variance (ANOVA). Results of the study revealed that vermicast, cow dung, and chicken manure promote higher cell density and growth when compared to the negative (sterile water) and positive control (inorganic fertilizer). Among three (3) trials, chicken manure obtained the highest cell density among three (3) organic fertilizers. Comparison between different proportions of chicken manure revealed no significant difference in Trial 1 with $P = 0.256$ and Trial 2 with $P = 0.061$, but a significant difference in Trial 3 with $P = 0.003$. The cell density of N. occulata increases as the proportion of chicken manure increases. Thus, the study concludes that three organic fertilizers have the potential to be used as fertilizer in the culture of N. occulata, with native-chicken manure promoting the highest growth.

Keywords: average density, cell density, *Nannochloropsis occulata*, organic fertilizer, specific growth rate

Laying Performance of Itik Pinas (Anas Platyrhynchos Linn.) as Affected by Drinking Water with Probiotics

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48 ducks (42 females and 6 males) were used to determine the laying performance, egg quality, egg classification, and income over feed cost (IOFC) of Itik Pinas influenced by drinking water with a commercial probiotic. The ducks were allocated into two treatments – with probiotics (commercial preparation) and without probiotics (control). Each treatment had three replicates with eight ducks (7 females and 1 male) per replication. The results showed no significant ($P>0.05$) effects of adding probiotics to drinking water on the feed intake, livability, egg production, and IOFC of the Itik Pinas. However, egg quality was influenced by probiotics. Extra-large eggs were greater in number ($P <0.05$) from ducks given probiotics in their drinking water than those without; such cannot be entirely attributed to the probiotic effect. IOFC was lower in Itik Pinas with probiotics compared to those without. These findings indicated no merits of drinking water with probiotics for laying Itik Pinas.

Keywords: laying performance, egg production, egg quality, probiotics, Itik Pinas, egg

Growth Performance and Carcass Yield of Sasso as Affected by Different Levels of Fermented Sweet Potato (*Ipomoea batatas*) Vine Juice

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The increasing demand for meat is indeed one of the reasons for the development of different commercial supplements that promote fast growth and development of poultry animals; however, the commercial supplement contributes to the cost of production, which increases the production cost. Thus, the study was conducted using different levels of fermented sweet potato vine juice as an organic supplement to determine its effect on Sassos growth performance and carcass yield . A one-hundred-twenty Sasso was used in the study. Sasso was grouped into four treatments, which provided different levels of Fermented Sweetpotato vine juice: treatment 1 (0%), Treatment 2 (2.5% FSPVJ), Treatment 3 (4.5% FSPVJ), and Treatment 4 (6.5% FSPVJ). The treatment was mixed with drinking water for 39 days to evaluate its effect. Analysis of variance on Growth performance revealed significant differences among treatment means on final weight, gain weight, and feed consumption. However, no significant differences were recorded in its water consumption and feed conversion efficiency. Meanwhile, analysis of variance on carcass yield disclosed no significant differences among treatment means in terms of carcass weight, dressing percentage, and different cut-ups. Furthermore, the return on investment of Sasso raising using fermented sweet potato vine juice gained 30.97% (4.5%FSPVJ). Thus, the use of Fermented Sweetpotato Vine Juice promotes the growth and development of Sasso without detrimental effects at 2.5% to 4.5%.

Keywords: supplementation, fermented Sweet potato Vine Juice (FSVJ), carcass yield, growth performance, return on investment

VegBread Development of New Generation's Dietary Bread using Native Spinach "Kulitis" (Spinacia oleracea L: Basis for a Sensory Evaluation

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The powerful and significant nutrients our body needs are known as Kulitis by the Filipinos and Amaranth in English. It is scientifically called oleracea L. Kulitis and is a delicious and nutritious leafy vegetable. It contains vitamins (A, B, C, Riboflavin, Folate, and Vitamin K). Kulitis leaves are commonly prepared as ingredients for different Filipino dishes. Its leaves are rich in iron; therefore, it is a good supplement for those with anemia. Vegetable amaranths have medicinal properties that are good for young children, lactating mothers, and patients with fever, hemorrhage, anemia, or kidney problems. Many people ignore this vegetable or don't want to eat it, especially children, because of its pungent odor. For this reason, the researcher created another kind of baked product to give variation on the preparation and made it as a soft roll bread.

Keywords: development of new dietary bread, Vegbread, Kulitis

EDI

Engineering, Development and Innovation

iDonate: A Blood Donors Information Management System for Tablas Island, Romblon Using Spatial Analysis Algorithms

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Romblon, the marble capital of the Philippines, is an archipelagic province of the Philippines located in the Mindoro, Marinduque, Romblon, and Palawan (MIMAROPA) region. Its main islands include Tablas, the largest of nine municipalities, Sibuyan with its three towns, and the smaller island municipalities of Corcuera, Banton, Concepcion, San Jose, and Romblon, the provincial capital. The population of the Philippines and the world is increasing every year, and there is also an increase in the spreading of diseases and health issues. With this instance, an increase in the demand for blood occurs. The researchers came up with the idea of developing a blood donor information management system by applying a Spatial Analysis Algorithm to map the locations of the donation sites, the type of blood, and the records of the donors. The system could locate the possible areas of the donors to easily identify the places where the most blood types are found in case a need occurs. This system was designed to accommodate interconnections of remote blood centers through major hub connections in the central office, applying client-server technology. With this, updated recording, management of blood donations, and on-time donors' records will become possible. The researchers used the quantitative method to test the functionality and designed the system using the Waterfall model. The systems were found to be functional, reliable, and accurate as evaluated.

Keywords: information management system, spatial analysis, blood donors, blood type, client-server technology

Online Information System for RSU: A Platform for an Enterprise Resource Planning Automation and Integration

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Romblon is one of the provinces of the Philippines in Region 4B. This is an archipelagic province of the Philippines located in the MIMAROPA (Mindoro, Marinduque, Romblon, and Palawan) Region. The province consists of several islands, and the biggest island is Tablas Island, where the Romblon State University is located. Currently, the enrollment system of RSU encounters problems in processing data, and there is no system interconnecting the universitys different departments . Problems in queuing, loss of data, duplication of data, and other stressful activities are being experienced by the staff involved in the enrollment. Particularly, there is no automated system to produce transcripts. This situation led the researcher to come up with the idea of developing a system that would address those problems. This study aims to design a system that will manage and centralize the enrollment system of RSU and to develop a system that will interconnect the different departments to facilitate the transactions and management of records from registration up to the generation of the transcript of records of students. The development of the system applies descriptive and developmental methods of research. The system uses the Waterfall Model to process the flow and development of the system. The structure was designed and developed according to the requirements and scope, resulting in "Very Acceptable" per the ISO/IEC 52010:2011 standard.

Keywords: enrollment system, enterprise resource planning, ERP, management of records, ISO/IEC 52010:2011 standard

Acceptance of Google Classroom Technology among Students at Romblon State University-Cajidiocan Campus using the Modified UTAUT Model

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The fundamental change that has come to be accepted as the standard in the field of education has fundamentally altered both the transmission and acquisition of knowledge. In response to extraordinary global difficulties, the educational system has embraced a hybrid approach integrating digital tools with traditional pedagogical methods. The researchers in this study employed a modified version of the UTAUT model to the acceptance of Google Classroom technology among RSU Cajidiocan Campus students as a basis for adopting the technology in the new normal in education. According to the findings, only facilitating conditions and hedonic motivation demonstrated statistically significant relationships with technology acceptance. The relationships between social influence, effort expectancy, self-efficacy, and performance expectancy were insignificant. The high R-square and adjusted R-square values indicated that the revised UTAUT model explained a significant percentage of the observed variability in students behavioral intentions to utilize Google Classroom. The model accurately reflected the associations between predictors and behavioral intent. These findings contribute to our comprehension of the many elements that have a role in the dissemination of educational technology and which may direct efforts to increase student technology adoption.

Keywords: modified, UTAUT model, Google classroom, technology, acceptance, SmartPLS

Numerical Optimization of Elliptical-Bladed Savonius Wind Turbine for Low Wind Speed Application

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Savonius wind turbine is a simple, vertical-axis wind turbine that is easy to fabricate at a lower cost. It can be operated at low wind speeds from any direction. However, this turbine has low efficiency, so numerous studies have been conducted to improve it. Elliptical shapes Savonius has shown better power characteristics in previous research. In this study, the effects of six parameters of the rotor, namely Cut-angle, Cut-angle location, overlap ratio, rotor height, rotor diameter, and material selection on turbine performance in terms of dynamic torque were studied and then optimized through the use of Response Surface Method for optimization and Computational Fluid Dynamics (CFD) Simulation. The first phase of optimization and simulation is the two-dimensional model of various elliptical design blades. The second phase is the three-dimensional analysis for optimum rotor height, diameter, and materials. This simulation has been drawn and simulated using SolidWorks Flow Simulation and optimized using Design Experts. The best model was determined with the consideration of significant factors. An optimum value for the blade design of elliptical-bladed savonius suitable for low wind speed application was identified. Validation was done to compare the performance of the optimal and current designs. Finally, the study shows that elliptical-bladed savonius has improved power coefficient with its new blade geometry.

Keywords: savonius wind turbine, vertical axis wind turbine, elliptical shapes, response surface method, Computational Fluid Dynamics (CFD) Simulation

Utilization of Wild Eucheumatoid Species for Low-Cost Nutrient Agar

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Low-cost nutrient agar derived from wild seaweeds is a sustainable alternative to traditional nutrient agar used in microbiology laboratories. Nutrient agar is used to culture microorganisms for research and industrial purposes. However, traditional nutrient agar is often expensive and made from non-renewable sources such as beef extract, peptone, or yeast extract. Hence, the development of low-cost nutrient agar from wild eucheumatoid species was realized. A total of six wild eucheumatoid species were collected in the coastal area of San Agustin and Calatrava, Romblon. Among the six species, only three species have enough stock from the wild for agar extraction: Gracilaria changii, G. edulis, and G. firma. During the agar extraction, Gracilaria changii produced 17.35g or 1.74% from fresh samples, G. edulis produced 47.07g or 4.70 from fresh samples, and G. firma produced 55.25g or 2.76%. Gracilaria firma has the highest percentage of agar extracted among these three species. Regarding the solidification process, all low-cost nutrient agar was faster than commercial nutrient agar. Low-cost agar from G. edulis and G. edulis were cheaper than commercial nutrient agar. This study has shown the possibility of using local agar from collected species of wild eucheumatoid as a low-cost medium. The low-cost agar would be of great practical use for the growth of bacteria.

Keywords: low-cost nutrient agar, wild eucheumatoid, Gracilariachangii, Gracilariaedulis, *Gracilaria firma*

Pilapo: An Automated Web-Based Queueing System with SMS Notification for the Bank of St. Vincent Ferrer Parish Multi-Purpose Cooperative

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The proponents of this research paper aim to address the issue of queue management in service-oriented businesses, focusing on St. Vincent Ferrer Parish Multi-Purpose Cooperative Bank. Inefficient manual transactions and outdated queue management prompted the development of "PilaPo", an Automated Web-Based Queueing System with SMS Notifications. PilaPo enhances the customer experience by reducing waiting times and streamlining queue management. Clients can register online, specify transaction preferences, and receive SMS notifications. The system provides administrative tools for queue monitoring, teller functions, and user-friendly client registration. Utilizing an iterative software development model, the researchers progressed through requirements, design, coding, testing, and evaluation. A survey involving 20 respondents from the bank, including administrators, tellers, and clients, revealed high satisfaction with functionality, reliability, usability, efficiency, maintainability, and portability. The findings confirm the research project's success in enhancing and addressing queue management challenges. PilaPo is poised to significantly enhance customer service at St. Vincent Ferrer Parish Multi-Purpose Cooperative Bank, benefiting employees and clients. It also stands as a valuable reference for future system development projects.

Keywords: technology enhancement, EQueue management, customer service, automation, SMS notifications, banking, iterative software development

e-Agaricus: An IoT-Based Environmental Monitoring and Controlling System for Mushroom Production

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Farmers in mushroom cultivation often experience failures due to a lack of temperature and humidity, resulting in less-than-optimal mushroom production. In the mushroom environment, temperature and humidity are needed to maintain the good quality of a mushroom so as not to cause crop failure. The failure of mushroom cultivation due to incorrect temperature and humidity causes the resulting mushroom to dry out and inhibit its growth period or even cause it not to grow. As a result, mushroom farmers require a tool that can detect room temperature and humidity conditions to produce better mushrooms. Due to this problem, the researchers developed an application entitled "e-Agaricus: An IoT-Based Environmental Monitoring and Controlling System for Mushroom Production." The researchers used a prototyping model by which they built, tested, and reworked the prototype when errors persisted until the system's objectives were finally achieved. The system was tested and evaluated by 100 respondents with the following criteria from ISO 9126 Quality Characteristics and ISO 25010 Quality Model: Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, Security, Maintainability, and Portability. All in all, the system was rated as Very Acceptable by the users/respondents among the different criteria set. After the evaluation, the following conclusions have been made: e-Agaricus can control the environmental conditions in a mushroom farm; The system can monitor and store data on the mushroom, temperature, humidity, weather conditions, and light intensity in a mushroom farm; e- Agaricus can automatically generate an efficient record of a mushroom and; e-Agaricus provides reports for misting, harvest and identify the range of the mushroom environment. Despite those conclusions, the following recommendations have been made: The Android mobile phones must have a 9.0 Android version; The user needs an internet connection to be connected to the database of the application; and The user needs to have the designed device to use all the features of the application fully; Future researchers can improve the system by adding new and more features about the mushroom controlling and environmental monitoring; and Future researchers can improve the designed prototype to be more flexible and have an enhanced casing.

Keywords: mushroom cultivation, environmental monitoring, IoT-based system, prototyping model, usability

EH_2O Support: A Cloud-Based Water Monitoring System with SMS Notification of the National Irrigation Administration MOMARO IMO

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"EH_2O Support: A Cloud Based Water Monitoring with SMS Notification System of National Irrigation Administration MOMARO IMO" is a system developed for the NIA. This web system can monitor water levels, post news and updates, announce activities, and send SMS Notifications. This was developed and designed based on the current manual process of NIA regarding water level monitoring, information dissemination, and communication. It is a web system that could help them efficiently do their job and prevent current problems, especially in communicating with many farmers in a wide area. The personnel assigned to the dam would be the ones to give information about the water level of different Dam areas. This system can also provide information about updates and various activities; it also has an SMS notification that allows them to reach their users in other locations. The system is only applicable to gain full functionality, given that there is an internet connection within the area. The researchers interviewed the National Irrigation Administration MOMARO IMO, and the data they acquired are instrumental in their study to gather and learn about the system they designed. The system was tested and evaluated by 100 respondents, composed of 10 NIA employees, 5 employees who are closely related to the field of BSIT, 15 others who are not related to the course, and an additional 70 farmers. The system was rated based on the following criteria: Functional Suitability, 4.65; performance Efficiency, 4.59; Compatibility, 4.51; Usability, 4.58; Reliability, 4.61; Security, 4.58; Maintainability, 4.63; and Portability, 4.48. To summarize, the project was rated Very Acceptable by the users/respondents among different criteria sets. The National Irrigation Administration MOMARO can use the system to determine the water level daily for faster monitoring of the usage in every main line. The system can provide data on water availability from different dams through SMS. The system can update daily announcements like water scheduling, daily news, and organization updates. The system can notify the user about the daily updates and other announcements of the National Irrigation Administration. The system can provide detailed announcements and updates about different dams that the users can read. The system can notify the user whenever there is an event or meeting with the Calendar of Activities features to inform them before the event starts. The system can display water levels used by the farmers using graphical representations. To maintain the functionality, the system must have a low-power device to automatically monitor water quality, levels, and temperature. The project must be implemented and recommended to be pushed through a partnership with a local government unit for funding and full implementation. The system must adopt the monitoring devices in different dams and allow it to get data from the devices to be displayed in the graph. The project must be implemented and recommended to be pushed through a partnership with a local government unit for funding and full implementation.

Keywords: cloud-based water monitoring, SMS notification system, National Irrigation Administration System evaluation, water level monitoring

Qbeetech: An IOT-Based Beehive Monitoring and Management System

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"QBeeTech: An IoT-Based Beehive Monitoring and Management System" is a multi-platform application composed of mobile and web-based applications. This application can monitor, manage, and generate reports. The application can be used to monitor the temperature and humidity of the beehive for the organization to have a better report of the status of their beehives located on MinSU Main Campus. The Web-based system and application were developed to monitor and help them generate reports quickly. The researchers used the Prototyping Model by which they built, tested, and reworked the system when errors persisted until the project's objectives were finally achieved. The project was evaluated by 100 respondents with the following criteria: functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. The rating was measured according to the following scale. 5 for Very Acceptable, 4 for Acceptable, 3 for Moderately, 2 for Not Acceptable, and 1 for Very Not Acceptable. To sum it up, the project was rated as Very Acceptable by the users/respondents among the different criteria set. The project is successfully effective in automating the monitoring of the beehive. The project can send real-time monitoring to the farmers. The project successfully notifies its users via SMS notification regarding the status of the beehive parameters and displays different measurements, which offers ease in monitoring them. The project successfully monitors the beehive temperature, humidity, and weather. The project can generate reports. The project can provide real-time monitoring and reports through mobile phones. It is recommended that the prototype casing be waterproof to protect the devices. To maintain its functionality, the sensor must be changed twice or thrice a year. There should be an internet connection in the area where the project is deployed, and the project should notify the user about the percentage of the power source.

Keywords: IoT-based beehive monitoring, prototyping model, system evaluation, real-time monitoring, SMS notification

OPS (Odiongan Plant Shop): A Web-Based Application for Plant Shops in the Municipality of Odiongan

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The plant industry has seen a growing interest in e-commerce due to factors like the pandemic and the increasing popularity of plant gardening. However, plant sellers in the Municipality of Odiongan face challenges in reaching customers through traditional methods like social media. This study introduces OPS (Odiongan Plant Shop), a web-based application designed to serve as a marketplace for plant shop owners and enthusiasts in Odiongan. OPS provides a platform for sellers to list their plant products, allowing customers to browse, select, and order plants conveniently. Customers can choose from various plants, add them to their cart, and select their preferred mode of payment, either through GCash or Cash on Delivery. OPS is built using a technology stack that includes MySQL, PHP, CSS, JavaScript, and HTML and is compatible with various hardware devices, including laptops, personal computers, and smartphones. The project underwent User Acceptance Testing (UAT) to ensure that it meets the functional requirements of end users. All expected system modules were completed based on the data gathered and the User Acceptance Testing and Unit Testing Form results. The analysis of the results demonstrates that, after conducting a series of test cases, all functions and modules were working properly, according to the administrator of the Odiongan Plant Shop. The User Acceptance Testing, conducted with the admin, seller, and customer of Odiongan Plant Shop, showed that all tasks and expected results were met, as indicated by a "PASS" rating on the survey.

Keywords: E-commerce, marketplace, plant shop, User Acceptance Testing (UAT), user experience, web-based application

Saint Lawrence Hospital Management Web Application with Sentiment Analysis

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Patients increasingly rely on the Internet for health information and services in todays digital age . A hospital web application could provide patients access to hospital information, including services offered, medical staff, and appointment scheduling. During the occurrence of COVID-19, consultation with physicians became difficult due to the fear of going personally to hospitals and being infected with a virus. With this, the Saint Lawrence Hospital Management Web Application with Sentiment Analysis was developed to help the hospital promote its services, which could be easily accessed from any device with internet access. It should also integrate sentiment analysis to monitor and analyze patients' feedback and provide medical staff with mobile access to patient information. The researchers used an agile method. The system was rated using the standards of the ISO 25010 Quality Model. The system promotes hospital services and can be accessed on any device. It also analyzes the patients' feedback through sentiment analysis. Moreover, it provides mobile access to patients' information. The system could be improved by adding more features about the hospital. An automatic sentiment analysis algorithm could be used to understand patients' satisfaction and feedback. It is also better to make a real-time online consultation.

Keywords: feedback, health, hospital management, sentiment analysis, web application

ePoultry: An Automated Poultry Farm Management System

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This research paper developed a web application. The ePoultry: An Automated Poultry Farm Management System is the solution to reducing production costs and improving animal performance. This automatic type of equipment is designed with efficient mechanisms to avoid wastage of food and water and meet the needs of producing poultry. Feeding in poultry farming is a topic of great interest to producers, as it constitutes the main axis and the most expensive input of the entire production. Therefore, feed and water are poultry needs and must be optionally supplied. The researchers used a Prototyping Model by which they built, tested, and reworked the prototype when errors persisted until the system's objectives were finally achieved. The system was tested and evaluated by 100 respondents with the following criteria based on ISO 9126 Quality Characteristics and ISO 25010 Quality Model: Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, Security, Maintainability, and Portability. All in all, the system was rated as Very Acceptable by the users/respondents among the different criteria set.

Keywords: farm management, inventory, monitoring, prototyping model

EXTENSION

Empowering Mathematics Education through Mathcitement: A Community-Based Training Outreach Program for Public School Teachers

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This research presentation delves into the transformative impact of an innovative community development project named "Mathcitement: An Online Learning Platform in Mathematics." The projects core objective was to empower public school teachers by enhancing their teaching methodologies, specifically in the challenging field of Mathematics. This narrative presentation encapsulates the profound insights gained during the project, highlighting its positive influence, the joy derived from hands-on activities, the benefits conferred upon the intended beneficiaries, and resounding recommendations for similar programs.

Keywords: extension program, outreach program, community–based training, public school teacher training, digital online learning platform, online Math learning software

Acceptability of AutoBeaut: An Automated Judging System for Beauty Pageants Throughout the Five Years Operation

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The Philippines is a home of hospitable, peaceful, loving, beautiful, handsome, and intelligent people. Beauty contests are always part of traditions and celebrations of festivals, fiestas, and other social activities. Schools, Colleges, and Universities also hold beauty contests as one of their activities, such as Intramurals, Foundation Days, and other school celebrations. When the beauty contests are done, people often feel disappointed in the results because errors often occur when manually compiling the scores. As a result, the judges are oftentimes commented as biased, that judges have their protegees, and favoritism prevails. Thus, with the advent of technology, the researcher developed AutoBeaut, which is intended for barangay, municipalities, organizations, and institutions. The contests consist of different categories to be competed in by the candidates, and every category has its criteria. The application runs on desktop computers and mobile phones. The pageants results will be sent to the server, and the tabulated results will be printed. The researcher used the Prototyping Model in the development of the system. The system was being used in the different beauty pageants, especially for those organizations or agencies requesting the Pageant Computerized tabulation System. This is one of the extension activities of the College of Computer Studies, particularly the Bachelor of Science in Information Technology. The system is important in computing, tabulating, and monitoring the scores given to every candidate by the judges. Results would be readily accessible once the judges entered the garnered points of candidates. It will lessen and hasten the work of the judges and statisticians and provide fast, accurate, valid, and reliable results that can be retrieved anytime if somebody needs the computation for reference. The system was tested and evaluated by the respondents based on ISO 25010 and rated as Very Acceptable among the different criteria set.

Keywords: Beauty pageants, AutoBeaut, Computerized tabulation system, Technology in beauty contests, Prototyping Model

Shifting Towards Technology-Driven Government: A Closer Look on ICT Capacity of Barangays in Bongabong, Oriental Mindoro

John Edgar S. Anthony
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Government units are mandated to provide efficient and effective fundamental services. At the local level, key barangay officials are expected to have the essential abilities to execute their respective duties and responsibilities, such as computer literacy and knowledge of basic computer operations. A self-assessment survey of all Secretaries and Treasurers and an assessment of the IT infrastructure of the 36 barangays of Bongabong, Oriental Mindoro, was conducted to closely examine their existing ICT capacity. The findings revealed that most respondents have the skills while all barangays have the necessary ICT infrastructure. This study concluded that all barangays are capable of adopting a technology-driven government. However, it is recommended that their capabilities and skills be further developed by conducting various computer operations and literacy training of varying degrees of complexity.

Keywords: Local government, Barangay officials, ICT capacity, Computer literacy, Technology-driven government

Implementation of E-Balangay: A Cloud-Based Barangay Management and Attendance Monitoring System in the Municipality of Victoria Oriental Mindoro

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E-Balangay: A Cloud-Based Barangay Management and Attendance Monitoring System is developed to help the people in the barangay make it easier, faster, and updated to the day-to-day activities and transactions. The project was automating the processes and transactions in the barangay. Conventionally, most barangays use manual approaches in everyday activities and transactions. They use the pen-and-paper method in recording and face-to-face in doing transactions. They would not use a pen with this project because they would be encoding using their laptop or desktop. The project has an attendance monitoring system with RFID to lessen people's time for checking attendance at meetings and activities. The people would transact using the mobile application, like requesting forms in barangay and seeing the moves, conferences, and available medicines. Before the system was implemented, it was tested and evaluated by 100 respondents, who were composed of different people in Alcate, Victoria, and Oriental Mindoro. The project was rated based on the following criteria from the ISO 25010 Quality Model: functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. The system got an overall mean of Very Acceptable. The system was implemented and deployed in four nearby Barangays: Alcate, Villa Cerveza, Macatoc, and Bagong Silang. The system could boost the productivity of staff for storing data of residents. Also, the system could inform people about events, activities, and meetings via push notification. The system could monitor residents' attendance using RFID and show and update the available free medicines in the barangay.

Keywords: E-Balangay, Cloud-based system, Barangay management, Attendance monitoring, RFID technology

Implementation of FutInn Extension Project Empowering Student Learning through mBlock and mBot Ranger Programming Training at St. Joseph's

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Implementing an mBot Ranger training program at St. Joseph Bongabong Inc. is driven by a well-defined rationale that seeks to enhance students educational experience and equip them with essential skills for the future. This program aligns with the school's vision of providing holistic and progressive education by integrating innovative technology into the curriculum. The mBot Ranger offers a practical and interactive approach to teaching Science, Technology, Engineering, and Mathematics (STEM) concepts. By engaging in robot assembly, programming, and experimentation, students can apply theoretical knowledge to real-world scenarios. This hands-on experience fosters a deeper understanding of complex subjects and cultivates a passion for STEM fields. The mBot Ranger training program encourages creativity and critical thinking among students. As they work on building and customizing their robots, they learn to identify problems, formulate solutions, and implement innovative ideas. These skills are essential for personal growth and will be valuable in future academic pursuits and professional careers. Implementing the mBot Ranger training program showcases St. Joseph Bongabong Inc.'s commitment to adopting innovative teaching methodologies. By integrating robotics into the curriculum, the school creates a dynamic and forward-looking learning environment that motivates students to explore beyond conventional textbooks. The mBot Ranger training program injects fun and excitement into the learning process. Students are more likely to stay motivated and attentive when they enjoy their studies. This positive learning experience can lead to higher academic achievement and overall satisfaction with education. The program aimed to foster critical thinking, creativity, and technological literacy, preparing students for the future by equipping them with valuable STEM (Science, Technology, Engineering, and Mathematics) skills.

Keywords: mBot ranger, STEM education, hands-on learning, robotics in education, innovative teaching methodologies

CommuniTech: A Technical Capability Building on Basic Computer Hardware Installation and Maintenance, Records Management, and Multimedia Technology for Selected Barangay Officials and Staff in the Municipality of Odiongan

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As everyone in the community relies on technology, specifically in disseminating and archiving information, each barangay in a particular community needs to meet this trend of utilizing the technology effectively. Thus, providing training to the barangay officials who function as a source of important information in the different localities in Odiongan about current technology, will help them communicate and promote their local barangays creatively, efficiently, and easily, especially in this age of paperless transactions keep safe from the harm of COVID 19. The project provided capability training such as Basic Computer Hardware Servicing with Software Installation and Maintenance, Records Management, and Multimedia Technology to empower Barangay officials and staff to utilize such technology. It comprised the following four phases: Phase I conducted a training needs assessment, Phase II formulated and prepared the required materials and appropriate tools, Phase III conducted the actual training workshop, and Phase IV evaluated the training. The training workshop had a summary of evaluation results per participant with an average mean of 4.64, which means that the extension project was well implemented and the implementers and beneficiaries were well involved. Moreover, it provided beneficiaries with opportunities to use newly acquired skills and knowledge in their Barangay assigned tasks, eventually empowering others within the community. The project implementation was planned to last for one year, but problems were encountered, specifically in the schedule of training workshops, due to the threat brought by the pandemic. However, partnerships with the local government unit were strengthened as well, and support from the administration and students was evident, which resulted in the successful implementation of the project despite the challenges encountered. Therefore, the learnings from the previous implementation must be considered to serve as a guide in planning for future community extension engagement. Also, it is highly recommended to strengthen the relationships between the Institution and the communities to foster a sense of caring for others and volunteerism.

Keywords: technology, barangay officials, training needs assessment, community extension, technical capability

Evaluation Of School-Based Feeding Program (SBFP): Basis for Proposed Program Framework

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This study assessed the School-Based Feeding Program (SBFP) implementation in Tablas Island, Romblon. A mixed-method sequential explanatory design was employed in gathering data. Results showed that the planning and implementation phases of the feeding program have a moderate level of success while the monitoring and evaluation phases have school heads duties and responsibilities in the implementation of the feeding program have a high level of success. The most challenging issue in the planning and implementing phases of the program is on service credits, while class disturbance is in the monitoring phase. The major challenge for the school heads responsibility was encouraging the support and cooperation of parents. The top suggestions of the respondents in planning, implementation, monitoring, and school heads responsibility are awarding of service credits, enhancing the implementation of the feeding program, avoiding class disturbance, and encouraging optimum participation and cooperation of the core group. Major recommendations advanced include the preparation and schedule of parents and volunteers be well attended in the planning phase for a smooth flow of the program; parents and other stakeholders be encouraged to fully cooperate in the planning, implementation, and monitoring phases of the feeding program through a well-designed enhancement program and school heads be encouraged to act as implementer champions to those initiatives.

Keywords: school-based feeding program, level of success, implementation, challenges/issues, program sustainability

BioCARES Program: Biology Towards Community Advocacy through Research-based Extension Services

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The Partido State University's Biology Program, through its BioCARES (Biology towards Community Advocacy through Research-based Extension Services) initiative, is committed to driving positive change and comprehensive development in marginalized communities by providing research-based, transformative, and community-focused projects. Since its launch in 2019, this program has implemented four significant projects: the Community-Driven Mushroom Project, the Vermicomposting Project, the Corn Cobs Briquetting Project, and the BioCARES Webinar Series Project. These projects are dedicated to enhancing economic prosperity and addressing pressing community issues. Through knowledge dissemination and skill development, the program promotes economic sustainability and encourages environmental resilience. Furthermore, the BioCARES Program has successfully established strategic linkages with various agencies and organizations, including the Local Government Unit of Goa and the Lip-ac Culapnitan Farmers' Association, fostering a support network for sustainable community development. Impact studies have demonstrated high client satisfaction, the economic value of acquired skills, and a range of social benefits. In the face of the challenges posed by the COVID-19 pandemic, the BioCARES Program exhibited adaptability by introducing the BioCARES Webinar Series Project, ensuring that its goals and objectives remained intact despite restrictions on traditional extension projects. The program's pandemic adaptive strategy, best practices, and constant monitoring mechanisms ensure its continued success. The BioCARES program exemplifies the university's commitment to serving Bicolanos, even in challenging times, and its dedication to sustainable community development with a strong focus on building linkages for lasting impact.

Keywords: adaptors, community advancement, economic resiliency, linkages, research-based

SALM

Supervision, Administration, Leadership and Management

Measuring the Unmeasurable through Data Analytics and Informatics Multidimensional Poverty Evaluation at Disaggregated Configurations for Economic Development

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This paper explores the critical aspects of health and nutrition, housing and settlement, water and sanitation, income and livelihood, food and assets, peace and order, education and employment, calamity occurrences, disaster risk reduction preparedness in the context of poverty and development in Goa, Camarines Sur. The datasets were generated from the Community-Based Monitoring System (CBMS). The study encompassed 34 barangays that were categorized into 4 sectors based on socio-demographic and economic factors: Isarog, Poblacion, Ranggas, and Salog. Aggregated and disaggregated methodologies were utilized to evaluate the poverty indicators. Although poverty levels vary by location, a significant fraction of the population and households live below the poverty line and food threshold. In addition, the incidence, gap, and severity of poverty were scrutinized using headcount ratios, gap statistics, squared gap metrics, and Watts's indices. It has been revealed that poverty is extreme in Isarog, moderate in Poblacion, intense in Ranggas, and moderate in Salog. It then subsequently characterized the variables of health dynamics, calamity occurrences, and disaster risk reduction preparedness, all of which vary by location and have an impact on poverty in all sectors. Logistic regression models were estimated in various configurations to confirm whether the above variables predict poverty outcomes. Results assert that they significantly predict poverty cases, and all models tested in the study are significant across all sectors. Moreover, focus group discussions and key informant interviews were organized with government officials and stakeholders for poverty alleviation. Finally, policy mapping and program targeting were outlined to promote economic development.

Keywords: Keywords: Data Analytics and Informatics, Poverty and Inequality, Community-based Monitoring System, Logistic Regression, Economic Development

Implementation of Anti-Red Tape Act of 1997 (RA 9485)

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The study was conducted to determine the implementation status of the Anti-Red Tape Act and Customer Satisfaction in the fourth-class Municipalities of Tablas, Romblon. The study focused on the measurement of the observance of the Citizens Charter, a mandate of ARTA in the LGUs of Looc, San Agustin and San Andres as to extent of observance of Citizens Charter measured in terms of knowledge of clients as to a) frontline services and accommodation, information dissemination and monitoring and evaluation; b) level of customer satisfaction in terms of promptness, accuracy, convenience and transparency; c) identified problems and challenges; d) recommend solutions to the problems and challenges identified. The study used a descriptive-correlational research method using 300 clients each from the three LGUs, focused group discussion, and interviews with the non-client public. Using simple questionnaires, insights, and opinions, the study found that observance of the provisions of ARTA is weak and lacks information dissemination. Implementing the provisions also relates to customer satisfaction since most clients believe that through continuous monitoring and evaluation of the implementation, their overall experience in transactions is better.

Keywords: Anti-Red Tape Act, customer satisfaction, citizens Charter, fourth-class municipalities, Local Government Units (LGUs)

Effects of Covid-19 Pandemic on the Agricultural Production Activities of the Agricultural Sector: The Case of Barangay Progreso Weste

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This study aimed to determine the effects of the COVID-19 pandemic on the agricultural production activities of the agricultural sector concerning food availability, food accessibility, food utilization, and food stability and its impact on the revenue level. The studys descriptive research design utilized the mixed research method to gather data. In order to guarantee that each respondent was fairly represented in the population, the probability sampling approach was used. The unstructured interview was followed to collect any extra information not covered by the questionnaire and to confirm the findings after the questionnaire, which was the primary method used to collect the necessary data. In the first semester of the 2022–2023 academic year, a questionnaire was given to 90 registered farmers in Barangay Progreso Weste, situated in the Municipality of Odiongan. The researchers individually collected the questionnaires to minimize data loss. The data was then added together, examined, and evaluated. Except for food accessibility, which is significantly related to income level and type of agricultural sector, it was discovered that the effects of COVID-19 on the production activities of farmer respondents were not significantly correlated with food availability, food utilization, and food stability. Because of this, there was no meaningful connection between the agricultural production activities taken into account and the revenue level of the agriculture sector during the COVID-19 epidemic. Additionally, factors relating to the COVID-19 pandemics ef fects on agricultural production activities considerably impact the sectors revenue level.

Keywords: COVID-19 pandemic, food availability, food accessibility, food utilization, food stability

Analyzing the Relationship Between Service Quality and Customer Satisfaction on the Power Services Delivery of Northern Davao Electric Cooperative

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The study aimed to determine the significant influence of service quality on customer satisfaction with the Power Services Delivery of Northern Davao Electric Cooperative (NORDECO) in the Island Garden City of Samal, Davao del Norte. The respondents were the 415 customer members of the cooperative that manages their power utility services. This quantitative survey employed a descriptive-correlational research design to determine the association and influence of service quality on customer satisfaction. The research instruments used in this study were adapted from Parasuraman et al. (1985), Michaelis et al. (2001), Grigoroudis and Siskos (2002), and Ipsilandis et al. (2008), as cited by Riitho, V. K. (2018) for service quality and customer satisfaction, respectively. The statistical tools used in this study were the Mean, Pearson Product-Moment Correlation Coefficient, and Multiple Linear Regression Analysis. Based on the results, it was found that the cooperatives level of service quality was low, and the level of satisfaction of the customers was also low. It was revealed that service quality has a very high positive relationship with customer satisfaction. Further, it was also shown that tangibility was the best predictor of customer satisfaction. In addition, all service quality domains in this study's context were significant predictors of customer satisfaction. Based on the results, it can be concluded that NORDECO's ability as a service provider in terms of service quality is seldom manifested. It was reflected in customer satisfaction, which was also seldom manifested. There was a link between service quality and customer satisfaction, which can lead to the conclusion that a great dependency exists between both constructs and that an increase in one is likely to lead to an increase in another. Lastly, service quality domains have significantly influenced overall customer satisfaction at a 95% confidence level.

Keywords: service quality, customer satisfaction, cooperative, power services.

Upholding The Implementation of The Climate Change Act of 2009 (RA 9729) through Embracing the Wojtlian Theory of Participation in the Philippines

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The Philippines, a country that was once endowed with immense natural resources, has been greatly depleted by the avaricious interest of some acting subjects that is sustained by their injudicious indifference and apathy to the rest of the acting subjects, whether in or out of the officialdom, which affects man's psychic, physical, and social life as well as the lives of the sentient and vegetative beings. In this paper, the researcher aims to present that the critical appropriation of Karol Wojtyla's Philosophy of Participation can be a theoretical instrument in upholding the implementation of the Climate Change Acts of 2009 (RA 9729) in the Philippines. To uphold the implementation of the Climate Change Act of 2009, which recognizes the right of the people to a healthy ecology and adopts policies on sustainable development, climate justice, and the precautionary principle, it will be put in the context of Wojtyla's participation as the aim of this study and to better understand this constitutional right of the people to produce new insight into the said right.

Keywords: Climate Change Act of 2009, theory of participation, Karol Wojtyla

Analysis of Farmers' Attributes in terms of Membership in Organization and Training, and Credit Access in Victoria, Oriental Mindoro

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In the Philippines, agriculture is the leading powerhouse of the country's economy. However, the agricultural sector declined in the passing years due to financial and farming knowledge inadequacies. Relative to this, farmers' organizations (FOs) were organized to reinforce the growing problems in farmers operation s regarding funds and farming techniques. In order to assess and improve the scheme of Farmer' Organization, the attributes of the farmers in terms of membership in an organization, training, and credit access were understood. The study utilized a descriptive-survey method research design to obtain data regarding the attributes of the farmers' membership in an organization. The studys respondents are the 324 smallholder farmers of the Municipality of Victoria, Province of Oriental Mindoro, Philippines. The study results show that most of the farmers are affiliated with the Farmers Association, as evidenced by the 313 out of 317 confirmed members of the organization. 26 farmers joined cooperatives and 17 farmers are members of other organizations. Most farmers, 100 out of 317 respondents, joined the organization to obtain assistance and supplies for farming, while the remaining joined the social groups nonrelated to agriculture. On the other hand, farmers tend to join the FOs because of the groups seminars as justified by the result of 259 farmer respondents that usually participate in the agriculture-related seminars. Their primary reasons for joining the organizations are to acquire assistance, obtain supplies or inputs, and have access to technical training. The result also shows that few farmers are not attending seminars or training despite the need to attend, as perceived by the farmer-respondents. In addition, this study revealed that most farmers have current loans or credits, whether from formal or informal institutions like friends, neighbors, or relatives.

Keywords: credit, farmers, membership, Victoria Oriental Mindoro

The Role of Local Government of Odiongan, Romblon in the Health of its People: An Evaluation of its Health-Related Programs And Services

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Healthcare services remain underutilized in rural areas, leading to missed opportunities to prevent life-threatening diseases. This study aimed to evaluate the top health programs and health services availed by the respondents in the Municipality of Odiongan, Romblon, and the level of effectiveness and efficiency of the Health Programs and Health Services of the Rural Health Unit. This study was conducted from February to May 2023. Explanatory sequential design and mixed design were used in the study, involving 250 healthcare beneficiaries and 20 healthcare personnel, a total of 270 respondents. Data collection methods included survey questionnaires, focus group discussions, non-probability and purposive sampling. Medical experts validated the questionnaires, confirming their reliability using Cronbach's Alpha test. Results revealed that the Expanded Immunization Program was the top most availed health program, while on health services, medical consultations mainly focused on Pulmonary and critical Care and Internal Medicine. The overall effectiveness and efficiency of customer service, staff competence, and healthcare resource utilization were highly effective and highly efficient for beneficiaries while being very effective and efficient for healthcare personnel. As to the overall effectiveness and efficiency of the process, it was rated by the healthcare personnel as very effective and efficient.

Keywords: local government, health programs, health services, evaluation

Sustainability Engineering Synergy: Designing Framework for Sustainability Engineering and Human-Computer Interaction (HCI) Education

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Cavite State University

This research aims to bridge sustainability engineering and human-computer interaction (HCI) by developing an innovative and comprehensive framework aligned with the Sustainable Development Goals (SDGs). The proposed framework is the basis for a carefully designed educational module for seamless integration into diverse educational settings. With 133 third-year IT students, the study uses a total enumeration sampling methodology. Results from descriptive and quantitative research methods show that students are highly satisfied with the curriculum, pedagogical approaches, resources provided, and evaluation methods. Together with quantitative research methods, the study uses a descriptive research design. Instrumentation involves adapting an existing survey tool (Olipas, 2021), tailored to the studys specific context. The total enumeration sampling method ensures a comprehensive understanding of the entire population of third-year IT students. The study's findings highlight a noteworthy satisfaction level among students across all evaluated dimensions, emphasizing their contentment with the curriculum's depth, effectiveness of pedagogical approaches, accessibility of resources, and fairness in evaluation methods. The results underscore essential understandings gathered from student responses, providing valuable input for instructors seeking to enhance Human-Computer Interaction (HCI) instructional materials. Overall, the findings suggest an outstanding agreement among students with the presented learning modules.

Keywords: sustainability engineering, human-computer interaction (HCI), Sustainable Development Goals (SDGs), educational framework, student satisfaction

Sanguniang Kabataan Relevance to Its Constituents: A Look into the Function, Duty, and Performance of Elected Youth Leaders

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The local government code of the Philippines delegates authority to the Sanguniang Kabataan, specifically Chapter VII sections 423-438, whose authority, function, purpose, and objectives are stated. Republic Acts 10742, and 11768 were passed to strengthen the Youth Council that promulgate policies through the Local Development Youth Council that will perform the enhanced function. The college students under the researchers were asked to evaluate their respective Sanguniang Kabataan Council on areas of relevance, function, projects, and programs developed and initiated if their Sanguniang Kabataan Council should be given a salary or should be abolished. Respondents viewed that their respective Sanguniang Councils inconsistently performed most of the functions stated by the laws. Most of the programs and projects of the Sanguniang Kabataan are somewhat effective, and as far as the Sanguniang Kabataan is concerned, respondents view the council as somewhat relevant, and they are amicable in the issue of receiving salary. Respondents are not in favor of the abolition of Sanguniang Kabataan.

Keywords: Sanguniaang Kabataan, Local Government Code, Abolition, Salary, Performance

Dried Fish Industry in Sibuyan Island: Basis for Tourism Marketing Campaign

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This study investigated the practice of processing, marketing, and product branding of dried fish in Sibuyan Island, Romblon. Likewise, it also investigated the level of practice in processing dried fish in terms of the following variables: level of destination for fish industry in market, product branding in marketing, employee core competencies, sales promotion and effective marketing; level of destination with indicators of local, regional, international, national and promotion and exportation; product branding in marketing with indicators such as branding of fish products, effective fish farming in community, implementation of marketing, effective marketing, promote local and national to international fish products; employee core competencies with indicators like trained about marketing strategies, involved in commercial fish farming and management attitude; sales promotion with indicators as sales promotion method, trained sales and good communication infrastructure; and effective marketing with indicators such as online marketing, market segmentation, distribution channel, target market, increased market share and increased profit and return of investment. Based on the studys findings, the destination level for the fish industry in the market was very good; product branding in marketing was good; employee core competencies were good; sales promotions were very good; and effective marketing was also very good. A tourism marketing campaign was proposed to achieve potential and increase promotions in the dried fish industry.

Keywords: dried fish industry, tourism marketing campaign, Sibuyan Island

Coastal Tourism Management of MIMAROPA Region: Basis for a Proposed Sustainable Development Plan

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This study focuses on coastal tourism management in the MIMAROPA (Mindoro, Marinduque, Romblon, and Palawan) region of the Philippines. It aims to provide a sustainable development plan based on data collected from residents and tourists. The study found that while the coastal tourism industry provided economic benefits to the region, it also negatively impacted the community, economy, and environment. Therefore, the proposed sustainable development plan should consider the industrys effects on these dimensions and take measures to mitigate negative impacts while enhancing positive effects. However, only a small fraction of respondents lived near the coast, indicating a need for promotional initiatives to increase public interest in coastal tourism activities. The lack of participation from other occupational statuses highlights the need for more outreach to involve a more diverse set of locals in the studys results and prospective ideas for sustainable tourism growth. The study suggests that effective policies and strategies are necessary to ensure the industrys sustainable development . A community-based approach involving the local community in decision-making processes is critical in addressing the social challenges that coastal tourism development can bring, such as poverty, displacement of residents, and loss of cultural identity. The proposed sustainable development plan should prioritize protecting and conserving the marine ecosystem while maximizing the industrys positive impacts on the local community. The studys findings highlight the importance of taking a holistic approach to coastal tourism development that considers the interests and concerns of all stakeholders. In conclusion, the proposed sustainable development plan for coastal tourism management in the MIMAROPA (Mindoro, Marinduque, Romblon, and Palawan) region should consider the effects of coastal tourism on the community, the economy, and the environment.

Keywords: coastal tourism, MIMAROPA region, proposed sustainable development plan

Analysis of University Research Output (2010-2021): Basis for Institutional Improvement and Development

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Publication is considered one of the most influential factors and requirements in a higher education institution's (HEI's) merit and promotion system. Some HEIs struggle in terms of publications in reputable national and international journals. This study aims to evaluate the publication productivity of Bicol University from 2010 to 2021. It used documents from the University's Publication and Knowledge Management Division (PKMD) and bibliometric analysis to determine publication productivity. Results showed that the university has considerably low published papers in refereed journals, both national and international; however, it has significantly increased from 2015 to 2021. These findings significantly affect the university's policy to improve publication performance and provide an environment where senior researchers should lead as prime movers or great influencers to cultivate research and publication culture. These policies need strong support from the top management, sustain and build strong linkages, partnerships, and collaborations with top HEIs in the country and abroad, provide publication assistance, subscription to open access journals and databases, active in sourcing external fund research and sponsored publications, improve incentive system, and institutionalize publication training and mentoring program.

Keywords: publication productivity, higher education institution (HEI), merit and promotion system, bibliometric analysis, research culture

Adversity Quotient and Its Influence on the Managerial Competence of Public School Administrators

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Managing schools in challenging conditions places significant stress on school administrators, who must navigate a multitude of adversities stemming from various work-related factors, spanning from administrative duties to the pressure to enhance students academic performance. The ability to excel in managerial roles often hinges on their resilience, setting apart those who thrive in these demanding circumstances. Therefore, it becomes imperative to periodically assess administrators adversity quotient, especially for those overseeing educational institutions. This research project aimed to evaluate the adversity quotient of administrators in public schools, utilizing Stoltzs Adversity Quotient Profile instrument. Additionally, it explored the impact of adversity quotient on their managerial proficiency. The studys findings revealed that, on the whole, school administrators in the Romblon District do not exhibit exceptionally high or exceptionally low adversity quotients. However, there is room for improvement in the dimensions related to control and ownership within the adversity quotient. Demographically grouped administrators displayed similarities in their adversity quotients. Moreover, the study did not find evidence to reject the null hypothesis, positing that there is no significant correlation between adversity quotient and managerial competence. This finding supports the notion that a higher adversity quotient positively affects managerial competence.

Keywords: adversity quotient, managerial competence, school administrators

Modified Techniques for the Requirements Elicitation: Bridging the Gap between Developer and Stakeholders

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While studies have made significant contributions by inventing many tools and techniques for various Requirements Engineering processes, the field still needs more investigation to develop novel solutions to many persistent challenges. For a long time, professionals have understood the difficulty of accurately determining system constraints to create software. Therefore, it is crucial to comprehend the factors that lead to and result in an insufficient project scope. Refined approaches to project scope that affect requirements elicitation activities have been proposed based on the results of this research. There is a gap between developers and stakeholders, and this study provides guidance that may help practitioners identify areas for improvement in determining the most suitable techniques to be used for a better enhancement and efficient way to provide treatments and have great communication. This research aims to bridge the gap between developers and stakeholders by identifying the best methods for making significant improvements and delivering answers to problems. Software development teams may establish effective projects that fulfill end customers' needs by fixing requirements elicitation issues. Requirements elicitation must be based on continual research, testing, and new ideas to enhance software development and decrease risks of inadequate analysis and system failure.

Keywords: requirements elicitation, techniques, modified, stakeholders, developers

Challenges Experienced by Parents and Guardians as their Children Transition from Distance to Face-To-Face Schooling

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Due to the COVID-19 pandemic, many parents and children had to change their daily routines after spending years staying at home. In this connection, some parents and guardians also see the return of traditional classroom schooling as the start of new habits. This study explored the challenges parents and guardians of learners in the Tagoloan Central School, District of Tagoloan, Division of Misamis Oriental, Philippines, experienced when their children transitioned from distance education to face-to-face schooling. It employed a qualitative methodology with a phenomenological research design. Thirty participants participated through purposive sampling. An Interview Guide was used to gather the data that was subsequently analyzed using the Moustakas' method of data analysis. The face-to-face interview was done during the data collection. Four themes emerged in this study: learners having difficulty returning to school, parents balancing work and school responsibilities, difficulty resulting from unstable finances and parents employment, and multiple duties resulting from solo parenting. The study concludes that parents and guardians have faced some adjustments and difficulties posed by transitioning from distance schooling to face-to-face schooling after the onset of COVID-19. Tagoloan Central School administrators and teachers have recommended prioritizing the best school programs to address these challenges and adjustments of parents and guardians when their children transition from distance learning to face-to-face schooling.

Keywords: face-to-face schooling, guardians, lived experiences, phenomenological research

Teacher Education Professional Development Needs Across Generational Cohorts: Inputs for Capability Building Initiatives

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This study aimed to explore the motivations and aspirations of teachers across generational cohorts in different professional development and the perceived challenges and plans of the immediate superiors to those PD activities. A total of 91 teachers teaching in teacher education programs and 7 immediate supervisors served as the study participants. The interview was employed as the data-gathering method. Data showed that as to the motivations to pursue professional development activities, the majority, or 38 (46%) of the respondents, are intrinsically motivated. The professional development that all the generational cohorts consider their topmost aspiration is to pursue Graduate Studies (Masters or PhD/Ed.D.). Other PDs they aspire the most include engagement in research-related activities, development of IMs, and attendance to seminars/workshops. The top five challenges experienced by the respondents in pursuing the different professional development activities, according to the immediate superiors, are the following: lack of financial resources, time constraints; heavy workload/ multi-designation, lack of technological knowledge, and struggle for work-life balance. The challenges confronting teachers' professional development from the perspectives of immediate superiors include economic status, limited time, multi-designation, and culture. The suggestions and plans provided by the immediate superiors to strengthen teachers' professional development include constant motivation to the faculty members; creating and implementing the campus strategic plan/ teacher development plan; conducting personalized training and seminar workshops; coaching and implementing and raising the incentives.

Keywords: teacher professional development, generational cohort, baby boomer, generation X, generation Y, generation Z,

Aptitude, Interest, English Admission Test Score and Grade in English Subject: Basis for Planning and Policy Formulation

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This study correlates the aptitude, interest, English admission test scores, and grades in English subjects of 47 first-year Bachelor in Secondary Education students who intend to major in English. It was found that student's English subject grades have a significant relationship with the admission test, general ability, and vocabulary. Admission test score has a significant relationship with their general ability and vocabulary. The general ability has a significant relationship to vocabulary. Interest in humanitarian has a significant relationship to their admission test score, interest in industrial and business detail has a significant relationship to respondents' vocabulary and mechanical interest has a significant relationship to word comparison. It is recommended that entrants must have high aptitude results in word comparison, general ability, and vocabulary. Those with average and low aptitude results could be accepted on a probationary status. High interest in leading-influencing could be used as a minimum requirement. Average and above-average levels should be the minimum requirement in the admission test. Good or 2.0 must be the minimum required grade in English subjects. Admission tests, general ability, and vocabulary test results must be used as admission requirements. Lastly, the recommendations should be incorporated into the Policies and Procedures Manual.

Keywords: aptitude, interest, English admission test

Citizen/Client Satisfaction Survey for FY 2022: Basis For Improved Public Service Delivery

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The conduct of the Citizen/Client Satisfaction Survey (CCSS) at Romblon State University was anchored on the aim of AO 25 lATF: "Harmonization of National Government Performance Monitoring, Information, and Reporting Systems". It aimed to achieve a government-wide improvement through continuous seamless public service delivery. This descriptive-correlational study investigated the citizen/client experience and satisfaction in the delivered public service of Romblon State University during the fiscal year 2022, wherein clients were selected using quota sampling. The data was analyzed through the different point estimation techniques and Spearman rank correlation. Findings revealed that the satisfaction level of the clients on the frontline and non-frontline services is very satisfactory across service quality dimensions. Moreover, the different service quality dimensions, such as responsiveness, reliability, access and facility, communication, cost, integrity, assurance, and outcome, are significantly related, implying that each component could be a significant factor in improving the service delivery of Romblon State University's frontline and non-frontline service providers. In conclusion, the eight (8) service quality dimensions are important in improving the overall satisfaction of the university's clientele.

Keywords: point estimation, client satisfaction, quality service, survey

School Practices and their Relationship to the Levels of Teachers Performance in A Private School

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This action research is a solution to the existing problems in schools, whether private or public educational institutions. Hence, improvements in school practices can be discussed and implemented immediately. The main objective of this study is to identify the school practices and their relationship to the level of performance of teachers. To achieve the goals of this study, the researcher involved seventy-five (75) teachers from the Philippine Cambridge School of Law in Cavite as the research venue. In summary, the teacher respondents can be described as predominantly female, mostly married, and in their late thirties. Most of them are Bachelor's degree holders and have teaching experience of about eight years. It can be deduced from this finding that the school practices, as assessed by the teacher respondents, have significantly affected their level of performance as teachers. The teacher respondents can be described as predominantly female, mostly married, and in their late thirties. The majority of them are Bachelor's degree holders and have teaching experience of about eight years. The teachers should be provided with teacher training in-service opportunities and activities to help them keep pace with innovative instructional methods. School leaders must be committed to providing ongoing professional development for teachers to build their skills in creating diverse student learning opportunities.

Keywords: action research, school practices, teacher performance, professional development, educational institution

Investigating Mathematics Pre-Service Teachers' Preparedness through Culturally Responsive Teaching Readiness Scale: A Basis for Developing An Ethnomathematics Course For Teacher Education

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Pre-service teachers must have the fundamental skills to work well with students from different backgrounds. Therefore, developing their ability to teach in a more inclusive learning environment requires a strong foundation, especially on cultural responsiveness. The present research attempts to determine pre-service teachers personal and professional readines s in educating students from a cultural perspective. The descriptive survey method was utilized, and the respondents were selected from Romblon State University's undergraduate secondary education students specializing in mathematics. The culturally Responsive Teaching Readiness Scale was used to assess the participants' readiness on a professional and personal scale. Regarding individual preparedness, the findings revealed that the participants showed readiness to teach students from varied cultural backgrounds. Additionally, the students' responses showed that they were prepared to teach students utilizing culturally relevant methods in a professional capacity. Even though the respondents were prepared on a personal and professional level, it was found that the current curriculum does not include any courses that address culturally responsive approaches to teaching mathematics. Because of this, it is suggested that a course focused on practices in ethnomathematics be included in the teacher education curriculum for students specializing in mathematics.

Keywords: ethnomathematics, indigenous peoples education, mathematics education

Employability and Soft Skills of Bachelor of Elementary Education Graduates In Romblon State University

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Romblon State University – College of Education

This study determined elementary teacher education graduates employability and soft skill s from 2015-2022. A descriptive study design with 121 respondents answered the Google Form questionnaire distributed through social media platforms. Results showed that most respondents occupy professional positions and earn salaries ranging from P25,000 and above, which attracted them to stay. A significant portion of them is permanently employed. Their current positions were mostly not their first jobs, and they were able to secure within a month to six months through walk-in applications and recommendations. As for the unemployed graduates, the lack of job opportunities in their areas is the main cause of their joblessness. The respondents also place high value on a range of soft skills, excel in some as per their own perceptions, and recognize some areas for improvement. Overall, they share a consensus on the relative importance of these soft skills in their professional lives, especially in career advancement and securing better job opportunities. Furthermore, the respondents' self-reported soft skills align significantly with their broader perception of the importance of these skills. This implies that the graduates possess the soft skills they consider crucial for their employability and career development.

Keywords: education graduates, employability, employment skills, soft skills

SHE

Social Sciences, Humanities, and Education

Online Learning: Fatigue and Satisfaction Among Filipino Nursing Students in a Private Tertiary Institution

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West Visayas State University

This study determined the associations between virtual meeting "Zoom" fatigue and satisfaction with online learning among nursing students in a higher learning institution in the Philippines. A cross-sectional research design and a web-based survey using two self-report measures were employed. Descriptive statistics, Pearson's correlation, and linear regression were used to analyze the responses of 408 student respondents. Results demonstrated high levels of virtual meeting fatigue and low to average online learning satisfaction. Higher virtual meeting fatigue levels predicted reduced online learning satisfaction. This study underscores that online learning and virtual meetings likely negatively impact students' online learning experiences. Nursing schools may need to foster more meaningful and positive experiences in the virtual learning environment.

Keywords: fatigue, nursing students, online learning, satisfaction

Identifying And Understanding the Stressors Experienced By RSU Students During The Pandemic And Their Coping Strategies: A Mixed-Method Inquiry

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Using the convergent parallel mixed methods design, this study sought to identify the academic stressors experienced by Romblon State University education students during the COVID-19 pandemic and their coping strategies and understand their struggles in dealing with them. The inquiry revealed that among the six stress-causing factors (relationship with teachers, relationship with classmates, technology-related factors, financial factors, psychological factors, and cognitive factors), technology-related factors, with an overall median of 3 and student respondents' descriptive interpretation that they were "Stressed" by these factors, caused the greatest amount of stress among the study participants. All the rest of the stress-inducing factors registered an overall median of 2, with the respondents saying they were "Slightly Stressed" by them. Qualitatively, this study revealed the four strategies employed by the student participants in dealing with stress, namely spiritual strategies, connective strategies, cognitive-affective strategies, and divertive strategies, or the SCCAD coping framework. Recommendations were made to include the four coping strategies in any intervention program Romblon State University may initiate to enhance students' ability to manage stress more effectively.

Keywords: academic stressors, convergent parallel mixed methods, COVID-19 pandemic, coping strategies, SCCAD coping framework

Performance Continuum Level of Intermediate-Grade Science Teachers in Designing, Selecting, and Using Formative Assessment: Cross-Sectional Comparative Study

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This study aimed to assess the performance of intermediate-grade science teachers in their utilization of formative assessment techniques, examining variations in performance based on their demographic characteristics. The research involved 43 proficient intermediate-grade science teachers from 29 elementary schools in the District of Romblon, Division of Romblon, Philippines. Data was collected through questionnaires and formative assessments aligned with specific Science competency objectives. The study's findings revealed that most science teachers predominantly employed traditional formative assessment methods, occasionally using emerging strategies like multimedia presentations and rubrics-based activities. However, their overall performance in formative assessment fell short of the desired continuum level. Interestingly, regardless of demographic differences among teachers, they exhibited a similar level of performance in formative assessment. The research underscores the importance of formative assessment in enhancing student performance. As a result, it advocates for implementing a professional development program to help teachers improve their skills in designing, selecting, and utilizing formative assessment methods.

Keywords: formative assessment, K-12 science curriculum, middle school science teachers, performance continuum level

Effect of Video Teaching on the English Performance of Grade 12 HUMSS Students

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This quasi-experimental study was conducted to determine the effect of video teaching on the English performance of Grade 12 HUMSS students of Cajidiocan National High School students for the school year 2021-2022. The participants of the study were the Grade 12 HUMSS students, particularly the seventy (70) students from section Tangerine (control group) and seventy- two (72) students from section Turquoise (experimental group), totaling one hundred forty- two (142) students who have Creative Writing subject in the first quarter. The data in this study were gathered using the researcher-made and jury-validated English Performance Test. The independent variables were Video Teaching and Modular Printed Distance Learning, while the dependent variable was the English performance of Grade 12 HUMSS students. Statistical tools utilized were the mean and standard deviation, t-test for dependent and t-test for independent samples. The level of significance was set at 0.05 alpha. The studys findings revealed that the level of English performance in the pretests of the control group was "low" while "moderate" for the experimental group. In contrast, the level of English performance in the posttests of the control and the experimental groups was "moderate." There was no significant difference in the English performance between the pretests of the control and the experimental groups. There was a significant difference between the control and experimental groups pretests and posttest s. There was no significant difference in the English performance between the posttests of the control and the experimental groups. Lastly, even though both groups showed improvement in their English performance in the pretests and posttests, the reflected difference was not significant because the change was not enough to say that the difference was statistically significant; it favored Video Teaching because it provided important visual stimulus for language practices and learning.

Keywords: video teaching, modular distance learning, English performance

The Academic Performance in Mathematics of Grade 8 Students in Sibuyan Island towards the Development Instructional Material

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This study aimed to determine the performance in Mathematics of grade eight (8) students in Sibuyan Island towards developing instructional material. It specifically sought to determine the students' need for remediation and enhancement in mathematics and to develop the instructional material to be used by the students to enhance their problem-solving skills. The researcher believes that the findings of these variables will be useful to the researcher's fellow mathematics teachers and could be used as a guide for future instructional material. Descriptive statistics and analysis methods were used to analyze the data. The performance of grade 8 students in Sibuyan Island got the overall mean grad of 83.59, corresponding to an "approaching proficiency" interpretation. This study suggests that the school may maintain or enhance its performance in Mathematics of grade 8 students in Sibuyan Island. A survey questionnaire is composed of 30 items designed to rate the workbook as instructional material that can be used to enhance the performance of grade 8 students in Mathematics. The results showed that the respondents were "highly organized" in terms of Organization and Format, "highly substantial" in Content, "well-aligned" in terms of Alignment, and "very useful" in terms of Usability, Utility, and Usefulness.

Keywords: academic performance, instructional material, Mathematics performance

Effects of Modular Modality of Learning on English Language Proficiency of BSED Second Year Students Major in English

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This research study entitled "Effects of Modular Modality of Learning on English Language Proficiency of BSEd Second Year Students Major in English" was conducted during the school year 2020-2021 to determine if there is an effect in modular modality of learning on the BSEd second year student's oral and written communication skills. This study also seeks to determine the effect of modular learning modality on the BSEd second year student's comprehension of the English language, level of academic performance, and general English Language Proficiency. The researchers of this study started with the formulation of a five-point rating scale submitted to their research adviser for validation. They requested permission from Dr. Carmelinda M. Juanzo, Campus Director of Romblon State University, to conduct this study. The researchers distributed the five-point rating scale to the respondents. After the respondents had rated, the data gathered were consolidated, tabulated, and analyzed. Data revealed that modular learning modality affects oral communication skills, written communication skills, comprehension of the English language, and level of academic performance of the students. Meanwhile, general language proficiency has a moderate effect.

Keywords: modular modality, language proficiency, oral and written skills

Factorial Analysis of Master of Arts in Education-Major in Home Economics (Maed H.E.) 'Employability and Challenges': Input For an Extension Program

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This study investigates the employability and challenges faced by graduates of the Master of Arts in Education, major in Home Economics (MAED Home Economics) program at Romblon State University. The research examines the program's relevance and impact on personal and professional growth, aiming to provide insights for the development of extension programs. The study reveals a limited number of younger participants, predominantly female and married, enrolling in the program. It also highlights the university's commitment to employing its graduates. The findings concluded that the MAED Home Economics program has had a highly contributive effect on graduates' personal and professional growth, particularly in learning efficiency, communication skills, academic profession, and salary improvement. The degree program at the RSU Graduate School is also highly regarded, with teacher-student relationships receiving the highest rating. These findings can better inform program improvements and extension initiatives to meet future students and graduates needs and support educational institutions adapting to changing workforce demands.

Keywords: employability, MAED Home Economics program, graduate outcomes, professional growth, extension programs

Academic Motivation And Computer Programming Anxiety Of BSIT Students: A Basis For G.A.D Intervention Plan Development

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This study aims to determine the academic motivation and computer programming anxiety among the BS in Information Technology students of the Nueva Ecija University of Science and Technology (NEUST) for the 2019–2020 school year. This research used a descriptive correlational approach to describe the relationship between the respondents' demographic profile, academic motivation, and programming anxiety. It involved 110 sophomore BSIT students selected via systematic random sampling. Responses were tallied, summarized, and interpreted. Results show that there were common academic motivations and reasons why students pursue their college education intrinsically and extrinsically. In addition, findings also revealed that the demographic profile of the respondents did not significantly influence their level of anxiety and academic motivation, particularly in study programming courses. Lastly, the researchers prepared a sample plan that can be used by the College's OSOAD coordinator in designing GAD-related programs and activities for the CICT.

Keywords: academic motivation, computer programming, computer programming anxiety, extrinsic, intrinsic

Strategic Intervention Materials Development in Improving Pupils' Academic Performances

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This study aimed to determine the acceptability of the Strategic Intervention Materials (SIMs) to enhance the Least Mastered Competencies in Science of Grade Six pupils. Specifically, it sought (a) to analyze the diagnostic test results of the pupils' academic performance in Science; (b) to determine the level of acceptability of the SIMs in terms of four assessment areas as to its content, format, presentation, and organization, and accuracy and up-to-datedness; (c) determine the pretest and post-test results in Science subject before and after using the SIMs to address the Least Mastered Competencies; and (d) determine the significant difference between the pre-test and posttest of thepupils' academic performance before and after using the SIMs. The researcher made pretest and post-test to be administered in pupil-respondents. Data gathered were analyzed using frequency and percentage, weighted mean, standard deviation, and sample t-test. Based on the data gathered, the researcher found out that the diagnostic test results of the pupils' academic performance in Science for the SY 2021–2022 was low with a percentage of 42.5. The learning competency of manipulating simple machines to describe their characteristics and uses was characterized as the least learning competency (f=20, 33%; f=21, 34%). SIMs were made to address this least learning competency. The level of acceptability of SIMs in terms of content arrived with WM=3 and SD=0; format with WM=2.89 and SD=0.21; presentation and organization with WM=3 and SD=0 was highly acceptable, and the accuracy and up-to-date information with WM= 2.71 and SD= 0.23 was not noticeable. It was revealed that there was a significant difference between the pre-test and posttest performance of the pupils. Therefore, using the SIMs was an effective intervention that made pupils obtain better scores in the posttest. The study found that SIMs helped pupils enhance their academic performance.

Keywords: SIMs, Validate, Development, Academic Performance, Least Mastered Competency

First Year Experiences of University Students in Remote Learning: A Qualitative Study

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The COVID pandemic compelled higher education institutions to adopt emergency remote education systems to offer education and prevent the spread of infections. Although numerous qualitative studies about student experiences with remote learning have been published, limited attention has been given to the specific context of the first-year student experience. Thus, the authors explored the experiences of first-year students, specifically, their positive and negative experiences and the coping mechanisms they employed. With this, an in-depth interview was used to gather the data. Thematic analysis revealed that the students positive experiences included learning continuity and less financial burdens while the negative experiences included student isolation, time management concerns, vague and insufficient module content, and technological access concerns; their coping mechanisms being strategic and stress management. It is highly recommended that these results be considered valuable inputs for the ongoing improvement of the educational process.

Keywords: emergency remote education, first-year students, student experiences, thematic analysis, coping mechanisms

Physical Activities and Attitude of Bachelor of Technology and Livelihood Education (BTLED) Students Towards Participation During Laboratory Activities

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This study examined the relationship between physical activities and attitudes of BTLED students towards their level of participation during laboratory activities in Home Economics, such as foods, basic clothing, cosmetology, and industrial arts. The descriptive-correlational design was employed to determine the relationship between the physical activity and wellness of the faculty of Romblon State University. Findings revealed that 1) Students' engagement in physical activities such as exercises, household chores, and recreational activities is moderately active, which means that most of them do not perform the activities regularly; 2) Attitudes towards foods are substantially correlated with Home Economics and Industrial Arts laboratory activities. 3) BTLED students' level of participation is active both in laboratory activities in Home Economics and Industrial Arts; 4) Physical activities such as household chores are significantly correlated with BTLED students' participation during laboratory activities in Home Economics and Industrial Arts.; 5) Physical activity such as household chores in and out of the house is the best predictor of the level of participation in Home Economics and Industrial Arts laboratory activities; 6) Attitudes towards foods best predicts participation in Home Economics while attitudes towards drafting and handicrafts are the best predictors of the level of participation of TLE students in drafting; and 7) Basic plumbing is a negative predictor of participation in all Industrial Arts laboratory activities.

Keywords: physical activities, attitudes, participation, laboratory activities, home economics, industrial arts

Teaching Physics through Philippine Traditional Games

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This study integrated Philippine Traditional Games or "Laro ng Lahi" in teaching Physics concepts. Specifically, it determined the: (1) participants performance s in both control and experimental groups in the pre-test, b. posttest and the mean gain; and (2) the significance of the difference between the control and experimental group performances across their mean pre-test, post-test, and gain differences. Pre-test results in all the lessons of both groups are comparable or almost negligible; 1b) the Experimental group has higher post-test results in all the lessons as compared to the control group; and 1c) the Experimental group yields much higher results for all three lessons, thus, the use/integration of Philippine Traditional Games in Teaching Physics lesson tends to increase student's test performances; 2. The mean pre-test performances of the participants in the control group do not significantly differ from the experimental group. However, there have been significant differences in the test's performances for the two groups for the posttest and mean gains. Thus, integrating traditional Philippine games in teaching Physics concepts significantly impacted the students performance .

Keywords: game-based teaching, Philippine traditional games, traditional teaching

Sexual Abuses of Young Children at Home and School: A Systematic Review of Comprehensive Sexuality Education Implementation and Challenges in the Philippines

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Because Filipino youth and young children are vulnerable to various forms of sexual abuse, comprehensive sexual education (CSE), as mandated by the Responsible Parenthood and Reproductive Act of 2012, provides Filipino students with opportunities to be informed and empowered to make proactive decisions about their sexuality. The goal of this article is to highlight the challenges to the delivery of comprehensive sexuality education in Philippine schools. This article focused on the implementation of comprehensive sexuality education in the Philippines. To look at the administration of comprehensive sex education in Philippine schools to understand the implementations challenges. It utilizes the available web articles to help understand the implementation challenges of comprehensive sexuality education in the Philippines. This proponent ensured that the articles were relevant to the purpose of the study and found that the implementation of understanding sex education had faced challenges that include a lack of professional competency training, mentoring, and knowledge in integrating sex education into daily teaching activities among teachers, which culminate seemingly into a failure, lack collaboration among stakeholders, NGOs, and local governments to secure community support for its implementation of comprehensive sexuality education was common, the study discovered a lack of monitoring and assessment of comprehensive sexuality education in the educational system, and two studies found a lack of school advocacy to implement sex education. As a result, the data reported in this study is likely to be the best it will get soon. Due to contributing hindrances in school, community, and teacher competency, the Policy Guidelines on the Implementation of Comprehensive Sexuality Education were ineffective. The findings of this study will shed light on the problems and challenges of implementing comprehensive sex education in the Philippines from a national viewpoint down to the school level. Through this, it aids those in charge of making the necessary reforms of financing and resources, teachers abilities and knowledge, promoting strong school advocacy, and community ties for the Philippine school system to integrate comprehensive sex education.

Keywords: community, comprehensive sexuality education, implementation, teacher, school

Empowering Educators: Professional Development for Integrating Technology in Math Classrooms

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This study delves into the significance of professional development in equipping educators to integrate technology in math classrooms seamlessly. With the evolving landscape of education and the growing role of technology, educators must adapt their teaching methods. The research focuses on developing effective professional development programs to empower educators for optimal technology integration. The intersection of education and technology presents both opportunities and challenges. Integrating technology can enhance engagement and learning outcomes, but educators often need more skills and knowledge. Professional development can bridge this gap by offering educators the tools and strategies to incorporate technology in math instruction effectively.This research assesses the programs impact on educators confidence, competence, and willingness to use technology. The goal is to empower educators to create dynamic and interactive math learning environments. The researcher used simple random sampling to use 15 mathematics teachers taking up Ph.D. in Mathematics Education. Employing a mixed-methods approach, the study designs a professional development program encompassing virtual training sessions and collaborative activities. Quantitative data is collected through pre- and post-program surveys to measure educators attitudes and skill changes and statistically analyzed using a t-test. Qualitative data is obtained through interviews and observations to gain insights into the practical implementation of technology in classrooms. The findings indicate a significant difference in the educators technology integration in Math classrooms before and after the professional development program. Teachers who participated in the program reported increased confidence in using technology tools and strategies. Observations also highlight improved engagement and interactive learning experiences in technology-enhanced math classrooms. Effective professional development is pivotal in preparing educators to harness the potential of technology in math classrooms. The study underscores the transformative impact of a well-structured program, emphasizing the need for ongoing support and training. Empowering educators through professional development enhances teaching practices and enriches students learning journeys. As technology evolves, professional development remains crucial in fostering a harmonious blend of traditional andragogy and innovative tools for effective math education.

Keywords: Empowering, Professional Development, Mathematics, Technology, Andragogy

A Narrative Analysis of the Victim Blaming Experience from Selected Female Young Adults

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Victim blaming is a sensitive, ingrained cultural phenomenon in the local context wherein survivors from accounts of violence and abuse are often subjected to public shaming, judgment, and even disbelief. This pervasive attitude places the burden of responsibility on a victim, creating a cycle of traumatic stress and hindering them from getting proper support and justice. With these, the study used a narrative analysis approach to understand the personal stories and coping experiences of five (5) selected after experiencing victim blaming. Findings revealed six (6) themes: embracing varied patterns of normalcy and recall of innocence; unmasking the perpetrator's shadow; struggles from victimization; confronting the shadows within; escaping reality via self-destructive behaviors; and rising above the judgments and seeking traumatic ordeal. In conclusion, future researchers are recommended to continue exploring the intricacies of the victim blaming phenomenon as connected to trauma and abuse experiences to provide interventions and policies aimed at reducing its drastic effects and to normalize conversations about this social issue affecting women in the local community. Understanding and raising awareness were primarily recommended to enact people towards creating a network of support and empowerment.

Keywords: narrative, victim blaming, trauma, abuse

The Digital Footprint Awareness of the Undergraduate Students in a Private Higher Education Institution in Nueva Ecija, Philippines: A Basis for a Plan of Action

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The researcher conducted a study to ascertain the awareness of digital footprints among undergraduate students in a private higher education institution in Nueva Ecija, Philippines. The objective was to establish a foundation for a plan of action. The researcher utilized a descriptive research approach and collected data from 190 college students through a survey instrument. The findings disclosed that the respondents comprised 68% males and 32% females, most hailing from the first- and second-year levels. Regarding age, most respondents fell within the 18-19 and 20-21 age brackets. According to their responses, they typically spent an average of 5 to 6 hours per day on the internet, with social networking sites being the most frequently visited, and smartphones being the most commonly owned devices. An evaluation of digital awareness indicated that college students were strongly aware of their digital footprints, encompassing various aspects such as online activities, personal information, online transactions, online platforms and environments, privacy, and security. Their awareness of their digital footprint was notably evident. In light of the studys outcomes, the researcher recommends activities to maintain and reinforce digital footprint awareness among college students. Furthermore, these activities could be employed as initiatives for incoming college students to ensure that future generations are equally cognizant of their digital footprints, thus fostering responsible digital citizenship.

Keywords: descriptive research, digital citizenship, digital footprint awareness, plan of action

Teachers Perception, Attitude, and Work Environment Readiness towards Digital Technologies in Post-Pandemic Hyflex Teaching

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Integrating digital technologies into education has revolutionized the teaching and learning landscape, with HyFlex teaching emerging as an innovative model combining in-person and online instruction to offer students flexibility in learning. It allows students to choose between attending physical classes, participating in online sessions, or accessing recorded materials at their own pace. This study assessed teachers perceptions, attitudes, and work environment readiness toward digital technologies in HyFlex teaching. The study employed a descriptive correlational research design, surveying 539 teachers actively engaged in HyFlex teaching within the Higher Education Institutions. Findings indicate a predominantly female cohort of teachers, representing 75% of the respondents. Laptops are the most widely used devices, with Google Classroom emerging as the preferred e-learning web-based application, streamlining communication and interactive engagement. There is a significant positive correlation between years of experience and teachers perceived ease of working with computers and technical equipment in a HyFlex teaching environment, years of experience do not have a significant influence on other aspects of teachers self-perceived attitudes, such as their competence with the Internet, openness to new technology, or involvement in social networks. The study underscored the importance of ongoing professional development in enhancing teachers digital competence. Mentorship programs can facilitate knowledge-sharing and collaboration among teachers. Sustained long-term support is crucial for building teachers competence in using digital technologies effectively in HyFlex teaching. Implementing these recommendations can create a technology-enabled teaching and learning environment that promotes engagement, collaboration, and effective learning experiences for teachers and students in the HyFlex setting.

Keywords: HyFlex teaching, perception, attitude, work environment readiness, digital technologies, technology integration, post-pandemic

Festina Lente: Unpacking of the Decision–Making Factors in the Adoption of Online Interactive Learning Platform via Manifest Thematic Analysis

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Graduate Education and Professional Studies

Adopting online interactive learning platforms in public elementary schools presents opportunities and challenges for school principals. This research aims to explore the factors influencing the adoption of such platforms from the perspective of novice public school principals. With the increasing importance of technology in education, it is crucial to understand the factors in the principals decision -making process when considering the adoption of online interactive learning platforms. The study will focus on a novice principal who may encounter unique challenges in making informed decisions regarding adopting these platforms. By examining her perspectives, insights can be gained into the factors influencing her decision-making process. These factors may include but are not limited to technological proficiency, resource availability, support systems, teacher readiness, student engagement, and the overall impact on teaching and learning outcomes. Interviews will be used as the qualitative research method of choice, and data will be collected from a novice principal in a public elementary school. The research will identify common themes and patterns in her decision-making process, highlighting the key factors influencing her adoption of online interactive learning platforms. The findings of this research will contribute to the existing body of knowledge on adopting online interactive learning platforms in public elementary schools. It will provide valuable insights for novice principals, educational policymakers, and other stakeholders shaping educational practices. The research outcomes may guide the development of strategies and support systems to facilitate the successful adoption and integration of online interactive learning platforms in public elementary schools.

Keywords: online interactive learning platforms, adoption, novice principals, public elementary schools, decision-making, factors influencing adoption, technology in education

Students Satisfaction Level and Academic Performance on Modular Modalities among BSED Students of Romblon State University-Cajidiocan Campus

Clara Jean M. Juanzo
Romblon State University – Cajidiocan Campus

This study aimed to investigate BSEd students satisfaction level and academic performance on modular modalities at Romblon State University-Cajidiocan Campus. Data was collected from 87 second and third-year students majoring in Mathematics and English through complete enumeration. A survey questionnaire consisting of 36 items designed to determine the BSEd Program students' satisfaction level and academic performance on modular modalities was used. Descriptive statistics were used to analyze the data. The results showed that the respondents had a neutral satisfaction level with the modular modality. Second-year students were satisfied with instructors who stimulated learning, treated students fairly and with respect, presented information clearly, emphasized major points and concepts and used various innovative activities in the modules. Third-year students expressed their satisfaction with instructors who provide clear instructions for quizzes and assignments, the provision of relevant resources, and constructive feedback on assignments. Overall, the students were very satisfied with the instructors support and instructional support. The students' interaction with their instructors was rated as "very satisfied". The academic performance of all four groups (Mathematics major, English major, second year, and third year) achieved an overall mean grade of 1.75, corresponding to a "very good" interpretation. This study suggests that the modular modality positively impacts the academic performance and satisfaction level of BSEd students in Romblon State University – Cajidiocan Campus.

Keywords: academic efficacy, academic performance, instructor support, modular learning, satisfaction

Utilization of the Philippine Literature and Literary Appreciation of Grade 12 HUMMS Students

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This survey-correlational study was conducted to determine the utilization of the Philippine Literature and Literary Appreciation of Grade 12 HUMSS students of Cajidiocan National High School for the school year 2022-2023. The participants of the study were the Grade 12 HUMSS students, particularly the thirty-six (36) students from section Cyan, thirty- seven (37) students from section Tangerine, and thirty- six (36) students from section Turquoise, totaling one hundred nine (109) students who have 21 st Century Literature from the Philippines and the World subject in the first quarter. The data in this study were gathered using the standardized Philippine Literature Test and survey questionnaire (Literary Appreciation). The independent variable was the utilization of Philippine Literature, while the dependent variable was the Literary Appreciation of Grade 12 HUMMS students. Statistical tools utilized were the frequency count, percentage, mean, standard deviation, t-test for independent samples, One-way ANOVA, and Pearson r. The level of significance was set at 0.05 alpha. The studys findings revealed that the level of utilization of Philippine Literature was "high." In contrast, the level of Literary Appreciation was "high." There was a significant difference in the utilization of the Philippine Literature of Grade 12 HUMSS students. There was a significant difference in the Literary Appreciation of Grade 12 HUMSS students. Lastly, there was a significant relationship between the utilization of Philippine Literature and Literary Appreciation of Grade 12 HUMSS students.

Keywords: Philippine literature, literary appreciation

Seaweed Farming: Its Effect on the Economic, Social and Environmental Structure of Coastal Communities in Guinbirayan, Sta. Fe, Romblon

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The study aimed to determine the effect of seaweed farming on the economic, social, and environmental structure of seaweed farming communities. The study used a descriptive research design with quantitative and qualitative research methods. The researchers used nonprobability sampling to get the study sample. The study was conducted on 50 seaweed farmers residing in Guinbirayan, Sta. Fe, Romblon, during the first semester of the academic year 2022-2023. The questionnaire was constructed and used as the main instrument to gather the data needed, followed by unstructured interviews, observation, and documentation. It was developed from various literature, studies, and suggestions from the adviser and knowledgeable persons. It was validated and pre-tested to ensure its validity and reliability. After collecting the data, they were tallied, analyzed, and interpreted using frequency/percentage, mean, and Chi-square tests of independence. The findings revealed that most of the seaweed farmer respondents were above 60 years old, male, married, undergraduate college students, had a monthly income of below P5,000.00 before seaweed farming, had a monthly income of P5,001.00 – P10,000.00 after seaweed farming, and the father or head of the family primarily engaged in seaweed farming. Moreover, it was found that seaweed farming affects seaweed farmers' economic, social, and environmental structure. Several problems were encountered in farming, especially ice-ice disease, while linkages and market outlets were the problems encountered in marketing. It was concluded that there was a statistically significant relationship between the problems encountered with the seaweed farming communities' economic, social, and environmental structure.

Keywords: economic effect, environmental effect, seaweed farming, social effect

Dotoc: A Case Study of a Religious Performance in Minalabac, Camarines Sur

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Dotoc is a religious performance where kantura sings hymns for nine consecutive nights before the patron saints feast. It is a solemn and colorful performance that entertains and attracts people to church. The emergence of Dotoc can be traced to the mid-20th century in the Rinconada Area of Camarines Sur, particularly Bula, Bato, Nabua, and other neighboring towns. This paper assessed the status of the third-generation Dotoc practice in the municipality of Minalabac through interviews, observation, and participation in the community. Constraints and challenges were examined and the safeguarding measures to protect and promote such intangible cultural heritage. Results show that the Dotoc practice is performed in Minalabac municipality; however, it was unstable in Mataoroc when the little Ermita became the Parish of Our Lady of the Miraculous Medal. The community failed to raise awareness to preserve and promote Dotoc practice and perform it on a yearly basis. It is recommended to conduct an in-depth study of Dotoc practices in other parts of Camarines Sur, such as those performed in different parts of the Rinconada area, to assess its status and document narratives and history of the practice.

Keywords: Dotoc, religious performance, Kantura, intangible cultural heritage, Rinconada Area

The Philosophical Conceptions of Mendeleev's Periodic Law in Teaching Science and Nature of Science

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The philosophical conceptions of Mendeleev's Periodic Law in teaching science and the nature of science allow students to understand science as more than just a collection of discoveries and scientists, but also to appreciate the ongoing and continuous process of acquiring knowledge through investigation, demonstration, and reasoning of acquired learnings. Through this study, students will become motivated to learn science facts from the smallest thing in nature that will create a big change in science and technology. This study focuses on the work of Dmitri Mendeleev, a philosophical scientist who developed the Periodic Law and the Periodic System of Elements through pure analogy and extreme reasoning. The study aims to distinguish Mendeleev's philosophical concepts in developing the Periodic Law and examine its implications for science education. The researchers used document analysis to analyze Mendeleev's work. The study found that the unification of natural sciences is crucial and Mendeleev's process of developing the Periodic Law can be integrated into science education to encourage creative learning. Science educators should help students connect internal narratives to the content and skills they need for their future, rather than solely focusing on rote skills. This approach can also help educators adopt some of Mendeleev's traits and methods in their teaching.

Keywords: Chemistry, nature of Science, periodic law, Philosophy, principles

Folk Beliefs on Health and Sickness of the Romblomanon People

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This study documents the existing folk beliefs on sickness and health of the Asi, Ini, and Onhan ethnolinguistic groups in the province of Romblon. The study includes only the personalistic principle, which could define the province as a unique culture. The research used ethnographic and historical methods. The informants/ carriers of the traditions encountered in the field through a dragnet method served as respondents. The study underwent four stages: stage 1 (fieldwork), stage 2 (writing of manuscript), stage 3 (validation of the manuscript), and stage 4 (final output). The present study demonstrates that traditional folk healers abound in the province of Romblon. The personalistic principle governing the folk beliefs concerning the health and sickness of the Romblomanon people is a valuable source of knowledge for determining how the agent (human, e.g., the witch or sorcerer; nonhuman, e.g., a ghost, an ancestor, an evil spirit; or a supernatural, e.g., a deity) actively and purposefully cause the illness and the subsequent treatment made by the folk healers. A Romblomanon folk healer practices and exhibits all characteristics of the mediator (Shaman, Herbolario, Hilot (massage curer), and the Spiritista), signifying that there is no clear distinction and the healer could be all four. The study collected ten folk illnesses and the perceived etiology, diagnosis, and therapeutics; 3 preventive rituals/ health measures; 7 cycles of life (siklo ng buhay) work of Hilot; the healer's atypical way of attaining healing abilities, and other concepts such as lawag or remote healing and sanag or moral monies. The study also serves as a comprehensive report on an ethnographic study of folk beliefs on the sickness and health of the Romblomanon people for archiving.

Keywords: diagnosis and therapeutics, ethnomedicine, etiology, folk healer, personalistic principle

Teachers Translanguaging Practices and Functions: The Case of Selected Schools in the Province of Romblon

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Translanguaging is a recent phenomenon that refers to the simultaneous use of multiple languages when communicating and facilitating comprehension (Canagarajah, 2011 & Garcia, 2009). This study explores its occurrence and functions in the two elementary schools in the Province of Romblon, wherein some teachers use multilingual teaching for their learners' academic advantage. Following a qualitative and case study design, the pedagogical functions of translanguaging and how it aided teachers in discussing English and Mathematics content in the intermediate grades were determined through classroom ethnography, video recordings, and thematic analysis. Findings identified a number of functions of translanguaging which were categorized into different macro and micro themes. In conclusion, the prevalence of translanguaging in the classes of the four teacher-participants attested to its contingency as a classroom pedagogy amid the existing institutional 'no-shift' policy. The study recommends normalizing translanguaging as a pedagogy to basic education practitioners by designing a classroom space that allows learners to utilize their language resources whenever possible to enhance learning competencies and motivated attitudes toward language and mathematics education.

Keywords: assessment-oriented translanguaging, content-oriented translanguaging, classroom-oriented translanguaging, language learning, learner-centered translanguaging, Mathematics learning


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