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1st NATIONAL REDi CONGRESS

November 29, 2022 | Via Zoom

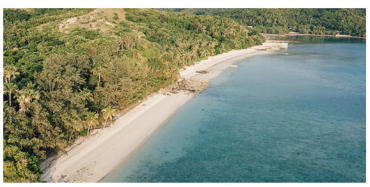
BOOK OF ABSTRACTS

"Research, Extension, Development and Innovation: Sustaining the Culture of Sharing towards Future-Ready HEIs"










1st National REDi Congress 2022

Abstracts of the 1st National REDi Congress organized by
Research, Extension, Development, and Innovation
Romblon State University
Odiongan, Romblon, 5505

Virtual Research and Extension Congress | 29 November 2022

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The REDi Congress is being held annually and will release one Book of Abstracts each year.

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EXTENSION

SOCIAL SCIENCES, HUMANITIES, AND EDUCATION

Message of the President

Years ago, humanity had envisioned the possibilities we are enjoying today. We grow, develop and transform into better society as we bravely face the challenges of this contemporary fragile world. Higher educational institutions are seen as the cradles of knowledge and innovative solutions and partners in sustaining the society we live in.

This is the NOW. This is the age of 4th Industrial Revolution where we, in the Universities, are expected to generate, to share, and not to keep any knowledge we can possibly contribute for the common good. We are the key drivers of impactful changes across various disciplines, especially in providing genuine services to the marginalized and underserved sectors. We play a crucial role to knowledge-building, as well as to social and economic development, while strengthening our commitment towards generating more R&D and Extension activities.

We are taking another milestone as all of us join today in the Romblon State University's 1st National REDi Congress. With us is our guest speaker, a renowned scientist in the Philippines especially in the field of Chemistry, who will be formally introduced later. From different parts of the country, we gather here as a family bonded with the spirit of collaboration and sharing ideas, knowledge, and outputs towards future-ready HEIs and a more progressive Philippines.

Let the infiniteness of knowledge encourage us to chase its never-ending path towards promoting and creating more innovations. Let us climb together to greater heights, as we sustain research and extension outputs for the benefit of humanity. I wish everyone a scholarly knowledge exchange, as we serve our fellow Filipinos with honor and excellence.

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

Knowledge-building and sharing are pathways towards strengthening the innovative culture we all aspire. As an instrument of knowledge-exchange on today's 1st National REDi Congress, the Romblon State University is honored to highlight the quality and high-impact R&D and extension outputs from different HEIs across the country.

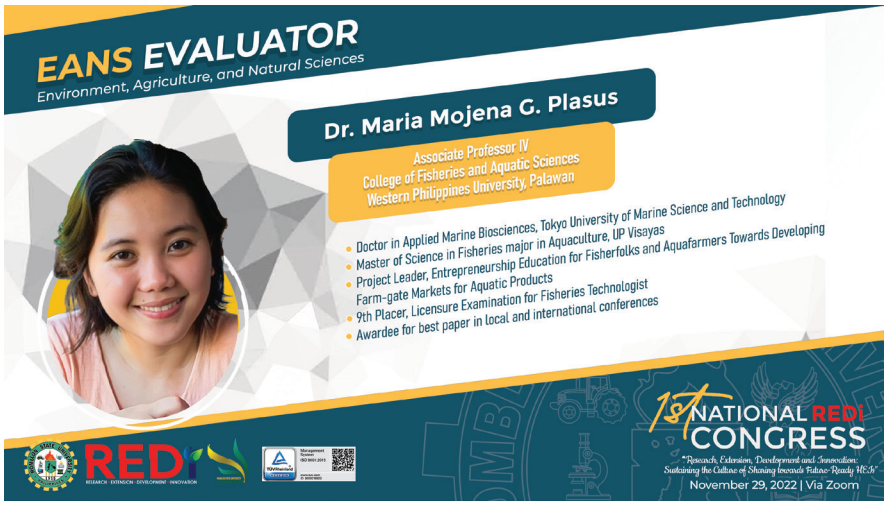
The reality that we are all trying to evolve amidst the unknowns and uncertainties is a manifestation of how we are shaping our resiliency towards becoming future-ready HEIs. Though the pandemic has shaken us and disrupted some of our activities, our commitment and devotion to deliver the mandates of the Commission on Higher Education is indeed commendable. I congratulate every researcher and extensionist we have with us today, for your enthusiasm to share knowledge and outputs in building a stronger community where knowledge and innovations aid us on shaping a sustainable tomorrow, we all deserve. Of course, we also have with us our keynote speaker from University of Santo Tomas, an Academician and a Professor Emeritus, who will spark inspiration in our journey of flourishing our research careers.

I have high hopes that this National REDi Congress will strengthen our interconnectedness and collaboration in our pursuit of boosting R&D and extension outputs in the Philippines. Inspired by this activity, let us foster the culture of knowledge-building and sharing and lead impactful changes to our institutions and communities.

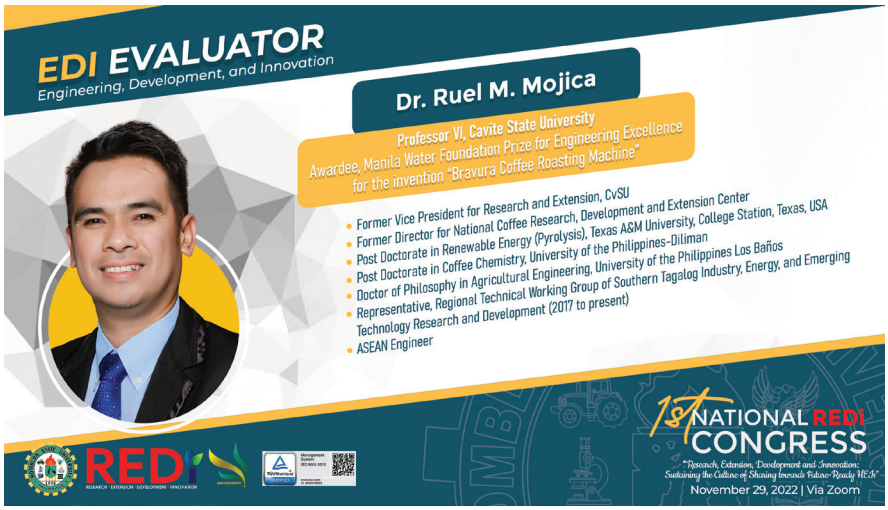
To the university faculty, teachers, graduate students and experts joining us today, I welcome you all to the 1st National REDi Congress. I wish a successful scholarly interaction, as we remain committed to always serving with honor and excellence.

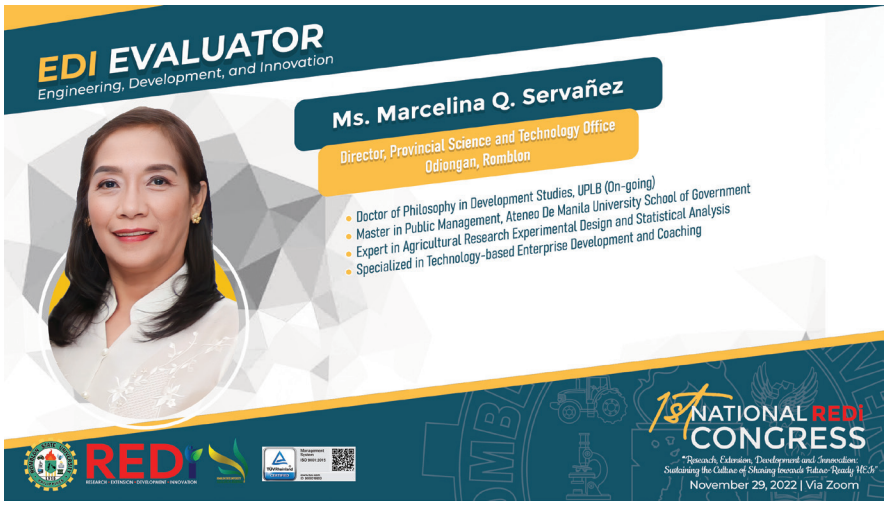
Keynote Speaker

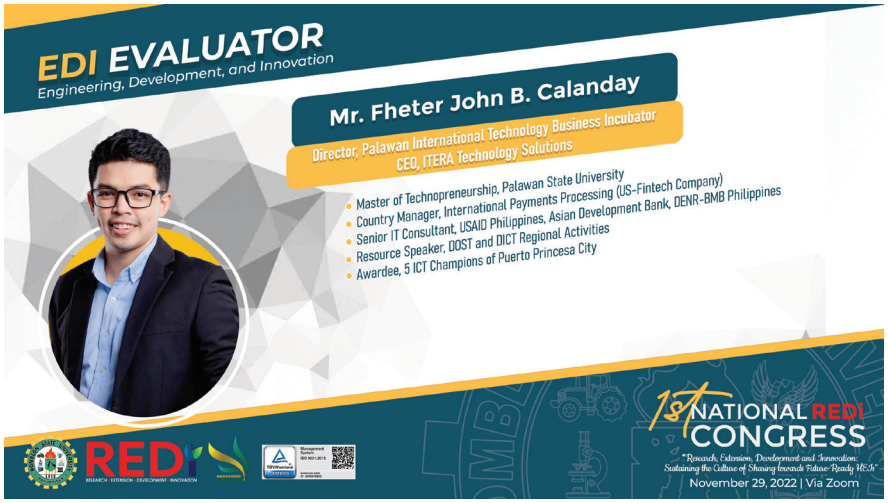
EANS Evaluators
(Environment, Agriculture, and Natural Sciences)



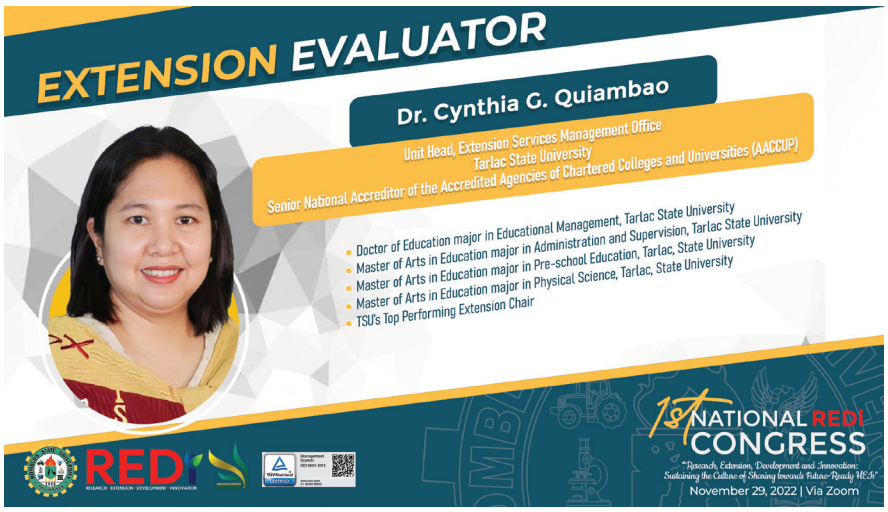
EDI Evaluators
(Engineering, Development, and Innovation)





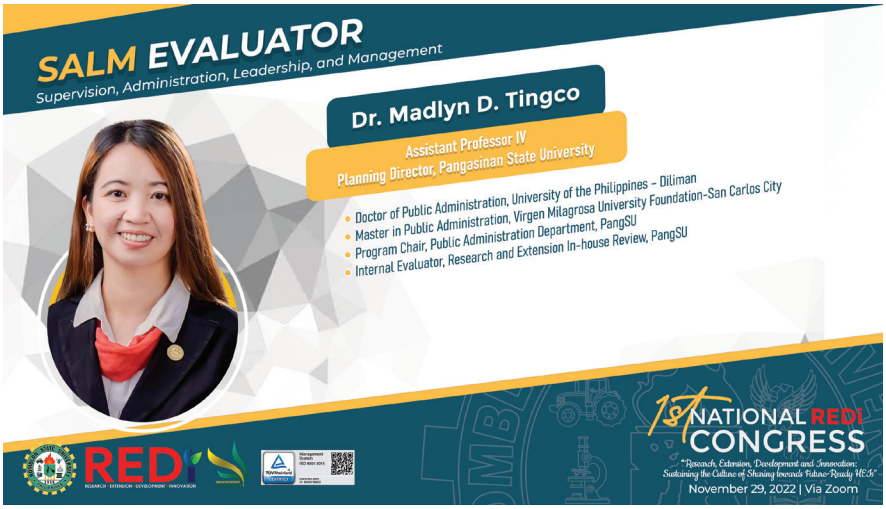


Extension Evaluator

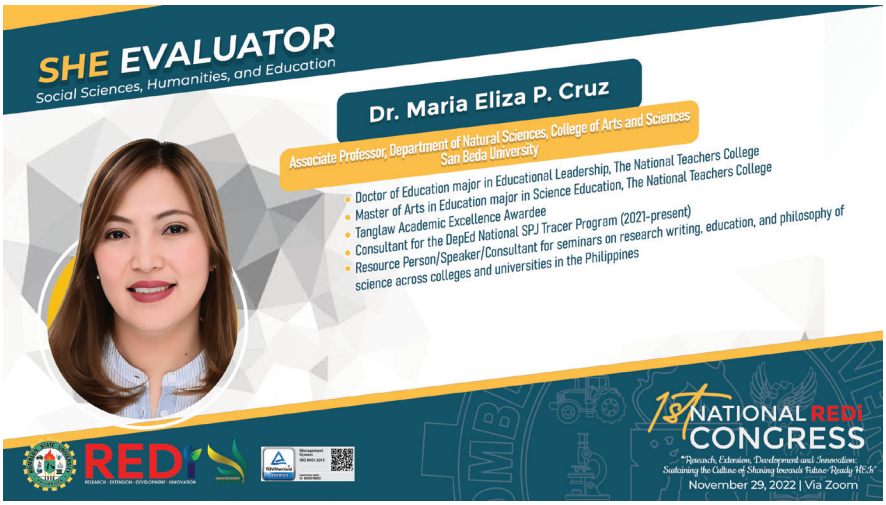


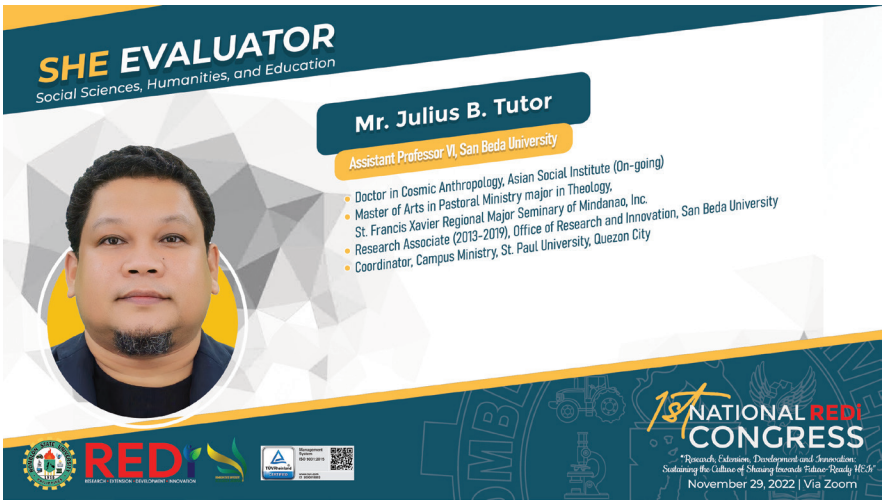
SALM Evaluators

(Supervision, Administration, Leadership, and Management)



SHE Evaluators
(Social Sciences, Humanities, and Education)





EANS

Environment, Agriculture, and Natural Sciences

RESEARCH • EXTENSION • DEVELOPMENT • INNOVATION

1st NATIONAL REDI CONGRESS

Changes in Gene Abundance of Nitrification and Denitrification Related Genes under Long-Term Compost Fertilization of Paddy Fields

Denver I. Walitang[1]* & Tongmin Sa[2]

RSU-College of Agriculture, Fisheries and Forestry[1], Chungbuk National University[2]

Long-term compost fertilization leads to changes in physical, chemical and biological changes in paddy fields. Rice paddies are dynamic areas for microbe mediated nitrogen cycling and could be driven by long term alteration of paddy soil chemical properties. The study evaluates the lasting changes in soil chemical properties in paddy fields under long term compost fertilization and their concurrent impact on the abundance of nitrogen cycling related genes involved in nitrification (archaeal and bacterial amoA) and denitrification (nirK, nozI, nosZII). Soil sampling was done on compost (Com), NPK+Compost (NPKCom), and unfertilized (NF) paddy fields, and their soil chemical properties were determined from 2018 to 2021. The abundance of nitrogen cycling related genes was measured using quantitative PCR (qPCR). Results showed that long term compost and NPK+Compost fertilization created paddy fields with stable, baseline soil chemical properties with significantly increased soil organic matter (OM), total nitrogen (TN), P2O5, and K. Consequently, the abundance of bacterial amoA, nosZI, and nosZII genes significantly increased in Com and NPK+Com treatments compared to the unfertilized paddy field. The abundance of the nirK gene did not change after long term amendment with compost. There is a significant correlation of DOC with archaeal amoA gene abundance, while the abundances of bacterial amoA, nosZI and nosZII genes are consistently positively correlated to soil organic matter and total nitrogen, in addition to interactions with potassium and DOC. Principal component analysis (PCA) showed a distinct separation between unfertilized and compost fertilized paddy fields separated by the first principal component, and a sub clustering of the compost and NPK+compost separated by the second principal component. PCA indicates soil variabilities across treatments where the unfertilized paddy field contains lower SOM and nutrient content with characteristic nirk gene abundance. The compost and NPK+Compost fertilized paddy fields seem to have similar variabilities in terms of SOM, TN, K, nosZI gene abundance, and nosZII gene abundance. The compost fertilized paddy fields seem to have higher loading for DOC, EC and archeal amoA while the NPK+compost seem to have greater loading of pH, NH4-N, NO3-N, DION, P2O5, Mg and bacterial amoA. Long term compost fertilization created paddy fields with stable soil chemical properties with higher SOM and nutrient contents which establish a higher abundance of genes related to nitrification and denitrification observed even during the fallow period.

Keywords: Long term compost fertilization; nitrogen cycle; nitrification; denitrification; gene abundance; soil chemical properties

DR. DENVER I. WALITANG

ACC Deaminase Producing Bacteria-Mediated Salt Tolerance in Rice (*Oryza sativa* L.) through Salt-Responsive Proteomics

Denver I. Walitang[1]* & Tongmin Sa[2]

RSU-College of Agriculture, Fisheries and Forestry[1], Chungbuk National University[2]

Salt stress in plants due to increasing soil salinity could detrimentally affect plant physiological traits leading to retarded growth and development. Plants under stress also recruit beneficial microorganisms to cope up with stress. Characteristic proteins in plants revealed through proteomics analysis elucidate mechanisms of protein-based ACC deaminase producing bacteria-mediated salt tolerance. The current study evaluated changes in the proteome of rice (*Oryza sativa* L.) mediated by inoculation with an ACC deaminase producing bacteria under normal and salt stress conditions. Overall, salt stress caused significant reduction in chlorophyll a, b, and carotenoids but significant improvement in pigment contents were observed upon inoculation of *Methylobacterium oryzae* CBMB20 regardless of stress conditions. Proteomics analysis showed 41 and 35, 36 and 15, and 14 and 19 upregulated and downregulated differentially abundant proteins (DAPS) in non-inoculated salt-stressed plants, CBMB20 inoculated plants under normal, and CBMB20 inoculated plants under salt stress conditions, respectively. Under normal conditions, CBMB inoculation increased abundance of proteins related to plant growth and development. On the other hand, salt stress resulted in the decreased abundance of proteins related to photosynthesis and enhanced abundance related to ethylene emissions and programmed cell death. The effects of salt stress were countered by CBMB20 inoculation resulting in the increased abundance of antioxidant proteins, RuBisCo, and ribosomal proteins and decreased abundance of proteins related to ethylene biosynthesis. Rice is affected by salt stress in terms of photosynthesis and ethylene induced programmed cell death but ACC deaminase producing *Methylobacterium oryzae* CBMB20 attenuates salt-induced stress by improving photosynthesis, reactive oxygen species scavenging and modulating ethylene biosynthesis in plants.

Keywords: ACC deaminase, Ethylene, Methylobacterium, Proteomics, Salt stress, Salt tolerance

DR. DENVER I. WALITANG

Vermicomposting using Local and Organic Wastes: Its Nutrient Content Analysis Using Different Substrates

Girlie R. Rabo, Mikee M. Rocha, Ian Carl M. Rocha, Jack E. Hernandez, Carmelinda M. Juanzo, Rosemin F. Rabida and Clara Jean M. Juanzo*

Romblon State University-Cajidiocan

Vermicomposting is a way of composting that utilizes worms in converting organic materials into humus-like material known as vermicompost. It is relatively faster to produce compared to the traditional way of composting and produces a superior quality compost product as well. It is superior because it helps for the improvement of the physical, chemical and biological properties of the soil as well as contributes to its organic enrichment. This study was conducted to determine and develop the best substrate combination for vermicomposting that can produce a high quality vermicompost using locally and commonly found organic wastes for mass production. The study made used of the quantitative experimental method of research to determine the best possible substrate combination for vermicomposting. There were four treatments in the study and has four sample or replicates in each treatment. All samples were used in collecting data, all their vermin and vermicast were collected and recorded. For the NPK analysis, the study used a cluster sampling method in which only one representative for each treatment were used for the analysis. All data gathered were tallied, tabulated, analyzed and interpreted accordingly using appropriate statistical methodologies. The study shown that there was no significant difference in terms of vermin population, weight of vermicast and its NPK content between treatments. But it is still good source of organic fertilizer.

Keywords: Organic Wastes, NPK Analysis, Vermicast, Vermi,

CLARA JEAN M. JUANZO

Effectiveness Level of Improvised Rice Hull and Charcoal Chick Brooder for COBB 500

Alyssa R. Tansiongco, Warlito Balgoma, Minard Ribot, Racky Tamayo, Rosemin F. Rabida* and Carmelinda M. Juanzo

Romblon State University-Cajidiocan

Brooding is provision of warmth, fresh air, clean feed and water to chicks during the first four weeks. At hatch, the day-old chicks do not have subcutaneous fat and their feathers are ill developed. This means that they are unable to control their body temperatures until after 2-4 weeks of age depending on seasonal temperature thus remain vulnerable to chilling. Thus, the researchers conducted a study on the charcoal and rice hull as an improvised chick brooder. The main objective of this study is to determine the effectiveness of rice hull and charcoal as an alternative chick brooding. The researchers made use of the Matching-Only Design of research. The researcher matched with the subject in the experimental and control on variables such as litter management, temperature, air quality and ventilation, access to water, access to feeds, lighting and structure of the improvised rice hull and charcoal broader was compared with the same variables using incandescent lamp. Farmer respondents have been invited to the site of the study to evaluate the effectiveness of alternative chick brooding using five-point rating scale of effectiveness level. Result showed that the effectiveness level of improvised rice hull and charcoal chick brooder in terms of litter management, temperature, air quality and ventilation, access to water, access to feeds, lighting and structure of brood house is extremely effective. Lastly, researchers uphold that there is no significant difference between the effectiveness of improvised rice hull and charcoal and incandescent lamp as chick brooding method.

Keywords: charcoal, chick broader, charcoal, effectiveness level, improvise

ROSEMIN F. RABIDA

Productivity of Grafted Cucumber (*Cucumis sativus* L.) Using Different Rootstocks with the Application of Organic and Inorganic Fertilizers

Mary G. Dalisay
RSU-College of Agriculture, Fisheries and Forestry

Productivity of grafted cucumber using different rootstocks with the application of organic and inorganic fertilizer was evaluated. Two kinds of rootstocks were evaluated, squash and luffa, while the fertilizers used were organic and inorganic. The organic fertilizer used was the available commercial organic fertilizer at the local market and the inorganic fertilizer used were complete (14-14-14), muriate of potash (0-0-60) and urea (46-0-0). Productivity was measured in terms of vegetative growth, yield and fruit quality. The study was laid out in factorial experiment in RCBD with three replications. In terms of growth, luffa rootstock significantly gave larger main vines (7.46 mm) than that of squash 45 days after transplanting; has significantly affected the fruit quality which gave a higher fruit dry matter content (3.56) to the cucumber fruits; but this result was statistically the same with the result given by squash (3.01). Organic fertilizer significantly affected the number of lateral vines (5 pcs.) 30 days after transplanting and the number of fruits (17 pcs.). Findings revealed that the ungrafted cucumber fertilized with organic fertilizer showed the highest productivity which yielded 6.66 tons per hectare. The cucumber grafted onto luffa fertilized with inorganic fertilizer (CGOL+IF) was liked moderately by the evaluators which received the highest level of acceptability (7.90).

Keywords: Cucumber, Grafting, Fertilizer, Productivity, Rootstocks

MARY G. DALISAY

Pesticidal Potential of Selected Weed Species as Rice Grain Protectant against Red Flour Beetle (*Tribolium castaneum* Herbst) (Coleoptera: Tenebrionidae)

Marife S. Sayat
RSU-College of Agriculture, Fisheries and Forestry

Food security is the world's top priority to ensure that every nation does not suffer scarcity due to today's expanding population. Farmers also face serious problems as a result of pest infestations, both in the field and during storage. The red flour beetle (*Tribolium castaneum* Herbst) is the most common stored-product insect pest infesting rice, which acts as a vector for several fungal post-harvest diseases. To control such pests, fumigation using chemicals is frequently used. As a natural alternative, this study explored the potential of thirteen weed species. Thirteen treatment groups were prepared, consisting of 50g of infected rice and 20 starved, unsexed adult red flour beetles. 1.0 mg/ml concentrated extracts were used for each treatment to determine its toxicity, antifeedant, oviposition, and growth inhibitory activity. The gathered data were further analyzed by analysis of variance to compare the significant differences among treatments. Results of the study revealed that among the treatments, *M. pudica* (78.67%) had the highest percent mortality, while *A. paniculata* had the lowest weight loss of 0.13 percent after a 96-hour exposure period. At the same time, an extract of *A. paniculata* and *M. pudica* showed a significantly lower mean number of *T. castaneum* F1 progeny. Following 35 days of the exposure period, the ethanolic extract of *M. pudica* and *P. betel* shows a significant decrease in the number of larvae and adults produced. Therefore, this study suggests that *M. pudica, A. paniculata*, and *P. betel* extracts may be used as a new source of bio-pesticide for economical and eco-friendly pest control management of *T. castaneum* infestations.

Keywords: Tribolium castaneum, toxicity, antifeedant, growth inhibitory, oviposition

MARIFE S. SAYAT

Early Rooting and Survival of Selected Pioneer Riparian Species through Conventional Method of Propagation

Amelyn A. Formilleza
RSU-College of Agriculture, Fisheries and Forestry

Riparian zone vegetation, even though little in general range, is among the most valuable natural areas in the watershed that support the river system. Riparian controls erosion, runoff reduction, channel stabilization, and support wildlife. However, the Riparian zones in the country are less protected and unmanaged leading to high vulnerability to degradation. To date, fewer works were initiated to restore the disturbed riparian ecosystem and very scarce information for technologies in propagating pioneer riparian species. The ultimate aim of the study is to evaluate the early growth response of four (4) dominant tree species (*Ficus nota, Ficus minahassae, Nauclea orientalis*, and *Ficus septica*) in CALSANAG WFR riparian areas. The wildlings were collected from riparian and were grown for six (6) months in a potted container at the College of Agriculture, Fisheries, and Forestry, Romblon State University. The variables evaluated were rate of survival, rooting percentage, number of shoots produced, root collar diameter, height, number of roots, and length. The result indicated that the conventional way of propagation is effective for the growth of most pioneer riparian species as it gave statistically higher survival and rooting percentage of *Ficus nota, Ficus septica*, and *Nauclea orientalis* wildlings with 95%, 90%, and 75% respectively except for *Ficus minahassae* with 30%. This method is recommended for farmers in growing and raising three (3) species as simple yet efficient and cost-effective. Future research in improving the rooting and survival performance of *Ficus minhassae* might be enhanced with the aid of root-promoting hormones and other propagation methods.

Keywords: Method of propagation, Pioneer Tree Species, Riparian zone, Survival and rooting performance

AMELYN A. FORMILLEZA

Performance of Lettuce in Different Levels of Chicken Manure Grown on Vertical and Plot Cultivation

Jebelou M. Visca
RSU-College of Agriculture, Fisheries and Forestry

The experiment was conducted in the orchard field of Romblon State University, Liwanag, Odiongan, Romblon from April 1 to 30, 2019. The purpose of the study was to evaluate how well lettuce performed when grown in vertical and plot cultivation with various quantities of chicken manure. Different growing techniques, such as plot and vertical cultivations, made up Factor A in this study, while Levels of Chicken Manure, such as T1 - Urea, T2 - 250g/m2, T3 - 350g/m2, and T4 - 450g/m2, made up Factor B. The experiment was set up as a two-factor experiment with three replications using a completely random design (CRD). Vertical cultivation had the highest leaf width (5 cm), leaf length (6.03 cm), leaf area (18.76 cm2), and yield (FW = 43.42g/plant, DW = 38.93g/plant, and biomass = 4.48g/plant), while plot cultivation had the highest chlorophyll content (28.14mgpercm-1). When it comes to the application of fertilizers, fertilizer one performs well in terms of lettuce leaf width (5.3cm), leaf length (6.75cm), leaf area (20.78cm2), and yield (FW = 48.89g/plant, DW = 44.80g/plant, and biomass = 4.39g/plant), except for fertilizer 3 having the highest chlorophyll content (29.40mgpercm-1). There was a significant interaction effect in terms of the lettuce's width, length, and fresh weight.

Keywords: Growth and Yield of Lettuce, Plot and Vertical Cultivation, Different Levels of Chicken Manure.

JEBELOU M. VISCA

Productivity and Morphological Characteristics of Corn (*Zea mays* L.) as Affected by Water Stress at Different Growth Stages

Mary Hazel Joy C. Ugot
Nueva Vizcaya State University-Bayombong

Water stress is one of the most important environmental stresses that limit crop production. A completely randomized potted experiment design with three replications was carried out to determine the effect of water stress on the productivity and morphological characteristics of corn (*Zea mays* L.) IPV var 13 under greenhouse condition. Plants were exposed to three levels of water stress with 50%, 35%, and 20% total available water (TAW) applied in two growth stages (vegetative and reproductive). Results showed that water stress caused a significant reduction in plant height and chlorophyll content. Highest reduction is at 20%TAW for both vegetative and reproductive growth stages. However, number of leaves per plant was not affected by the different water stress levels imposed on both stages. Water deficit significantly decreased grain yield and the maximum grain yield reduction were observed at 20% TAW treatments for both stages with 71.95% (vegetative stage) and 76.69% (reproductive growth stage) declined from the average yield of IPV var 13. Data indicated that both stages are sensitive to water stress and should be given attention to avoid a drastic decline in grain yield.

Keywords: Crop production, Maize, morphological characteristics, productivity, water stress

DR. MARY HAZEL JOY C. UGOT

Characterization of S-3 Medium and its Potential in Growing and Yielding Rice (*Oryza sativa*)

Otelio H. Juanzo Jr.
Palawan State University

This study looked at developing an alternative medium for soil. It focused on the characterization of S-3 Medium and its potential in growing and yielding rice (*Oryza sativa*). This is a quasi-experimental study. No control group was established. It was conducted from June 12 to September 17, 2019, in San Miguel, Puerto Princesa City. An S-3 medium was developed using ratio and proportion of sand, sawdust, and soil. The 1:4:1 ratio was used as medium. This was treated with water by soaking for 24 hours. Three hundred RC-356 varieties of rice seeds were used, soaked, and pricked. Two hundred sixty-two germinated and fifty were transplanted. There were ten pots used and each pot had three seedlings and was seen for ninety days. The medium manifested pH of 6.41, moisture content of 38.40% and water holding capacity of 71.90%. The presence of macronutrients and micronutrients were in trace amount. The particle density and porosity of the medium appears to have contributed to the growth of plants. The heights of the plants were measured 90 days after it was transplanted, and the recorded average height was 63.68 cm. In terms of yield, 80% of is a suitable alternative medium to soil and suitable medium in planting of rice. From the results, it is recommended that the S-3 media be tested in other plants and be applied to a larger area. Complete soil analysis should be done, and different varieties of rice and other seeds could be used and tested in the medium.

Keywords: oryza sativa, S-3 medium,

OTELIO H. JUANZO JR.

Status of Coral Reef in Selected Barangays of Romblon, Romblon, Philippines

Jeric B. Gonzalez, Bernie G. Mantes, Borromeo B. Motin, and Jeniel A. Santos*
Romblon State University-San Agustin

Construction sites and ecotourism are some of the anthropogenic activities in the upland that degrade the coral reef. To determine the coral reef status, community structure of reef fish and marine macrophytes associates of protected and non-protected areas in Romblon, Romblon Philippines, an assessment of coral reef was done in four selected barangay in Romblon, Romblon last December 2021. Photo transect survey and fish visual census were done in protected and non-protected areas in four selected barangays. The study revealed low coral cover in all areas except in protected areas of Agnay and Ginablan. The diverse and abundance of fish assemblages was observed in protected area of Ginablan and for non-protected area it was observed in Lonos. The most common marine macrophytes was the group of Clorophyta and Rhodophyta. Such persistent anthropogenic coral reef disturbance and natural phenomena can cause the macroalgae to predominate in the benthic community replacing hard corals. Thereby, at least an annual monitoring of the coral and reef fish communities be continued. A stringent implication of rules and laws of MPAs to protect coral reefs should be done.

Keywords: Corals, Fish abundance, Marine macrophytes, Non-protected areas, Protected areas, Trophic structure

JENIEL A. SANTOS

The Community Structure of Marine Macrophytes of Carmen Bay, Romblon, Philippines

Jeric B. Gonzalez* and Novie Cristy O. Macula
Romblon State University-San Agustin

The marine ecosystem like seaweeds and seagrass beds is one of the underrated research areas in the Romblon. The majority of the researchers' eyes across the country were focused on the terrestrial, particularly in Sibuyan Island. Although Carmen Bay is located in a critical corridor passage in the Philippines, studies on its marine macrophytes biodiversity are scant. Hence, this study was realized. The present study was conducted to determine marine macrophytes' composition, diversity, and dominance, specifically seaweeds and seagrass in Carmen Bay, Romblon. Based on the study results, the shallow water of Carmen Bay in Romblon has 92 species of marine macrophytes, including the two new records of red algae species to the Philippines and an additional 34 new records to the province. A possible two additional species to the country were discovered. Carmen Bay's substrates dictate the dominance of seagrass species to the substrate cover of the bay. Many notable seaweed species that may be investigated further were recorded in Carmen Bay. Economically valuable species with potential for commercial cultivation were also present in the surveyed sites. This study recommends conducting another survey during summertime as well as in the deeper areas of the bay. A regular monitoring and expanding area for assessment are thus crucial for furthering studies on biodiversity and discovering uncommon seaweed species in the area and the province. Utilization of the wild population of commercially essential species in developing new strains for the aquaculture industry is recommended.

Keywords: Carmen Bay, Community Structure, Marine macrophytes, Species Composition

JERIC B. GONZALEZ

Beach Forest Communities of San Agustin, Romblon, Philippines with Notes on Coastal Threats

Jeric B. Gonzalez, Xyrra Jeremiah C. Mazo*, and Shella Me Mangao
Romblon State University-San Agustin

The coastal plains of the Philippines were among the first sites opened for human settlement. However, the sprouting of communities has displaced beach forests and mangrove swamps. The growing intensity and frequency of weather disturbances brought by changing global climate highlight beach forests' critical role as bio-shields for vulnerable coastal communities. Unfortunately, beach forests continue to disappear due mainly to conversion into human settlements and wanton harvesting for fuel wood and medicinal plant parts. Currently, no study has been conducted on the beach forest communities in San Agustin, Romblon; thus, this study was conceptualized. A survey was conducted in all barangays of San Agustin, and species identification was made. A total of 38 species of beach forest plants belonging to 21 families were identified. The municipality of San Agustin has a species richness of 3.99, Shannon diversity index of 2.53, Simpson dominance index of 8.73, and Evenness index of 0.70. Cabolutan had the highest species richness among the barangays, while Binonga-an had the highest diversity and dominance index. The relatively high abundance of Cocos nucifera denotes that these areas were subjected to anthropogenic activities. Erosion, garbage, seawall, road widening, and infrastructure developments for beach resorts and summer houses were the five major coastal threats recorded in the beach forest areas around San Agustin, Romblon. These data can serve as a reference for different conservation activities to protect and enhance the current status of the beach forest of San Agustin, Romblon.

Keywords: coastal threats, distribution of beach forest, diversity of beach forest, mapping, species composition

XYRRA JEREMIAH C. MAZO

Stress Response and Breeding Performance of Nile Tilapia (*Oreochromis niloticus* L.) Under Different Shading Capacities of Greenhouse Nets

Xyrra Jeremiah C. Mazo* and Emmanuel M. Vera Cruz
Romblon State University-San Agustin

Over the past few years, rising global temperatures have received much attention because of its worldwide impact on ecosystems. A stressful condition was generated which affects many biological function in fish, most importantly its reproduction. Tilapia seed production during warm months is restricted by thermal-induced stress which results to lower seed production during this season. Therefore, technologies that may help address these problems and issues must be formulated and evaluated. This study evaluated different shading capacity of nets as top cover of breeding ponds on its effect on the water temperature, stress response and breeding performance of fish. Blood collection and analysis was done in the study to determine the level of plasma cortisol and blood glucose of the fish. Breeding performance of fish was evaluated through the spawning rate, seed production of female breeder, and total seed production. Results of the study showed elevated plasma cortisol and plasma glucose levels on the fish indicating a stressful condition on fish during the breeding period. Male breeders respond to the stressor faster than female breeders which only show higher level of cortisol and glucose level on the later part, possibly due to their mouth brooding activity. Shading of pond significantly reduced the water temperature, however, no distinct changes were recorded on the cortisol and glucose level of fish as the shading increases, which could be due to the earlier exhaustion of fish. Moreover, shading the top of pond with 40% and 80% shading capacity of net improve the breeders spawning rate, seed production of female breeder, and total seed production of Nile tilapia.

Keywords: Fish breeding, Plasma cortisol, Plasma glucose, Stress, Warming of water bodies

XYRRA JEREMIAH C. MAZO

Maturation and Spawning of Round Scad, *Decapterus macrosoma* in the Municipal Water of Santa Fe, Romblon

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Romblon State University-Santa Fe/San Jose

Decapterus macrosoma popularly known as round scad is an important component of the pelagic fishery resource in the coastal waters of Romblon. Thus, their contributions greatly help to the total fish production in the province. This study was conducted to provide information about the maturation and spawning of round scad in terms of length frequency distribution, length at maturity, and spawning period. The fish samples composed of 284 (193 males and 91 females) specimens were collected in the municipal waters of Santa Fe, Romblon. The minimum and maximum fish length that were used in the study ranged from 10.9 cm to 24 cm with a mean of 17.35 cm (±4.13 and approximately weighed up to 13 g to 100 g with a mean of 43.94 g, respectively. The results of the study showed that in Santa Fe, the length at 50% maturity of male scads was 17.62 cm while the female scads have 19.97 cm which was determined to be matured and capable to be spawned. Moreover, the spawning periods of male and female *D. macrosoma* in Santa Fe were done on the months of June and August to October based on the monthly mean gonadosomatic indices with the average GSI values ranging between 1.23 to 3.0 (mean of 4.74±7.56).

Keywords: Gonadosomatic Index (GSI), Maturation, Municipal Waters, Round Scad, Spawning,

DR. REY P. RASGO

Histomorphological Changes in the Digestive Tract during the Larval Development of Channa striata: Basis for Feeding and Feed Development (FFD)

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This study determined the histomorphological changes and digestive enzymes activity (DEA) in the digestive tract (DT) of snakehead (*Channa striata*) larvae fed with zooplankton. Result showed that changes in the DT (stomach and intestines) during early development of the snakehead were observed from day 2 onwards. On the other hand, the DEAs were observed at early stage of development in snakehead larvae. The total protein concentration increased with age. Protease and lipase obtained the highest activity at 7 day post-hatching (DPH), while the peak activity of amylase was recorded at 14 DPH and alkaline phosphatase of snakehead larvae achieved the optimum activity at 28 DPH using 0.5 mg/mL concentration. Therefore, the changes in the DT and variations of DEA of the snakehead larva suggest that shifting of food from zooplankton to other diet depends on the capability of the larvae to digest protein, carbohydrates, and lipid or fat.

Keywords: digestive enzymes activity; histomorphological changes; snakehead larva; total protein concentration

MIGUEL D. VISCA, JR.

The Status of Giant Clams in Shallow Water of Carmen Bay, Romblon, Philippines

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The previous study of giant clams in Romblon was conducted several years ago. Only a small part of Carmen Bay was part of this study. Hence, this study was realized. This study aims to assess and update the status of giant clams in the shallow water of Carmen Bay, Romblon, Philippines. The survey was conducted last January 2021 to March 2021. All giant clams inside the 50x10 meters transect line in shallow water were identified, counted, and measured. A total of 7 species were found in Carmen Bay. A new locality record of *T. noae* was discovered. Thus, the Romblon is home to this rare and cryptic giant clam species. The prolific population of *T. crocea* in Carmen Bay was observed. The population of *T. squamosa, H. hippopus*, and *H. porcellanus* in the bay is imperiled. The absence of live *T. gigas* and the presence of empty shell in the shallow area might indicate localized extinction of the species. The population density of giant clam inside the sanctuary is significantly high from the non-protected area in Carmen Bay. All species are matured and ready to spawn except from *T. squamosa*. All giant clams in Carmen Bay are endangered.

Keywords: Carmen Bay, Endangered Giant Clam, Population, Size Structure, T. noae

JERIC B. GONZALEZ

Aquashade Technology and its Impact on the Water Quality and Reproductive Indices of Nile Tilapia (*Oreochromis niloticus* L.)

Xyrra Jeremiah C. Mazo* and Emmanuel M. Vera Cruz
Romblon State University-San Agustin

One of the major challenges facing the tilapia farming industry is the production of sufficient amount of quality seeds during warm seasons. The effect of extreme and unusual increase in water temperature on the reproductive biology of fish must be studied while technologies that might address this problem must also be evaluated. Hence, this study assessed the effect of aquashade technology on the water temperature and reproductive indices of Nile tilapia by investigating the effectiveness of different shading capacities of nets (T2- 40%S, T3- 60%S and T4- 80%S) as top cover of breeding ponds. Gonadosomatic index, sperm density, proportion of active sperm and sperm motility were used to evaluate the reproductive indices of the breeders. The breeding performance was assessed through the spawning rate and seed production. Data on the water temperature and dissolved oxygen were also gathered. Results of the study revealed that shading of pond can help reduce the water temperature by 1-2°C at 0700h and 3-6°C at 1100h to 1500h. The parameters tested for the evaluation of the reproductive indices and breeding performance showed no significant difference among the shaded treatments (T2, T3, T4), but were significantly higher than the unshaded treatment (T1) ($P<0.01$). Results of the analysis showed that the use of aquashade decreased the water temperature and favored faster gonadal development, increased sperm density, higher proportion of active sperm and higher sperm motility score. It is therefore concluded that aquashade technology is effective in improving the breeding performance of Nile tilapia during warm months.

Keywords: Climate change, Fish Breeding, Sperm quality, Gonadal development, Shading of pond, Water temperature

XYRRA JEREMIAH C. MAZO

The Potential of Termite Meal as Protein Supplement on the Diet of Nile Tilapia (*Oreochromis niloticus* L.) Fingerlings

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Romblon State University-San Agustin

The increasing cost of high-quality fish meal demands the search for cheaper alternative source of protein for fish diets. Due to the relatively high nutritive value of insect meal, their abundance and ease of propagation, they stood out as an alternative ingredient to be included in fish feeds. Few studies has been conducted assessing the effect of utilizing insect meal as protein supplement for the diet of Nile tilapia. However, no studies have been conducted assessing termite meal on the growth performance of Nile tilapia fingerlings. Thus, the focus of this study is to determine the effectiveness of termite meal in improving the growth performance of *Oreochromis niloticus* L. fingerlings. A total of 25%, 50% and 75% termite meal were included into the commercial diet and fed to Nile tilapia fingerlings for 8 weeks. The proximate analysis of experimental feeds showed high levels of crude protein (30.7-40.5%), high levels of crude fat (9.8-10.7%) and low levels of ash content (5.6-7.0%) compared to the control. Results showed that growth parameters attained common outcome in which all treatments revealed no significant difference in terms of final weight, body weight gain, specific growth rate and absolute growth rate. Results also showed comparable outcome with the control, emphasizing that termite meal can be a potential protein source for tilapia fingerlings. Among the treatments, 50% termite meal showed crude protein level near the requirements of Nile tilapia. Further studies on other feed treatment and selection of good quality strain of tilapia were recommended.

Keywords: Crude protein; Growth performance; Insect meal; Proximate composition

XYRRA JEREMIAH C. MAZO

Effects of Anthropogenic Activities on the Coral Reef Ecosystem in Agtongo and Cajimos, Romblon, Romblon

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One of the contributing factors in the degradation of the coral reef is an anthropogenic activity in the upland. And one of the examples of that activity is the marble quarry in Agtongo, Romblon. To determine if such activity has a negative impact on the coral reef ecosystem in Romblon, an assessment of the coral reef communities and water quality had been done. Photo Transect Survey, Fish Visual Census, and Water Quality Test were done in Cajimos Fish Sanctuary and Agtongo Coral Reef that is adjacent to the marble quarry. The study revealed low coral cover in both areas. Diverse, high biomass, and abundance of fish assemblages were observed in Cajimos Fish Sanctuary compared to coral reef adjacent to the marble quarry. High macroalgae cover was observed in the Agtongo coral reef due to the low abundance of herbivore species. Both sites were failed in the TDS test and positive in the presence of coliform and E. coli. Thus, the marble quarry in Agtongo, Romblon directly affected the status of the reef communities of Cajimos Fish Sanctuary and its adjacent coral reef. The quarry released effluents that have a negative effect on the coral cover of both reef areas. Such chronic anthropogenic disturbances on coral reefs can shift benthic community composition away from hard corals and toward macroalgae. Thereby, it recommends the total closure of the mining to save the Agtongo Sanctuary in Romblon, Romblon. In addition, another water quality test should be done during the rainy season to gather a complete set of data for the water quality.

Keywords: Cajimos Fish Sanctuary, Coral Reef Status, Fish Abundance and Biomass, Marble Quarry, Trophic Structure, Water Quality

JERIC B. GONZALEZ

Ecological Services of Aquatic Ecosystem in the Municipality of San Agustin Romblon: A Perspective of High School Students

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Romblon State University-San Agustin

The study was conducted to determine the knowledge of high school students on the functions and services provided by the aquatic ecosystem as well as their level of concern and attitude towards local environmental issues and problems in the Municipality of San Agustin. Surprisingly, although San Agustin is almost 90% coastal areas, results showed that 48.73% of 793 respondents were less knowledgeable about the habitat, nursery, and breeding ground function of seagrasses and coral reefs, and the coastal protection function of mangroves. In addition, almost 48% of respondents seemed not familiar with the major causes of the degradation of the aquatic ecosystem and its ecological-economic consequences when mangroves, seagrasses, and coral reefs will be lost. This study also showed that the majority of students perceived San Agustin has better aquatic conditions and has low to moderate concern about environmental problems (e.g., the quality of drinking wells, solid waste disposal problems, illegal logging, fishing, etc.) Furthermore, this study showed that more than 50% of students have negative environmental attitudes, and awareness of their social and environmental responsibility and that they are unlikely to participate in coastal resource management activities.

Keywords: Aquatic Resources, Ecological Function, Environmental Attitudes, High School Students, San Agustin Romblon

JENIEL A. SANTOS

Abakatang Tea: Acceptability Level from Leaves of Abokado (Avocado), Bayabas (Guava), Kamalunggay (*Moringa oleifera*) and Tanglad (Lemongrass)

Jessabel Mangarin, Aprilyn Marin, Abel Molo, Rosemin F. Rabida* and Carmelinda M. Juanzo

Romblon State University-Cajidiocan

Tea is currently the most widely consumed beverage in the world and therefore ranks as an important world food product. In recent times, there is renewed interest in tea because of growing consumer awareness of health benefits derived from tea consumption. The main objective of this study is to determine the acceptability of ABAKATANG tea made from leaves of Abokado (Avocado), Bayabas (Guava), Kamalunggay (*Moringa oleifera*) and Tanglad (Lemongrass). This was conducted at Romblon State University-Cajidiocan Campus during the first semester of Academic Year 2021-2022. The aim of the study was to investigate the characteristics of the product in terms of color, odor, taste, texture, and consistency as well as its acceptability level. The researchers used One-Shot Case Study design wherein the two treatments were made by the researchers. The product has been presented to the respondents and the checklist of characteristics served as the instrument in gathering the data. The data gathered was carefully analyzed and interpreted through various statistical tools such as frequency count, weighted mean and analysis of variance (ANOVA I). From the data gathered, the researchers found out that product has a yellowish color, it tasted slightly bitter, smells like lemon, texture seems to be juicy, and has a washy-washy consistency. The researchers also concluded that the acceptability level of Abakatang tea made from leaves of avocado, kamalunggay, and tanglad is acceptable. Finally, researchers uphold that there is a significant difference on the acceptability level of Abakatang tea as to quality attributes of color, odor, taste, texture and consistency.

Keywords: ABAKATANG Tea, Avocado, Guava, Kamalunggay, Leaves

ROSEMIN F. RABIDA

Acceptability of Indian Mango-Based Processed Products: Basis for the Development of Indian Mango Preservation Manual

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RSU-College of Business and Accountancy

DOST-MIMAROPA established a Community-Based Facility for Indian and Carabao Mango Processing at Romblon State University. This study tested the acceptability of Indian mango jam, marmalade and chutney through its appearance, aroma, taste and texture. Completely Randomized Design (CRD) was used for comparative experiments. A Hedonic Scale to measure the acceptability of the three developed products was used. Results show that Indian Mango marmalade got the highest mean compare to other variables in terms of aroma (M=8.26; extremely acceptable), taste (M=8.29; extremely acceptable), texture (M=8.31; extremely acceptable) and appearance (M=8.40; extremely acceptable). On the other hand, only appearance got the highest overall average (M=8.26) which means extremely acceptable while the rest of the variables are very much acceptable (aroma=8.18; taste=8.06 and texture=8.11). This study revealed that the three Indian Mango products tested are very much acceptable (WM=8.15). These results suggest that the developed Indian Mango products can be marketed as the results revealed its level of acceptability.

Keywords: Acceptability, chutney, Indian mango, jam, marmalade

MC ANTHONY F. FRUELDA

Acceptability of Parrotfish Skin Crackling Enriched with Malunggay

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RSU-College of Business and Accountancy

This study used Parrotfish or "Scaridae" as cracklings enriched with malunggay. This study used experimental method to determine the acceptability of Parrotfish cracklings. There were 105 respondents selected using purposive sampling technique comprising of 30 housewives, 60 students and 15 teachers. The researcher used an instrument that answers the acceptability of the product in terms of color, aroma, appearance, taste and texture using hedonic scale. As to the most acceptable characteristics of parrotfish crackling enriched with malunggay based on nutritive value, aroma (3.57) and the crispiness (3.88) of the texture were very acceptable to the group of respondents while the brownish color (2.90) was acceptable. It was also found that the aroma, color, sour taste, crispiness, greasiness and the moist appearance were found statistically no significant difference with p-value of > 0.50 while the bitterness, saltiness, grittiness, chewiness, toughness and dryness were found to be statistically different with p-value of < 0.50. Moreover, results revealed that the most "very acceptable" characteristics of parrotfish crackling enriched with malunggay were aroma and the crispiness of the texture while the brownish color was "acceptable".

Keywords: acceptability, cracklings, malunggay extract, parrot fish

MARIANE S. FOJA

Antibacterial Potential of *Holothuria leucospilota*, Brandt 1835 Extracts from Carmen Bay, Romblon, Philippines

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Romblon State University-San Agustin

In this study, antibacterial activity of extracts from the skin, Polian vesicle, Cuveirian tubules and intestines of sea cucumber *Holothuria leucospilota* was evaluated against *Staphylococcus aureus* (Gram-positive bacteria) and *Escherichia coli* (Gram-negative bacteria). The antibacterial activity of sea cucumber *Holothuria leucospilota* extracts was evaluated by disc diffusion method. All treatments show inhibitory effects in both test microorganisms but Cuvierian tubules has no effect on *S. aureus*. Among the six treatments tested in *S. aureus*, skin has the highest zone of inhibition with an average of 23.25mm followed by intestine 14.75mm, positive control 10.25mm and Polian vesicle 9.00mm, respectively. Majority of the treatments were classified as bacteriostatic towards the test microorganisms. Based on the findings of this study, Gram-positive bacteria, *S. aureus* was more susceptible than Gram-negative bacteria, *E. coli*. Therefore, it was concluded that sea cucumber extracts especially *H. leucospilota* collected in Carmen Bay, Romblon, Philippines, exhibited antibacterial potential towards test bacteria. It might indeed be used in the pharmaceutical industry. The results of this study suggest that *H. leucospilota* is a potential source for discovering new antibiotics. It also suggests further investigations needed to be carried out to determine its potential application in other aspects of medicine. In addition, elucidation of the compounds responsible for the bioactive including identification, sufficient isolation and purifications and also the analysis of the antibacterial mode of action should be done for natural drug development in the future.

Keywords: Antibacterial activity, Aqueous extract, Holothuria leucospilota, S. aureus, E. coli

JERIC B. GONZALEZ

Antibacterial Activity of Lagnub (*Ficus septica* Burm) Crude Ethanolic Leaf Extract Against Chicken Liver Bacterial Isolates

Jonathan J. Palco
Southern Leyte State University - Maasin City Campus

The crude ethanolic leaf extract of *Ficus septica* was investigated for antibacterial activity against chicken liver bacterial isolates using agar slant method and antibacterial assay. The isolated bacterial colonies from the chicken liver are circular in form, raised, white and having an entire margin. Furthermore, the cells are Gram-negative, non-endospore forming without flagella but capsule producing. Further test is needed for the isolates to be identified in terms of its taxon. During the antibacterial assay, crude ethanolic leaf extracts of *Ficus septica* showed the least zone of inhibition compared to the positive and negative controls which are penicillin and 95% ethyl alcohol, respectively. Though other studies revealed that extract are effective on Gram-positive bacteria and some parasites and fungus, the recent study showed that they are not effective to Gram negative bacteria. The results of the study suggest for varying concentrations of the extract to get the optimum concentration that inhibits bacterial growth and other parts of the plant may be utilized to determine which has the most effective antibacterial activity.

Keywords: antibacterial activity, characterization, chicken liver, ethanolic leaf extract, isolates

JONATHAN J. PALCO

Antibacterial Potential of Different Red Seaweed (Rhodophyta) Extracts Against Ornamental Fish Pathogen *Salmonella arizonae*

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Romblon State University-Santa Maria

This study evaluated the antibacterial effects of different red seaweed (*Kappaphycus striatus, Eucheuma denticulatum, Hydropuntia edulis*) against *Salmonella arizonae* that caused disease in goldfish *Carassius auratus*. In vitro antibacterial susceptibility was determined using a standard disc diffusion assay. Further in vivo experiments were conducted on seaweeds with the highest zone of inhibition. Results showed that *K. striatus* had the highest zone of inhibition with 30.9 ±0.62 mm followed by *H. edulis* (29.6 ±1.61 mm), and *E. denticulatum* (27.6 ±0.51 mm). Promisingly, the antibacterial activity of seaweeds tested was comparable with that of cefixime, trimethoprim, and novobiocin and was significantly higher than the other seven antibiotics tested in this study. Moreover, the in vivo treatment of *K. striatus* to *S. arizonae* challenged *C. auratus* significantly decreased the mortality; the positive control group attained 100% mortality while the treated group had 40% mortality after 10 days of post-infection. This study showed the potential use of *K. striatus* to control *S. arizonae* infection in aquarium fishes.

Keywords: Antibacterial, Bioassay, Goldfish, *Salmonella arizonae*, Seaweeds

MARILYN M. GALAN

Antibacterial Potential of Aqueous Extract of *Sonneratia alba* from Pocket Mangrove Forest Romblon State University San Agustin Campus

Jeric B. Gonzalez* and Claudine M. Fronda
Romblon State University-San Agustin

Sonneratia alba plants parts (leaves, fruit, and bark) were investigated to evaluate the antibacterial activity against bacterial pathogens. The antibacterial activity of crude extracts of Mangrove Apple plant parts was evaluated by disc diffusion method. The leaves, fruit and bark of S. alba exhibited zone of inhibition both in Sta*phylococcus aureus* and *Escherichia coli*. Among the five treatments tested for *S. aureus*, fruits have the highest zone of inhibition. Meanwhile, the crude extracts from *S. alba* that were tested towards *E. coli*, fruits showed highest zone inhibition. Majority of the treatments were classified as bacteriostatic. Based on the result of the study Gram-positive bacteria, *S. aureus* was more susceptible than Gram-negative bacteria, *E. coli*. Therefore, it was concluded that Mangrove Apple extracts from pocket Mangrove Forest of RSU-San Agustin Campus, Cabolutan, San Agustin, Romblon, Philippines, exhibited antibacterial potential towards bacteria and can be used as traditional medicine of the locals and in the pharmaceutical industry. This study recommends the extraction of other organic solvents for other mangrove species and utilization of other test microorganisms. In addition, elucidation of the compounds responsible for the bioactivities including identification, sufficient isolation and purification, and also the analysis of antibacterial mode of action should be done for potential natural drug development in the future.

Keywords: Antibacterial activity, Bacteriostatic, *Escherichia coli, Staphylococcus aureus,* Susceptibility

JERIC B. GONZALEZ

Expression of Tlr2 to Hemorrhagic Septicemia Vaccination in Water Buffaloes (*Bubalus bubalis*)

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RSU-College of Agriculture, Fisheries and Forestry

A study that monitored the cell-mediated immune responses of water buffaloes to hemorrhagic septicemia (HS) vaccine was undertaken. The study involved collection of blood at different time interval post-vaccination (0 hour (h), 12 h, 24 h, 3 d, 2 wks, 1 month (mo), 2 mo and 3 mo). Blood samples were collected for RNA extraction and were utilized for the synthesis of complimentary DNA to facilitate amplification of target genes for Toll- like receptor 2 (TLR2) by PCR. TLR 2 serves as a parameter in the functional assessment of innate and adaptive immune responses to HS. The expression of the target gene was validated by Real-time Polymerase Chain Reaction (qPCR). The expression levels of TLR2 was determined at specified time intervals. Results indicated that TLR 2 was expressed at a latter period (day 3) sustaining its levels also for two weeks. This served as initial data to show the potential response in defining immunological response of water buffaloes to a vaccine against hemorrhagic septicemia.

Keywords: Vaccine, Hemorrhagic septicemia, Cell-mediated, Toll-like Receptor 2, Water buffaloes

SHERRYL HOPE S. GAMOL

Conservation Awareness and Practices of Local People at Mt. Romelo Watershed, Siniloan Laguna

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Research and Development Center, and College of Arts and Sciences, Laguna State Polytechnic University, Siniloan Campus

As a megadiverse country, the Philippines is also known as a hotspot for biodiversity, and several threats might cause its natural treasures to become extinct. One of these threats is the local population's knowledge and hostile attitudes toward wild animals which significantly influence conservation programs. Thus, the main purpose of this study was to assess wildlife awareness of 150 households living in the vicinity of Mt. Romelo Watershed, Siniloan Laguna. Survey questionnaires were utilized to gather data about the knowledge, attitudes, and perceptions in Philippine wildlife, laws, awareness of the wild animals thriving in their locality, and opinions on creating ecological tourist destinations. Descriptive Correlational Design revealed that the majority of the respondents are knowledgeable in Philippine Wildlife (92.72%-54.97%) habitat conservation (87.42%), and encounter them in the wild (77%), yet most of them were not well informed about the organizations and laws responsible in wildlife conservation (92.05%-72.19%; $p<0.001$). In addition, compared to Low-land locals, Up-land locals were more familiar with the wildlife in the locality (95%; $p=0.005$), which made them more afraid (95%; $p=0.002$), feel unsafe (96%; $p=0.001$), and held traditional beliefs (88.75%; $p=0.001$). Still, Up-land locals suggested to limit the number of tourists in the area for the benefit of the wild animals (93.75%; $p=0.004$) which implied their interest in protecting the local fauna. The results of this study is essential in developing effective management strategies in conservation of the local species, and raising public awareness of the Philippine Biodiversity through extensive educational programs.

Keywords: Biodiversity, Local People, Awareness, Wildlife, Conservation

MICHAEL H. GALAPON

Eco-Marxism: An Appropriation of Marx's Critique of Capitalism to Climate Change

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Notre Dame of Marbel University

In this paper, the researcher uses Marx's critique of capitalism and appropriate it in the disastrous impact of climate change in the global scale. First, by appropriating dialectical materialism, natural environment as raw material, is part of the means of production. Second, the alienation from nature also occurs wherein the natural environment is alienated from human beings thus treating nature only as a mere means of production and not as it sustains life. And lastly, capitalistic exploitation occurs through excessive extraction of raw materials in natural environment. The exploitation of natural environment destroys the natural environment causing ecological imbalance resulting to climate change. Exploitation happens when capitalism puts its hands in industrialization, owning the means of production, its primary goal is for profit-money. For instance, agricultural lands are transformed into cities of dead concretes. Soils are destroyed in the process of immoderate extracting of natural minerals or through mining. Trees are excessively logged to the production of lumbers and furniture. Hence, there is an excessive accumulation of natural resources or also called as raw materials in the production of material commodities. Also, the extreme pollution in air, land, and seas from manufacturing companies affect the destruction of nature. In hitherto situation, the humanity is facing climate change that has a great danger be in health, food production, economy, natural system, extinction, and the like. This paper is a great help for ecological preservation movements and arguments.

Keywords: Appropriation, Capitalism, Climate Change, Eco-Marxism, Natural Environment

JOSHUA P. BALDEVIESO

EDI

Engineering, Development and Innovation

FiDa: A Field Data App for Coastal Ecosystem Assessment

Preexcy B. Tupas
RSU-Institute of Information Technology

Mangroves are living diversity in a coastal area or ecosystem which serve as home for fish, can prevent coastal soil erosion and can help as protection against tsunami. Studying the expansion and diversity of mangroves may be a method for conserving existing and new species of mangroves. The teachers and students of RSU-San Andres Campus (Fisheries Department) are assessing mangrove diversity to know the different species of mangroves existing in the area and measuring their girth at breast height (GBH). In the current method of assessing the mangrove diversity, they are using a manual method, wherein they use a printed lay-out form and writing the related data on it. This project will serve as a helping aid for the teachers and students of RSU-San Andres Campus (Fisheries Department) in assessing the mangrove diversity, instead of using a printed layout assessment form and inputting it manually to get the final result. Through this application, they will have their layout assessment form in their mobile devices that is more convenient, hand able and having a well- accurate result. FiDa had undergone testing to test the application's functionality, reliability, usability, efficiency, and portability. It was tested by IT faculty and students of RSU San Andres and Main Campus. The project had undergone evaluation to ensure the quality of the application. The evaluation tool that was used by the team was based on ISO 9126. There was a total of fifty-five (55) respondents divided into two (2) groups. The first group was the fifty (50) students while the second group was the five (5) teachers which have their own android phones. Based on the evaluation and analysis of the project, the FiDa application received acceptable results. Additionally, the objectives of the study were all met."

Keywords: Diversity, GBH, ISO 9126, Mangroves, Mangroves Diversity, Mobile Application

PREEXCY B. TUPAS

e-Rice: A Milled Rice Identifier and Quality Analyzer Mobile Application Using Watershed Segmentation

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Mindoro State University

In the Philippines, rice is one of the most important crops, not just because it is most of the Filipino's staple food but also because it provides income to many stakeholders on both the demand and supply sides. Rice grain quality is difficult to describe precisely, since quality preferences differ from country to country. This study aims to develop a mobile application that could identify the different varieties of rice and analyze the quality of rice based on its appearance features such as shape, size, and texture. An e-Rice mobile application could be deployed in any milled rice in Oriental Mindoro and could be used by anyone who has a smartphone with an internet connection. The researchers used an Agile and Watershed Segmentation by which they designed, tested, and reworked the mobile application when errors persisted until the system's objectives were finally achieved. The system was tested and evaluated by 100 respondents using ISO 25010 Software Evaluation, specifically the Agriculture students, the employees in AJMR Rice Mill, and the people of the community to which the system is related, composed primarily of farmers. Generally, the users/respondents rated the system as Very Acceptable among the different criteria set. The mobile application e-Rice could identify a variety of rice, which includes Dinorado. e-Rice could analyze the quality of the milled rice based on its appearance features, whether good or poor quality. The mobile application provides accurate information about milled rice and is efficient and capable of delivering the expected output by training a model. The internet connection must be stable to process the result in a short time. Users must submit a good image quality to get an accurate result and a dark background to extract the features of the milled rice. Future researchers must add categories in analyzing the quality of milled rice.

Keywords: e-rice,identifier, quality analyzer, segmentation,watershed

JOHN EDGAR S. ANTHONY

WarnMeApp: A Municipality of Victoria Oriental Mindoro Disaster Risk Reduction Management Mobile Application

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Mindoro State University

The development of mobile applications related to disaster communications has been revolutionized, making them accessible via digital applications on smartphones and tablets. The continued growth of disaster risk demonstrates that disaster preparedness for response should be further strengthened and ensured by incorporating response readiness disaster risk reduction. Many people lost their lives due to disasters and accidents because they have not been helped immediately and asking for help from the authorities cannot be done right away. Due to this reason, the developers create an application to disseminate information through preparedness tips which could be made when a disaster occurs. It also aims to give information about the location of the person who needs help through the mapping system incorporated in the mobile app and give notification when someone needs help. It was developed using a Prototyping Model and JAVA programming language. The application can run using smartphone with Android OS not later than version 5.0. The WarnMeApp disseminates information by providing the safety tips before, during and after a disaster occur. It also gives the estimated location of the user who need helps and gives the admin or the MDRRMO the exact details of the user. The project got an overall rating of 4.56 using ISO 25010 criteria. After testing the system, the application could be improved if it could be used even in offline setup. Also, the security on the information of the users may be enhanced and the admin side may report the emergency case to other authorities.

Keywords: disaster, location, mobile application, response, safety tips

JENNIE T. FERNANDO

Document Management System (DMS) for Office Documented Information Management Officer

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Romblon State University-Romblon

This study aims to design and develop a Document Management System (DMS) for Office Documented Information Management Officer at Romblon State University (RSU), Romblon Campus. RSU-Romblon Campus as one of the satellite campuses has been using a manual system for logging and filing the documents during the ISO compliance and some issues throughout the process need to be improved. The main objective of this study is to develop a web-based system intended for recording incoming and outgoing documents. This system will be used to warehouse the documents needed for the ISO certification, also tagging, editing, deleting, and printing are available. The waterfall model was used in the development of the system. PHP, and JavaScript were used as the programming language, while MySQL as the database management. In this paper, the parameters used for logging in the documents were based on the outgoing/incoming logbook for ISO. Furthermore, the results of this study show the (1) Design of a system that is accessible online by the Process Owners/Unit Coordinator, (2) A system that can file documents according to ISO standards, (3) A system that can transform the paper document into electronic form, (4) A system that enables the user to search a document for easy retrieval and present to the ISO auditors, and the (5) Acceptability result of the system using ISO 25010:2011, applying this system to RSU-Romblon Campus and other satellite campuses.

Keywords: Document Management System, ISO 9001-2015, ODIMO, Process Owners, QMS

JOY MARIZ M. MINDORO-MESANA

eMinSUfile: A Record Management and Document Tracking System

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Mindoro State University

This research paper developed a web-based system record management and document tracking, where it solves the problem and difficulties for the Mindoro State University employees when it comes to document transactions. The prototyping model was used in the development of the system, which provides a simple and step-by-step procedure. The system was tested and evaluated by 100 respondents composed of 2 Information Technology Instructors, 20 Employees, and 78 Information Technology students of Mindoro State University Main Campus. The system was rated based on the criteria ISO 25010 Quality Model. Proper selection of software was done in order to meet the recommended specification for the system. Based on the gathered data, the system provides a good functionality of the web-based system. The system could monitor the documents' transaction of the university and could lessen the problems and difficulties encountered by the employees of the Mindoro State University (MinSU) when it comes to document transactions.

Keywords: monitoring, records, prototyping model, tracking, web-based system

CHRISTINE A. LUZON-GERMAN

e-Balangay: A Cloud-Based Barangay Management and Attendance Monitoring System

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Mindoro State University

E-Balangay: A Cloud-Based Barangay Management and Attendance Monitoring System was developed to help the people in the barangay to make it easier, faster, and updated to the day-to-day activities and transactions in the barangay. 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. With this project, they would not use pen 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. The system was tested and evaluated by 100 respondents, composed of different people in Alcate, Victoria, Oriental Mindoro. The project was rated based on the following criteria based on 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 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, barangay management, attendance, monitoring system

JOHN EDGAR S. ANTHONY

e-Kaagapay for Mental Health: A MinSU Guidance and Counseling Appointment Web Application

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Mindoro State University

COVID-19 pandemic has changed the trajectory of society. The pandemic affects and changes human behavior, relationships, and lifestyles, as well as the economic, political, education, and cultural landscapes of societies all over the world. Mindoro State University uses blended learning, which has its own set of difficulties. Not all students have access to the necessary gadgets and resources; bad connectivity and financial aspects to sustain their needs to attend classes. The current circumstances caused by the pandemic causes students to endure mental and other health concerns. The purpose of this study was to assist Mindoro State University's counselling office in scheduling meetings with students who wished to talk to them about their concerns, as well as assisting them in contacting the people listed in the reports or consultation. To finish the system, the researchers conducted a systematic evaluation to gather user feedback and suggestions for system improvements using the ISO 25010 Quality Model. A total of 100 people were asked to assess the system. The application enables student to send an appointment and/or report about a fellow student with an issue or need a help. It provides chat messaging feature in the system wherein the students and the guidance office can have their conversation, and provides an easy approach for the guidance office to see student profiles. As a result, the researcher concludes that the system is very acceptable in all interpretations, demonstrating that the E-Kaagapay assists students in making appointments, directing reports or consultations to the guidance counsellor, and assisting them in dealing with their mental health during the pandemic.

Keywords: appointments, counselling, guidance, mental health, reports

CHRISTINE A. LUZON-GERMAN

Analysis, Design, and Development of the HEROES App

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Cagayan State University at Aparri

This project generally aimed to design, develop and implement a SMS-based help and support mobile application as an effective quick response mechanism to reach out and provide Aparrianos text-based or keyword-based access to various programs, projects and activities preferably along disaster response and delivery of basic services. Harnessing effective emergency-responsive operation, this project has been developed applying agile methodology. The HEROES App features a dashboard for allied frontline agencies that addresses quick response and emergency operations with close coordination with the municipal disaster risk and reduction office. The use of SMS technology provided access to legitimate users on making request or providing information to the Local Government Unit.

Keywords: agile, application, disaster management, mobile app, SMS

SAMUEL DAVE Y. MABBUN

Analysis, Design and Development of the EKSPERTO App

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Cagayan State University at Aparri

This research project generally aims to design, develop, and implement or utilize a multi-device-responsive web and/or service-on-demand mobile application named EKSPERTO, as a service-oriented or service providing middleware or platform for displaced workers or industry professionals in the locality and service requesting parties, individuals, as well as private or relevant government organizations. The researchers used the Design Science Research model in the Information System to capture the needs and requirements for the development of the Information Management with Decision Support System. The components of the EKSPERTO include the module for the portfolio of the registry of displaced workers and industry professionals, a module for the Request for Services (i.e. technical, home service, or virtual services), a recommender system module to provide clients options to select a service provider based on qualification or performances, management report for performances, delinquencies, as well as employability status , and a notification module for government agencies, LGU or CSU, and relevant agencies, workers and clients using a communication agent or SMS.

Keywords: application, design science research, service-on-demand, mobile application

ROWELL F. VIGGAYAN

Matimatikapp: An E-Learning Management System for Junior High School Mathematics Courses

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Mindoro State University

Computer technology has become a vital component of modern life. People worldwide are adopting technology to make certain chores easier to complete. In the government sector, technology has made a significant impact. Government entities, particularly barangay units, have reaped significant benefits from computer technology. MatimatikApp allows teachers to share engaging lessons and build a vibrant classroom community. It makes it easy for learners and instructors to connect—inside and outside of schools. Also, it saves time and paper and makes it easy to create classes, distribute assignments, communicate, and stay organized. The matimatikApp process was uploading the teacher's module and submitting the module to the student, and it also included the process of making activities and quizzes. Traditionally, the Good Shepherd Academy relied on online classes and manual checking students' modules. With this project, the teacher will quickly know the student who submitted the assignment and whose student had already answered the module with the use of their android phones or laptops. The most efficient way to address the challenges above is to use an IT-based solution. The system was evaluated by 100 respondents, including the ICT Department of Good Sheperd Academy and students. All in all, the system got a Very Acceptable rating from the respondents.

Keywords: MATIMATIKAPP, E-Learning, Mathematics, GSA, Junior High School

JOHN EDGAR S. ANTHONY

Alternative Native Chicken Egg Incubator: Design, Construction and Assessment

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Romblon State University-Cajidiocan

The principles of artificial egg incubation were established centuries ago. At that time, heat, moisture and air renewal of the incubation environment, as well as the egg turning, were already taken into consideration. This research aimed to design, construct and assess for alternative chicken egg incubator following a quasi-experimental research design. In particular, the single interrupted time-series design was utilized. Based from the result of the study, the overall temperature of the designed alternative native chicken egg incubator was 38.15˚C which is the ideal temperature for hatching a native chicken egg. Therefore the alternative incubator is very effective. The overall performance of the alternative native chicken egg incubator in terms of turning the eggs is strongly effective (M=4.75). Ventilation of the egg incubator is strongly effective (M=4.70). which means ventilation or the air controllability of the incubator can be easy to manipulate. The study shows that out of 10 sample that's been experimented for 21 days the result resulted in 100% hatchability rate which means that the alternative incubator was strongly effective as an alternative incubator for native chicken eggs.

Keywords: Alternative, Egg, Incubator, Native Chicken

FLORO M. DE LA CRUZ

Development of a Small Capacity Coconut Charcoal-Fired Peanut Roasting Machine and Evaluation Using Smartphone-Based Colorimeter Application

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RSU-College of Engineering and Technology

This study was conducted to design and develop a small capacity coconut charcoal-fired peanut roasting machine and to determine the relationship of the roasting chamber temperature to the output peanut product using linear regression analysis and correlation. The components of the designed and developed 2-kg capacity peanut roasting machine are the frame, the heating chamber, the roasting chamber, the furnace, and the driving mechanism. The roasting machine has dimension of 480 mm x 330 mm x 380 mm. The furnace can accommodate at least 1 kilogram of coconut charcoal. A low speed 50-watt motor rotating of 50 rpm was used to drive the roasting chamber at the speed of 18 rpm. Using Smartphone based colorimeter application, the Maillard browning reaction due to roasting were determined using the CIE L* ideal roasting color measurement. The result of the analysis revealed that as the roasting time increases, the roasting chamber temperature also increases at a rate of 1.320 while the CIE L* decreases at a rate of 1.170. Pearson r analysis revealed that the temperature in the chamber and the CIE L* shares a strong but negative correlation where r = 94.71% and significant at p = 0.0073. Moreover, when the trends of the chamber temperature and CIE L* were plotted, the intersection can be observed at 21.8 minutes which means that the rate of increase in the chamber temperature and rate in decrease in CIE L* value is optimal at roasting chamber temperature of 134oC.

Keywords: colorimeter application, heating chamber, Maillard browning reaction, peanut roaster, roasting chamber

ENGR. ORLEY G. FADRIQUEL

Design, Development, Test, and Market Validation of Marble Spool Insulator

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RSU-College of Engineering and Technology

Spool insulators made of either porcelain or polymer are widely used insulating electrical component in secondary electrical wires and are all imported from countries like China. For the Philippines to locally produce its own, focus must be on fabrication using indigenous materials like marble as an alternative. Thus, this study aimed to design, develop, test, and determine the market for marble spool insulators. Three (3) different marble materials based on color were used and designed using the ANSI 53-2 standard. The prepared marble spool insulators were electrically tested using impulse flashover voltage test while physical properties like wettability and abrasion resistance were also determined, and the market for the spool insulators was estimated based on the available data from the Philippines Statistics Authority (PSA) on yearly approved constructions in the country. Impulse flashover test results revealed that all marble spool insulators have high electrical resistance to voltages up to 30kV while the contact angle test to determine wettability revealed that marble spool insulators are more hydrophobic ($\theta \geq 60°$) than the porcelain spool insulator ($\theta = 0°$). Moreover, abrasion loss on the porcelain material is 4.85% greater than marble suggesting that marble is more durable than porcelain. Lastly, the potential market for the marble spool insulator is growing since the construction industry is increasing at a positive rate which is a good indication for commercialization though more in-dept market research is still needed to be able to compete with the commercial porcelain spool insulator in the market.

Keywords: secondary line insulator, marble, spool insulator

MARK LAWRENCE G. ICAL

Design and Implementation of Arduino-Based and Solar-powered Drip Irrigation System

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RSU-College of Engineering and Technology

Water plays a vital role in our daily lives. The potential lack of water in the future is possible so the proper utilization of water starting in this era is very significant. As of now, agricultural industries utilize the highest percentage of water withdrawal at the global level. Farmers irrigate the crops without knowing what plants are needed which causes water to run off and evaporate. Therefore, knowing the specific water requirement of the plants is very essential before irrigating them. In this study, an automated and solar-powered drip irrigation system was developed and implemented. The research study selected loose-leaf lettuce (Letuca Sativa L.) as a test crop planted in the 6m x 18m greenhouse divided into 3 plots. Every plot was divided into 4 blocks with 24 lettuce seedlings planted in each block. It consists of 12 blocks where half was irrigated using the conventional method and the other half was irrigated using the developed automated drip irrigation. A draw lottery method is applied in selecting the area where conventional and automated drip methods are located to compare the water savings effectively. The Development of the Automation system is based on the conventional method in a period of irrigation but in terms of water quantity it is based on the moisture content sensor where the sensor settings are based on the recommended water requirement of lettuce and the sensor was calibrated based on the standard moisture meter. A drip emitter was used in this study since this technology provides less water run-off. This development also uses solar energy and the calculation of solar PV size was conducted. Industrial-grade materials were used in preparation for the actual field application. Finally, this study revealed that this technology could save up to 75% of water without affecting the growth and yield of plants.

Keywords: Arduino, Automation, Drip Irrigation, Drip emitter, Solar-powered

DR. ALFREDO F. FORTU JR.

Nano Zeolite-Silica Composite: A Potential Innovative Technology as Soil Conditioner for Aquaculture

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Romblon State University - Santa Fe/San Jose

This study focused on the synthesis of biochar from rice hull (bottom ash) to pure nanochar (nano silica); intercalation of commercial zeolite; characterization of nano zeolitesilica composite; and to compare the biochar with commercial zeolite and nano zeolitesilica composite at different levels as soil conditioner for aquaculture in terms of total nitrogen, available phosphorus, available potassium, pH, and organic matter in one month (duration period). In this study, four treatments replicated thrice using Completely Randomized Design (CRD) were considered: T1 (control), T2 (30 g of biochar with 30 g of commercial zeolite), T3 (30 g of nano zeolite with 300 mg of nano silica), and T4 (60 g of nano zeolite with 600 mg of nano silica) using 1 m length with 3 inches diameter width PVC pipes as experimental unit. The synthesis biochar became completely alkali-free and turned into pure nano silica, while intercalated commercial zeolite became nano zeolite. The characterization showed that nano zeolite-silica composite was amorphous using XRD and had component of silica on the EDS and FTIR, respectively. Thus, nano silica had 24.64 nm while nano zeolite had 8.26±7.24 nm in diameter size using Image J and SEM and can be used as treatment in the study. Results of the study revealed that application of biochar, commercial zeolite, and nano zeolite-silica composite have a potential to condition soil quality in terms of nitrogen, phosphorus, potassium, pH, and organic matter, respectively.

Keywords: Aquaculture, Biochar, Nano Zeolite-Silica, Soil Conditioner, Soil Quality

RANDY M. GALLANO

Utilization and Evaluation of Mango (*Mangifera indica*) Starch and Snake Plant (*Sansevieria trifasciata*) Fibers as Bioplastic Using Glycerin as Plasticizer

Garry Vanz V. Blancia
RSU-College of Education

Climate change has been considered as one of the global major problems, where improper disposal of non-biodegradable plastic is seen to be one of the causes. The revolutionary life science concept of eradicating the use of petroleum-based products into starch-based plastic was seen as solution to the pressing issue. Starch is a cheap and widely available natural resource that makes an excellent biodegradable plastic product. The aim of this research is to determine the potential of mango seed starch *(Mangifera indica*) and snake plant (*Sansevieria trifasciata*) fibers as bioplastic fillers and glycerin concentration as plasticizer on thickness, water uptake, heat resistance, density, and tensile strength. Prepared samples in the laboratory have three treatments and a control group containing different measurements of the materials. The average thickness of the bioplastics is 0.001m, while the average heat resistance is 96.7 ˚C. Tests also revealed that the water uptake is 33.3%, whereas the average density of bioplastic was 1.19 g/cm^3. The maximum tensile strength of the bioplastics was at 1.24 MPa. Test results based on evaluation revealed a comparable characteristic when compared to other bioplastics in the market. Test of difference among treatments in terms of tensile strength showed significance at 96% level of confidence. It was seen that the incorporation of natural fibers from snake plants show moderate improvement in the tensile properties of the composites. Further investigation of the hybridization of proposed starch and snake plant fibers materials with other biomaterials is another scope to consider.

Keywords: Mango starch, snake plant fibers, bioplastic, glycerin, plasticizer

GARRY VANZ V. BLANCIA

Garlic Candy: A Product Development Research

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Batangas State University- Balayan

Almost 55% of the total population suffer from cholesterol issues and 35% of it died with hypertension. Multiple meta-analyses revealed that garlic helps decrease blood pressure, and pressure-lowering impact is physiologically feasible. Garlic contains active sulfur compounds that proves to influence endothelium-relaxing and -constricting factors, resulting lower blood pressure. The study aims to formulate garlic candy in terms of ingredients, proportions, resources, and equipment. The main ingredient for this study was garlic known for lowering the high blood pressure. Other ingredients are milk, sugar, flour and artificial color to improve its appearance. The researchers perform three trials and error basis to determined which aspect of the output seeks improvement. By that they recorded the proper formulation for the garlic candy which based on the following; (1) aroma, (2) taste, (3) appearance and (4) texture. Since it is pandemic, the researchers also considered the cheapest but quality materials to be used. They also think for the alternative materials to be used in making the candy. After that, they look for a good quality raw material that is affordable and available in the market instead of buying garlic per piece they bought the garlic in kilo so that the consumption of money will be lessen Using a developmental research, the result of the study has been recorded the following; the output has the percentage of 3.02 in terms of aroma, 3.30 in terms of taste, 3.12 in terms of appearance, 3.18 in terms of texture. The respondents find the appearance of the garlic candy acceptable because it has the bite size and the color yellow, violet and green which indicates delicious taste for them. The texture of the garlic candy was smooth, mouth melted and fine. It is accordingly to the evaluation of the evaluators.

Keywords: candy, aroma, taste, appearance, texture, formula appearance, aroma, candy, taste, texture,

DR. JOCELYN C. BANAYBANAY

Enhancing the Fuel Level Monitoring of a Manual Sounding Diesel Fuel Storage Tank at SUWECO-Tablas Energy Corporation

Virne B. Dalisay
RSU-College of Engineering and Technology

This research aimed to improve the manual fuel level monitoring practice at the SUWECO Tablas Energy Corporation (STEC) for diesel storage tanks by developing an automated fuel level monitoring system. The implementation of the sensor-based fuel monitoring technique enhanced the existing or manual fuel monitoring practice, which is prone to errors, laborious, and may endanger personnel safety. The automated fuel monitoring system utilized an ultrasonic sensor interfaced with a microcontroller and could be remotely displayed on the LCD screen and through mobile phones. Based on the statistical analysis of the study using the paired T-test, the automated fuel monitoring was comparable to the reading output of the manual sounding method. Notable advantages of the sensor-based technique were that it created a more productive and safe work environment for the people who were working hard for the company; monitoring became easy, systematic, and accurate. Meanwhile, the ACU receiver performed moderately well in the response sensitivity test (5.5 seconds), whereas the GSM communicates with the receiver at a highly sensitive response time (2.1 seconds). The ACU receiver and GSM perfectly (100%) responded to the communications conveyed by the ACU transmitter during the reliability test. The results show that sensor-based fuel monitoring can save 15% in elapsed time or a 22.22% reduction in effort time to complete a specific process or task completely and successfully compared to the manual sounding method. Therefore, using the automated system as an alternative method for fuel level monitoring at the STEC power plant is an advantage.

Keywords: automated fuel monitoring, remote diesel tank monitoring, SMS-based fuel monitoring, sensor-based fuel level monitoring, STEC alternative fuel monitoring

ENGR. VIRNE B. DALISAY

Incorporating Marble Particles to Activated Carbon/Polyurethane (AC/PU) Composite as an Electrode Material for Capacitive Deionization (CDI) Desalination of Low-saline Water

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RSU-College of Engineering and Technology

Capacitive deionization (CDI) is receiving increased attention as an environment-friendly, efficient, and low-cost solution to desalinate water. This study incorporated marble particles to activated carbon/polyurethane (AC/PU) composite as a novel electrode material for CDI desalination of low-saline water. The synthesized AC/PU/Marble was characterized in terms of hydrophilicity using contact angle measurement, electrical conductivity using four-terminal (4T) sensing, morphological and elemental composition using SEM-EDS. Different levels of AC/PU/Marble-based CDIs utilizing simulated saline solution at different concentrations (ppm) were constructed and tested in terms of adsorption rates, total amount of adsorbed/desorbed, and energy consumption. Results show that the synthesized AC/PU/Marble is slightly hydrophilic having a contact angle of no greater than 60° while the electrical conductivity increases with respect to the amount of marble particles in the composite matrix. SEM images of the composite material shows distinct features of both AC and marble particles while elemental analysis indicates that the marble particles consist mostly of magnesium (Mg) as opposed to Calcium (Ca) suggesting that it is Dolomite ($CaMg(CO3)2$) instead of Calcite ($CaCO3$). Moreover, the AC/PU/Marble-based (high marble) CDI was able to reduce 66.82% of the salt at 5.45 ppm/sec rate and 46.25% at 1.93 ppm/sec using 1000 ppm and 500 ppm saline, and it absorbed/desorbed the highest amount of salt during tests. Energy consumption was negligible as the current is infinitesimally small. The study has successfully synthesized and incorporated marble particles for the first time in a carbon/polymer composite and determined its performance as electrode material for CDI desalination of low-saline water.

Keywords: Capacitive desalination, Composite electrode, Desalination, Low-saline water, Marble particles

MARK LAWRENCE G. ICAL

Classification of Romblon (the Philippines) Marble using Deep Learning Approach

Marvin Rick G. Forcado
RSU-Institute of Information Technology

Quality inspection and assessment are critical components of creating high-quality products in a shorter time. Applying artificial intelligence, image processing, deep learning techniques, and algorithms to the marble classification is a positive development in the stone/marble industry because marble can be noted as one of the most exported stones to other countries used in building ornaments and figurines. Manual classification is inefficient, prone to mistake, and depends on professional expertise, and classifications differ. This article summarizes recent research on the classification of natural stones, marbles, and tiles using different approaches and techniques in image processing, machine learning, and deep learning. It focuses on the methods applied for image preprocessing, feature extraction, model development, model testing, and model evaluation to provide an impression on the current condition of technology involved in marble classification. It also discusses the different algorithms applied by researchers. Finally, the author discussed the various gaps in the conclusion part of this paper.

Keywords: Image Processing, Machine Learning, Deep Learning, Marble Classification

MARVIN RICK G. FORCADO

NatPro LabPro: Development and Evaluation of Innovative Laboratory Package in Science (ILPS)

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Memorial State University and West Visayas State University

Challenges in teaching science necessitate innovation – developing new methods and materials to ensure the best learning experiences for students. The study aimed to develop and evaluate the innovative laboratory package in science (ILPS) intended for science investigatory/capstone projects in natural product screening. The study adopted the developmental research design and followed the ASSURE model of instructional system design, which is anchored in constructivist theory. The study revealed that the least common laboratory analyses/tests used by students and teachers in conducting science investigatory/capstone projects in natural products were basic pharmacological-toxicological, antioxidant, and cytotoxic assays of plant extract, respectively. The availability of laboratory materials and financial support were moderately challenging for participants. Laboratory analysts validated the ILPS as outstanding, and STEM teachers' evaluation of the ILPS in content, structure, coherence, learning activities, usefulness, general appearance and organization, and innovativeness is outstanding. For the teachers' experience in using the ILPS, the following themes were gleaned from their responses: (a) a new, meaningful, and engaging experience; (b) learning opportunities that promote critical thinking and a scientific attitude; (c) easy and flexible experiments; (d) practical tasks that equip students with new scientific skills; and (e) cost-effective instructional innovation. The ILPS has the potential to facilitate science investigatory/capstone projects and develop students' and teachers' research expertise in plant screening. Curricularists may use the study's findings to create innovative learning resources and prioritize curriculum innovations.

Keywords: innovation, laboratory package, natural products, science investigatory/capstone project

RICKY B. ACANTO

Design and Development of Real Time Health Monitoring Device for Isolated CoVid-19 Patients using Raspberry Pi

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RSU-Institute of Information Technology

The physical condition of a patient is monitored by medical practitioners through the patient's vital signs to ensure that they are in stable condition. During the Covid-19 pandemic, physical interaction between patients and doctors has been minimized to reduce the spreading of the coronavirus. Because of this, medical front liners were forced to work longer hours than their usual duty in the hospital which increases the possibility of a human error in monitoring patients' vitals. The objective of this study is to create a device that will help medical front liners monitor their patient's vital signs remotely through the use of Raspberry Pi 3 and a GSM module. Specifically, this study aims to read the patient's blood oxygen level, pulse rate, and body temperature. In the result of creating the device, using User Acceptance Testing (UAT), weighted five (5) in terms of functionality, 3.4 in accuracy, 4.87 in reliability, and a total mean score of 4.42 which proved the usefulness of the device to solve the objective of the study.

Keywords: COVID19, infrared thermometer, pulse oximeter, raspberry pi, vital signs

ENGR. DAYNE N. FRADEJAS

Development of a Time-based Computer Software for Monitoring and Maintaining Multiple Diesel Generating Units

Alvin D. Brecia* and Mark Lawrence G. Ical
RSU-College of Engineering and Technology

Monitoring and maintaining multiple generator units in a diesel power plant is a challenge and commonly causes information complexity to workers resulting in forgotten maintenance schedules. This study aimed to address this issue through the use of a computer software-based monitoring and maintenance system. The software was developed to monitor each generating unit components running hours (RH) and to display these in real-time while having the function to notify the operator through an alarm system, perform employee and activity management, and generate system reports. The software was tested based on its functionality per test case, system reliability by obtaining reliability coefficient per hour, and evaluated using an evaluation tool in form of questionnaires. Result shows that the software's main functions and modules were all functional with 95.12% reliability and the use of the software based on the evaluation tool is 4.62/5 functional, 4.56/5 reliable, 4.38/5 usable, and 4.81/5 effective. The study has successfully developed a functional time-based computer software monitoring and maintenance system for multiple diesel generator units.

Keywords: computerized maintenance management system (CMMS), diesel power plant, planned maintenance schedules (PMS) running hours, (RH)

ENGR. ALVIN D. BRECIA

In-Situ Synthesis of Bare Silver Nanoparticles on Paper and Its Response to Cu (II) Ions

Shaira Mae D. Valero*, Glenn Rose M. Suelan, Precious B. Babar, Josie Faith N. Calvo & Francis Eric P. Almaquer

University of the Philippines-Visayas

The study synthesized bare silver nanoparticles on paper and evaluated its response to Cu(II) ions to asses its potential as colorimetric sensing platform. The nanoparticles were synthesized in-situ on paper using silver nitrate and sodium borohydride as precursor and reducing agent, respectively. No stabilizer or functionalizing agent was added. A two-factor three-level full factorial design with varying concentration of reagents was employed in the synthesis process. The resulting sensor was successfully characterized using diffuse reflectance spectroscopy and scanning electron microscopy with elemental dispersive x-ray spectroscopy. The sensor was exposed to varying Cu(II) concentrations ranging from 1 to 30 mM and the developed color were analyzed using a computer imaging software. The changes in color were quantified using mean gray values from the imaging software. Based on the results, as the concentration of Cu(II) ions increased, the final mean gray value of the paper increased as well. The papers were observed to marginally lighten in color potentially due to the decreased in silver atoms or its interaction with copper. The relationship between Cu(II) concentration and the ratio of final and initial mean gray value was determined and although a weak linear relation existed from 1 to 30 mM, a positive slope supported the increase in mean gray value within the range tested. The changes in the elemental composition of the sensor due to exposure to Cu(II) ions were studied. Finally, the response of the sensor towards other metal ions was compared to that of Cu(II) in a selectivity study.

Keywords: Copper; in-situ; paper-based; sensor; silver nanoparticles

ENGR. SHAIRA MAE D. VALERO

Site Suitability Assessment for Building Rainwater Harvesting System In Mexico, Pampanga Using GIS Approach

Jerome G. Gacu*, Jiemyra Jan S. Aguila, Tricia Joyce B. Bruno, Melissa Mae L. Buenafe, Andrea Y. Guevarra, Ariel G. Pabalate, Ricca Vee R. Pagibita and Jennalyn E. Reyes

RSU-College of Engineering and Technology

Climate change has been a significant problem in the Philippines' agricultural sector for years. Climate change and limited irrigation hinder higher yields and income, especially for small-scale farmers. This problem affects provinces that rely on agriculture as their primary source of income and includes the Municipality of Mexico, Pampanga, one of the leading suppliers of unmilled rice in Central Luzon. Rainwater harvesting can serve as an alternative water source for irrigation during the dry season. It can help mitigate the flooding of crops during the rainy season while storing enough water for irrigation. One factor that needs to be considered in building a rainwater harvesting system (RWHS) is finding a suitable location. The study identified suitable areas for building RWHS in Mexico, Pampanga using a geographic information system (GIS) and Analytic Hierarchy Process (AHP). The parameters for mapping and evaluating appropriate sites are rainfall, land use, soil type, and slope. A pairwise comparison technique consulted by experts and end-users determined the parameters' weights. The representation maps of each parameter were layered to produce a suitability map using ArcGIS software. With the help of the suitability map, the researchers distinguish whether the area is suitable, moderately suitable, or unsuitable. Researchers conclude that some parts of Sapang Maisac, Tangle, Qulubasa, Adi, Anao, Pangatlan, San Jose Malina, San Vicente, and San Rafael are suitable. Moderately suitable areas, such as Cawayan, Buenavista, Pandacaqui, and other areas, satisfy some criteria. Sites not meeting the set of parameters and those near built-up areas such as schools and hospitals were identified as unsuitable.

Keywords: AHP, GIS, irrigation, land catchment, rainwater harvesting

JEROME A. GACU

Preliminary Energy Audit of a State University Old Building

Jay T. Oliveros
RSU-College of Engineering and Technology

Energy conservation is significant in both the rising energy demand and shortage in the future. At this point, different techniques and methods are used in energy conservation and one of these is an energy audit. This study aimed to conduct a preliminary energy audit of a state university old building, specifically to determine the present level of efficiency in energy utilization in terms of lighting loads, air-conditioning unit (ACUs), motor and non-motor loads and also it aimed to determine the possible areas where energy conservation measures and recommendations for energy efficiency improvement. Results show and the researcher concluded that the areas of possible conservation can be applied to the lighting loads and ACUs that utilized 16.52% and 61.6% of the total energy consumption of the buildings respectively, and electrical systems and equipment found improperly maintained and inefficiently operated. The potential annual savings for lighting loads and ACUs if the recommended energy-efficient measures can be implemented has a total of Php16,787.64 (equivalent to Php1,925.16 kW-hr per year), and Php18,748.80 respectively. Furthermore, the results of this study can provide public awareness regarding energy conservation that can contribute mainly to the improvement of the energy efficiency of one organization and reduce energy waste caused by unnecessary use of energy.

Keywords: Energy audit, energy management, energy utilization, energy consumption, energy efficiency, energy reduction, energy-efficient measures (EEMs), Romblon State University

ENGR. JAY T. OLIVEROS

Replacing Desktop PC with a Mini-PC for an Improved Energy Efficiency: An Analysis of Power Demand Trend and User Interaction

Mark Lawrence G. Ical
RSU-College of Engineering and Techonology

Consumer electronics particularly desktop computers are becoming one of the largest consuming plug loads as buildings become more energy efficient. This study aimed to provide an in-dept analysis on the use of a Mini-PC to replace Desktop PCs for improved energy efficiency. A bottom-up approach was used to determine the power demand of a mini PC using Intel N5105 and commonly used intel-based Desktop PCs specifically i3-3220, i3-10100, i5-3470, i5-7400, i7-4790, and i7-7700 while performing a series of different automated workloads simulating user interaction using the PCMark 10 Software. Results show that the power demand trend of each processor are greatly affected by the level of workload with older generation of processors showing heightened power demands in graphics intensive applications. Newer generation of intel processors like the one in the mini PC performed better than older intel processors particularly the i3-3220 and i5-3470. If the Mini PC replaced the desktop PCs using i3-3220, i3-10100, i5-3470, i5-7400, i7-4790, and i7-7700 power consumption at idle can be reduced by 70%, 71.43%, 70%, 62.5%, 71.4286%, and 50%, respectively and 62.77%, 70.28%, 69.13%, 59.37%, 79.03%, and 59.86%, respectively on average power. Moreover, PCMark 10 score revealed that the intel N5105 is responsive and performed better than intel i3-3220 and intel i5-3470 whereas it scored well on essential workloads while running at the lowest power consumption among all tested PCs. Efficiency of the mini PC is highest of all Desktop PCs tested and it showed improved efficiency over the desktop processors as high as 260%.

Keywords: computer, energy efficiency, Intel Celeron, MELs, PCMark10, power demand

MARK LAWRENCE G. ICAL

Impact Evaluation of Mechanized Tiger Grass Postharvest Technology in Banton, Romblon using General Systems Theory Model

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RSU-College of Engineering and Technology

This impact evaluation of the mechanized tiger grass (Thysanolaena maxima) postharvest technology in Banton, Romblon focused on 1) participants' characteristics, social functions, physico-economic profile, and technology advocacy; 2) machine characterization in terms of gender and development, technological aspect, institutional and socio-economic impacts; and 3) machine's areas for improvement. Using sequential purposive sampling, data from stakeholders were gathered and analyzed. Focused group discussion was done to validate the feedbacks and gather recommendations. Findings revealed that most participants were females, above 31 years old, high school graduates, with families of 5-8 members. Both fathers, mothers and youths/children were involved in "Masikap Farmers Association". For about five years, they participated in tiger grass industry as farm owners, farmers, laborers, processors and broom makers earning less than 5,000 pesos monthly. They supported adoption of mechanization technology and attended related trainings. The characteristics of the machine satisfactorily met gender and development requirements, technological aspects, institutional impact as well as socio-economic impact to people organization. Enhancement of the design and specification of the cleaner unit is recommended to increase output. A portable pedal-operated type of the device may be designed for the same purpose. Similar researches can be conducted to include more stakeholders in the province.

Keywords: Gender and development, Impact evaluation, Post-harvest technology, Tiger grass pollen-remover machine

DR. ESTER L. FORLALES

EXTENSION

RIPROCS Program: Riparian Restoration Program to Promote Climate Change Resilient Communities and Sustainable Water in CALSANAG Watershed Forest Reserve in Tablas Island, Romblon, Philippines

Amelyn A. Formilleza
RSU-College of Agriculture, Fisheries and Forestry

This extension initiative known as the RIPROCS program is a community-based approach that aims to conserve, manage, and protect riparian ecosystems that promote climate change-resilient communities and sustainable water resources. Phase one started in November 2020, and used a variety of strategies to educate locals across CALSANAG municipalities from nursery management, and establishment to propagation methods, including workshops, lecture series, informal group discussions, and hands-on activities. After the training, participants are more environmentally conscious, engaged in data collection and monitoring activities, and generally supportive of reducing threats to watershed and riparian zones. The field-based activities (i.e. establishing a nursery, growing seedlings, and planting) provide excellent opportunities for peer-to-peer learning. Preliminary results indicate that 93% of participants from three adjoining municipalities participated in the two (2) series of training and various onsite activities. One community-managed nursery was established per municipality, producing quality planting materials for riparian ecological restoration. About 60% of the planting materials used in the establishment and re-planting of field trial plots in restoration studies are from seedlings raised by the community. This ongoing extension program is making incremental progress in promoting conservation practices. Sharing knowledge and developing skills through a non-formal education approach with the locals is one of the practical tools in conserving, and managing natural resources and restoration practices. Ultimately, the goal is to make the inhabitants of Tablas Island conscientious stewards of the wide spectrum of natural resources, including water, wildlife, and forests.

Keywords: capacity building, conservation, nursery, riparian restoration, stewards

AMELYN A. FORMILLEZA

Extension Training on Bokashi Fertilizer Production

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Bicol University Gubat Campus

The increasing cost of chemical fertilizer in the market urges the local farmers to formulate and develop an alternative source of nutrient for their crops. One of which is the use organic fertilizer, however the conventional production of organic fertilizer is tedious and time consuming. Thus, the extension unit of one of the campuses of a university in the Bicol, introduced the concept of Bokashi fertilizer through an extension training. Bokashi is a fermented organic fertilizer that is rich in nutrients that are essential for plant growth and development. Studies have also shown that it can be used as feed additives to tilapia and swine. The training aimed at capacitating farmers on bokashi fertilizer production. It was divided into theoretical and practical activities where the farmer-participants performed the production process. A pretest and post were given, and result suggests that there is an increased percentage (26%) of knowledge among the participants. To date, the farmer-participants are preparing to adopt the said technology and a Memorandum of Agreement (MOA) has been inked and an application to DOLE as farmers' organization has been submitted and approved. Finally, using the BUEMD evaluation tool, both the resource speakers (4.75) and the training evaluation (4.73) received an outstanding remark. Development and formulation of Bokashi using locally available materials, a record of ROI and IRR and impact assessment is recommended. This paper presents the result of the training, its implementation process, and its output.

Keywords: Bokashi, Extension, farmer-participants, organic fertilizer, training

DEMETRIO E. CASTILLO

Food and 2Ps (Food Processing and Preservation) Projects

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Romblon State University-Calatrava

Most residents of the Municipality of Calatrava, Romblon need a stable source of livelihood. The fact that farmers' income generated from agricultural products is affected by destructive typhoons, people are looking for other means of augmenting their source of living. The extension project "Food and 2Ps: Food Processing and Preservation Projects" envisioned to provide entrepreneurial technology that will promote development of sustainable livelihood projects for the selected farmer beneficiaries, and find an enduring solution to poverty. It was conducted from April 2021 to April 2022. A total of 90 farmer beneficiaries were chosen for the trainings. After profiling the beneficiaries, development and validation of recipe book and testing, trainings on food preservation and food processing of local fruits, specifically young coconuts, Indian mango, kamias, tamarind and catmon were conducted. Experts from the Department of Trade and Industry conducted the seminars and monitored and evaluated the products. It was observed that farmer beneficiaries enthusiastically welcomed trainings like Project 2Ps as it provides them with a possible source of income. It is recommended that more trainings like these be provided to help alleviate poverty. At present, some of the beneficiaries are making and selling their own jams like Cocojam and Camias jam. To ensure the sustainability of this project, plans to help them in marketing their marketing products are in pipe.

Keywords: Extension, Food, Preservation, Processing, Project

DR. LEILA R. FABELLA

e-Tugdaan: An Advanced ICT Literacy and Training Program for the Katutubong Mindoreño Schools of Victoria District

John Edgar S. Anthony
Mindoro State University

The Mindoro State University Extension Unit is committed to extending services to the changing needs of communities. This Unit also provides an opportunity for faculty and students to demonstrate their commitment to sharing their expertise in their respective fields with our partner communities and organizations. To bring technology to the people, the Bachelor of Science in Information Technology department of the College of Computer Studies (CCS)-MinSU Main Campus continuously offers a Literacy Program and Training for students, teachers, and barangay officials to heighten their technological knowhow for the community development. With the vision of promoting literacy and training among the teachers who require ICT literacy and training, the Information Technology Department conducted a research survey to the Indegiuos People School teachers of Sigkuran Mangyan School, Tadyawan Mangyan School, and Kisloyan Minority School entitled "ICT Skills of Selected Elementary Teachers in IP Schools of Victoria District: Basis For ICT Literacy Training Program," will conduct an ICT Literacy Training Program to the Advanced ICT Skill category specifically Producing Graphics and Animation (e.g., Adobe Photoshop), Producing multimedia using authoring tools (e.g., KineMaster, VivaVideo, TikTok), Troubleshooting Skills and Basic Programming Skills. The survey results showed that the teachers are at a High Skill Level in the Basic ICT Skills and Internet Information and Communication Access ICT Skill categories. It is also revealed that the teachers are Low Skills Level in the Advanced ICT Skill category, specifically Producing Graphics and Animation (e.g., Adobe Photoshop), Producing multimedia using authoring tools (e.g., KineMaster, VivaVideo, TikTok), Troubleshooting Skills, and Programming Skills. The training helps the teachers be equipped with the necessary technological and advanced ICT skills to improve their teaching capabilities and prepare them for online classes if it materializes shortly. The beneficiaries of this literacy are teachers of the selected Mangyan schools in the municipality of Victoria. The participants were exposed to tutorial lessons, exercises, and hands-on activities to learn theoretical concepts and apply their skills in using computer and software applications.

Keywords: Etugdaan, Mangyan, ICT Literacy, Victoria, MinSU

JOHN EDGAR S. ANTHONY

Passport to PISAY Project: Component 1: Review Sessions for the 2018 Philippine Science High School National Competitive Examination

Eddie G. Fetalvero, Ph.D., Emelyn R. Villanueva, Ph.D., Eden F. Fadallan, Ruth Mary P. Fallesgon*, Sharon M. Galicha, Dana Kaye F. Fabiala, and Pearl Joy G. Mendoza
RSU-College of Education

In an analysis of the 2015 PSHS NCE results in MIMAROPA Region, it was found out that the region's examinees' performance was below the national mean, the poorest of which is in science and the closest to the national mean are in abstract reasoning and mathematics. The College of Education of Romblon State University is very much burdened of this unsatisfactory performance. Thus, this extension project was born. It is a collaborative project of the college , Philippine Science High School MIMAROPA Region Campus and the Department of Education – Odiongan South Central Elementary School that aims to help elementary pupils from Romblon improve their capability to pass the PISAY National Competitive Examination. This component is a 40-hour review session spanned across five days. The participants experienced how to answer NCE like items across four components that are assessed by the competitive exam: abstract reasoning, verbal ability, quantitative ability and scientific ability. It also included item rationalization from topnotch reviewers where they explained why a certain choice is the correct answer. Tips in taking the examination were also given. The last day was a simulation of the PSHS NCE test followed by item rationalization. An analysis of the Simulation Test estimated the odds of passing as follows: Principal Qualifiers (11) and Alternate Qualifiers (4). The estimate was very conservative. An evaluation sheet was accomplished by 113 participants which resulted in a total mean of 4.40 indicating a VERY SATISFACTORY conduct of the Review Sessions.

Keywords: abstract reasoning, quantitative ability, scientific ability, verbal ability, National Competitive Examination

RUTH MARY P. FALLESGON

Impact Assessment of College of Education's Eskwela sa Selda Extension Program, Romblon State University, Main Campus

Jun P. Dalisay, Fanny F. Arsenio, Elma F. Galiga, Jacquelyn Rose A. Fajilagutan, Pearl Joy G. Mendoza, Jewelle V. Olarte*, Charles Louie Villanueva, Mhel Ryan F. Flore and Garry Vanz V. Blancia

RSU-College of Education

Reaching out the marginalized group of individuals is one of the truest services to humanity. The College of Education, Romblon State University is never sensitive to this group of people especially those who are deprived of liberty. This study determines the impact of Eskwela sa Selda Extension Program. Specifically, it determined the profiles of the respondents; assessed the impacts of the different projects of the program in terms of knowledge, skills, attitudes and activities that contribute to uplift the lives of the respondents; determined the challenges encountered by the program implementers and gathered suggestions to improve the extension program from the respondents. The quantitative research design was used employing the descriptive survey method. Convenient sampling was used to choose the samples. The result reveals that majority of the PDLs are on their youthfulness however, they receive less education and ended up having no permanent jobs which also gave them less income. It was further found out that the different projects of Eskwela sa Selda gave high impact to the respondents. They reveal that ALS Review (Teach One, Each One) uplift their life's condition. More so, the program implementers encountered different challenges from planning phase to monitoring and evaluation phase. PDLs suggested that frequency of visit in jail be increased along with help in selling their products.

Keywords: impact assessment, PDL, eskwela sa selda

JEWELLE V. OLARTE

OM-SITE: A Public Schools Oriental Mindoro Sustainable Information Technology Education Training

John Edgar S. Anthony
Mindoro State University

The importance and usefulness of computer technology in our lives is something undeniable. Students in all levels of education in today's era are expected to be equipped with the necessary skills and competencies to process data and information generated by the modern world using computer technology as a medium. Technology seems very hard to understand for our public primary and secondary schools in rural areas, and they have not even encountered doing things using computers. That is why the College of Computer Studies extended its expertise to reach the Grade IV, V, and VI Pupils, Junior and Senior High School Students in Oriental Mindoro through a Computer Literacy Program. Most public schools, especially in rural areas, lack ICT equipment to facilitate and teach lessons related to ICT. With that, MinSU conducted Computer Literacy in the different public schools in Oriental Mindoro. Through this program, the students became equipped with substantial knowledge of basic computer operations and concepts; be given a variety of hands-on activities which helped them recall, review and master the concepts and develop and improve their skills in basic office applications and apply the relevant operational functions of each software application into practice. Findings showed that participants are confident enough to use computers because of their eagerness to learn. Some factors influence their attitude, and it was proven that they helped them gain positive outcomes in learning basic computer literacy.

Keywords: OMSITE, MinSU, Oriental Mindoro, IT Education, Training

JOHN EDGAR S. ANTHONY

Promoting the Culture of Research: A Community-Based Research Training Project for Elementary School Teachers in the Province of Bataan

Edlynne Fabian-Perona
Maritime Academy of Asia and the Pacific

Continuing professional development is a way to help teachers keep their skills and knowledge up to date and prepare them for greater responsibilities. It can boost confidence, strengthen professional credibility and enable a professional become more creative in tackling new challenges in their field of specialization. This research paper is an impact study where the researcher describes the experiences of the teacher-participants with the extension project on research training workshop. A validated interview guide was used to collect relevant data. Purposive sampling was used in the selection of participants due to participant availability. Following the semi-structured interview, the researchers analyzed the data using content analysis. The findings revealed that the participants faced challenges such as time and workload issues, internet connectivity issues, and research writing skills. The majority of participants, however, intend to finish their research papers, conduct similar research, and share their findings with their community. Others took advantage of the opportunity for professional growth. As a result, the researcher suggests that school heads and coordinators allocate time for teachers to focus on the research training workshop. Relevant training and applications of the advocacy of the "Learn. Earn and Return" may also be conducted to facilitate knowledge-sharing among participants and other members of the community.

Keywords: community-based training, continuing professional development, extension service, impact study, research training workshop,

EDLYNNE FABIAN-PERONA

Impact Assessment of College of Education's Adopt-A-School Extension Program, Romblon State University, Main Campus

Jun P. Dalisay, RGC, Ph.D., Fanny F. Arsenio, Nonito M. Blancia, Elma F. Galiga, Jacquelyn Rose A. Fajilagutan, Pearl Joy G. Mendoza*, Jewelle V. Olarte, Charles Louie Villanueva, Mhel Ryan F. Flores, and Garry Vanz V. Blancia

RSU-College of Education

This paper aimed to assess the impact of College of Education's extension program, Adopt-A-School, to the different stakeholders including students, parents, teachers, and program implementers. Specifically, this study was conducted to assess the impact of the following projects: feeding program to students' health and academic performance; edible landscaping to parents' knowledge, skills, and attitudes; and seminar-workshops to teachers' knowledge, skills, and attitudes. It addition, it also aimed to determine the challenges encountered by program implementers, and gather suggestions from the beneficiaries to improve the extension program. There were 30 student-respondents, 30 parent respondents, 41 teacher-respondents from Odiongan South Central Elementary School and 38 program implementers from the College of Education involved in this study. The quantitative design was used and the descriptive method was employed. The results showed that the feeding project gave a very high impact to the students' health and academic performance. The activities on edible landscaping also gave very high impact to the knowledge, skills and attitudes of the parents. Likewise, teachers' knowledge, skills and attitudes were improved because of the very high impact of the series of seminars conducted for them. Meanwhile, the program implementers identified sustainability of the program as one of the challenges faced by the extension program. Based on the results, the Adopt-A-School Program should be continued and be replicated to other schools that need it the most.

Keywords: Adopt-A-School, extension program, impact assessment

PEARL JOY G. MENDOZA

Proposed Community Extension Framework of a Private Higher Education in Batangas Province, Philippines

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Lemery Colleges, Inc.

The primary area of achievement that makes the community perceive the institution's presence is extension and community involvement. As students use their academic knowledge to solve real-world problems, there is a growing understanding of the impact of higher education on the teaching and learning process. This study identified that the projects, programs, and activities (PPAs) of Lemery Colleges in Batangas Province, Philippines, are only initiated by different organizations inside the school community through NSTP, student organizations, and teaching personnel initiatives. A face-to-face interview among school management, administrators, and key officials who are knowledgeable on the process of community extension of the institution, composed of school executive officials, past administrators, school principals, deans, department heads, program chairs, and even alumni, was performed with their responses recorded upon consent. Employing document analysis, observational methods, and focus group discussions, the study uncovered the current situation of the school's community engagement. In terms of issues and challenges faced by extensionists in the conduct of community extension, participants identified the lack of sustainability, limited source of funding, absence of a definite process or procedure, and limited number of partners and linkages. The researcher proposed a community extension framework that includes a flow chart for the conduct of activities and highlights the nine (9) thematic areas of the community extension program for the institution.

Keywords: community extension, extension framework, projects-programs-activities (PPAs), sustainability

HARREN JAMES S. BAUTISTA

SALM

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School Culture, Personal Values, and Work Commitment in the New Normal Setting among Senior High School Teachers Towards Work Enhancement

Johdel C. Cabaluna
Panpacific University

The study is focused on the school culture, personal values, and work commitment in the new normal setting among Senior High School Teachers towards work enhancement. It also aims to examine the prevailing school culture in the senior high schools in District II of Quezon City in the area of professional collaboration, affiliative collegiality, and self-determination. The survey shows that most of the respondents are female, more than 35 years of age, have earned units in their master's degree, and are permanent. The findings and implication show that there is no significant difference in the school culture, personal values, and work commitment among the respondents. This study employed descriptive research design which focuses on the description and nature of the demographic segment that occurs in certain phenomena. Hence, purposive sampling is utilized in the study because it was selective, judgmental and used subjective techniques for choosing the respondents of the study. A sampling method was non-probable specified for the representation of the samples. The study comprised 175 respondents only. The findings and implication show that there is no significant difference in the school culture, personal values, and work commitment when grouped according to the profile of the respondents, show that there is no significant relationship between school culture and personal values among the respondents, and show that there is no significant relationship between the school culture and the work commitment among the respondents.

Keywords: School culture, professional collaboration, affiliative collegiality, self-determination, personal values, self-interest, transformation, common good, work commitment, workplace behavior, willingness to work, and quality of work

DR. JOHDEL C. CABALUNA

Data Privacy Program of Binangonan II District: Bases for an Online Protection Policy

Jonnel P. Esquillo
Deped Rizal- Pipindan Elementary School

The rapid development of tools and resources presents both opportunities and challenges. In order to maximize the potential of technology in all settings, it is crucial that it is used in a sound way that corresponds to the individual needs of the people. The study determined the assessments of teachers in Binangonan II Public elementary Schools on the extent of implementation of the data privacy program. The results of the study may be used as bases for an online protection policy. Most teachers are in the late adult stage, none of whom are senior citizens. The training given to the teachers tends to be extremely varied. There is no single specialty. The teachers observe a good implementation in terms of learning management systems and online productivity platforms. Teachers are very well versed in using unofficial tools to enhance their work in the academe. This allows them to streamline the processes. Because digital work inherently poses a great amount of risk to the data of the users, teachers are well-trained in taking extreme care of personal data uploaded to an LMS or OPP. The educational institutions involved are also extremely careful and even sometimes employ professional information-technology technicians and professionals to help enhance the defenses they have in case of viruses or in case other people with malicious intentions send malware that would destroy, tamper with, or even leak sensitive data about the students and their family.

Keywords: Data Privacy Program, Learning Management System, Online platform, Online Protection Policy, Technology

DR. JONNEL P. ESQUILLO

Virtual Readiness of Romblon State University Campuses

Joemar F. Manzo
Romblon State University-Santa Maria Campus

The outbreak of Corona Virus in Wuhan China in 2019 brought a catastrophic in multiple dimensions of human aspect. These pandemic damages the developing countries' economic, political, social, and educational condition. In 188 countries, officially the government closed the schools and it affected 1.5 billion students comprising the 91% of the total learners globally. In the Philippines, in ensuring that there would be a continuity in learning, the Commission on Higher Education (CHED) enjoined higher education institutions to shift to flexible learning modality. It enforces colleges and universities in the countries to implement online classes and offline classes (modular). This survey research was conducted to assess the readiness of students and faculty members in the virtual learning modality. As a result, result shows that students and faculty members preferred face to face learning. Result also shows the high potential of conducting online classes. This paper can be used as basis for the implementation of limited face to face of the University.

Keywords: Virtual Modality, Flexible Learning, Modular Learning, Face to Face Learning

DR. JOEMAR F. MANZO

Predictability Analysis of Stressors Affecting the Job Performance of Secondary School Teachers in the District of Romblon

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Romblon State University-San Andres Campus

This study was conducted to determine the predictability analysis of stressors affecting the job performance of secondary school teachers in the District of Romblon. Specifically, this study aimed to describe the (a) profile of the respondents in terms of age, gender, civil status, educational attainment, number of teaching load, position and number of years in teaching; (b) the level of the perceived stressors of secondary school teachers in the District of Romblon in terms of: Job Demands, Working Environment, Relationship at Work, Learning Opportunities, Adaptation of Change in Workplace and Dissatisfaction of Benefits Received; (c) the level of job performance of the respondents based on their Individual Commitment Review Form (IPCRF); and to (d) determine the relationship between perceived stressors and the job performance of secondary school teachers; (e) to determine the effects of stressors affecting job performance in terms of Content Knowledge and Pedagogy, Learning Environment and Diversity of Learners, Curriculum and Planning, Assessment and Reporting, and Community Linkages and Professional Development. This study utilized descriptive – correlation method and used questionnaire in gathering data. A total of 127 public secondary school teachers were included in the study. The overall result showed that the perceived stressor adaptation to change is the best predictor of job performance in terms of learning environment and diversity, curriculum and planning, assessment and reporting, and community linkages and professional development. As for content knowledge and pedagogy, the best predictor is job demands. Based on the Pearson's r and regression analysis result a Teacher Stress Coping Intervention Program should be prepared focusing on addressing the perceived stressors relationship at work, adaptation to change, and dissatisfaction of benefits received.

Keywords: teacher's stress, teacher's performance, stressors

PROF. MARIO A. FETALVER JR.

Teachers' Characteristics, Perception, Competence and Performance in Flexible Teaching-Learning: Inputs for Instructional Management Plan

Arlene D. Talosa*, Billy S. Javier and Estela L. Dirain
Cagayan State University-Aparri

Responsive to the shift of the teaching and learning environment from physical to digital, the study looked into the perception, ability competence and performance effectiveness of faculty members both tenured and non-tenured. The study which employed a descriptive-correlational design found that teachers' have high knowledge perception of the nature and characteristics of flexible teaching and learning and are generally exhibiting very high level of competence. Of the four dimensions of ability competency, the teachers are highly competent on course communication and time management and are moderately high on course design and technical competence. For every 10 teachers, eight of them are outstanding performers as per student assessments of teaching effectiveness. Result of the correlation analysis revealed that young teachers who are still new in the teaching service tend to showcase outstanding teaching performance than counterparts. The study proposed instructional plan to sustain strengths and conduct support mechanisms to address needs of teachers responsive to better implementation of blended teaching-learning delivery system.

Keywords: Perception, Competence, Performance, Flexible Teaching and Learning, Instructional Management Plan

DR. ARLENE T. TALOSA

Management Action and Performance of Public Elementary Schools

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West Visayas State University, Pototan Campus, Barangay Cau-ayan, Pototan, Iloilo

This survey-correlational study aimed to ascertain relationships among management action and organizational performance of public elementary schools in Barotac Nuevo, Philippines. Further, it ascertained which among the elements of management action predicted organizational performance. Respondents of the study include 24 administrators and 168 teachers as respondents with the latter selected through stratified random sampling. Two data gathering instruments were used: (1) Management Action Questionnaire, to measure the level of respondents' management action; and (2) OPCRF, a standardized instrument used by DepEd in measuring school performance. For descriptive statistics, frequency counts, percentage analyses, means, and standard deviations were employed, while for inferential statistics, t-test for independent samples, standard multiple regression, and Pearson's r were utilized. Results revealed that when respondents were taken as a whole and classified according to position, their level of management action in terms of decision making style was high in rational/collegial or high in autocratic/ political decision making style, high in problem solving, exceptionally good in human relations, and exceptionally good in communication. Meanwhile, organizational performance was very satisfactory. When classified according to position, their level of management action in terms of decision making differ significantly; while their management action in terms of problem solving, human relations, and communications did not differ significantly. Further, organizational performance did not differ significantly. The variable management action (decision making) was a significant predictor of organizational performance.

Keywords: management action, performance, education, elementary, Iloilo

DR. PAUL RAMSEY C. BELENCION

Impact Evaluation of Teacher-Training Extension Program in Higher Education: A Qualitative Assessment Approach

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Bicol University Center for Policy Studies and Development

While the teacher training program is one of the prominent extension modalities in Higher Education Institutions, a closer look at the literature has revealed several gaps in evaluating the long-term impacts of training programs. The present study addressed limitations related to the absence of baseline data and evaluation framework by using Kirkpatrick's four levels of evaluation to assess a teacher training extension program at a university in the Bicol region, Philippines. Findings suggest that the teacher training was successfully implemented at the reaction level but failed to assess changes in learning and behavior after the training was conducted. However, the results level was measured using the Qualitative Impact Assessment Protocol (QuIP). Causal statements from the QuIP revealed positive changes during the evaluation period but without explicit reference to the training program from the key informants. Based on the evaluation results, lessons learned were documented along with the training extension program's timing, duration, and monitoring. Consequently, the study recommended the appraisal of existing practices and extension policies on teacher training programs and other similar undertakings with evaluability criteria and standards.

Keywords: Evaluability; Kirkpatrick model; lesson learning; qualitative assessment; training extension program

CHERRYLYN P. LABAYO

A Study on the Teachers' Level of Knowledge, Awareness, and Attitude towards their Rights and Privileges: Its Influence on their Organizational Commitment

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Romblon State University-Romblon

The accomplishments of an institution's goals and objectives are affected mainly by the employees' organizational commitment. While a plethora of literature examines the antecedent of organizational commitment, studies on educational settings remain to be limited. This study explored the level of organizational commitment of the teachers in the Romblon District and its relation to various variables such as knowledge and awareness of rights and privileges and attitude towards implementing these rights and privileges. In particular, the research covered the teachers' knowledge of their rights as stipulated in the following laws: Magna Carta for Public School Teachers, the Education Act of 1982, Article 14 of the Philippine Constitution, and the Code of Ethics for Professional Teachers. On the other hand, organizational commitment focuses on three dimensions: affective, continuance, and normative. The significant relationship between the teachers' awareness and attitude towards their rights and their organizational commitment was likewise examined. An examination of the data using statistical tools such as median and spearman rho revealed the following findings. The teachers' high level of commitment is not dependent on their level of knowledge but is linked to their level of awareness. Moreover, attitude towards implementing their rights and privileges is a driving force towards high-level organizational commitment.

Keywords: attitude, organizational commitment, privileges, rights

DR. AMARANTH M. WONG

Distance Learning Modalities of Political Science Students in the New Normal

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RSU-Graduate Education and Professional Studies

This study was conducted to determine the distance learning modalities of the political science students in the new normal education. The study employed the descriptive method and used questionnaire in data gathering. The statistical tools used to analyze data were weighted mean, percentage, and ranking. Based on the findings, the study conclude that the learning modalities experienced by poliltical science students were online, modular, and blended. Among the modalities majority of them preferred modular approach while the least preferred is online modality. Respondents' reasons in preferring modular learning was they are given sufficient time to finish the module while the least preferred is online modality because of unstable internet. The coping mechanism of respondents to address the problem on different distance modalities were the support of their family, friends and loved ones throughout their study.

Keywords: Blended, Distance Learning Modalities, Modular, New Normal Education, Online

DR. EDNA M. SIXON

Assessment of Readiness of the Municipal Agricultural Offices in District 2, Albay, the Philippines to the Mandanas-Garcia Supreme Court Ruling

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Bicol University

This study examined the readiness of the municipal agriculture offices (MAOs) in the second legislative district of Albay in the Bicol Region, Philippines in providing agriculture and fisheries extension services (AFES) as the result of the full devolution of certain functions of the executive branch to local governments ruled by the Mandanas-Garcia Supreme Court Ruling. This study employed a qualitative approach using primary and secondary data. The results revealed that MAOs lacked the human resources to deliver devolved programs, projects, and activities (PPAs) for the farmers and fisherfolks. The delivery of agricultural services lies primarily in the governance of concerned local government unit (LGU) officials and technical staff. Further, the MAOs' budget allotment has not been fully utilized for the past few years, which has raised concerns about the use of additional financial resources. Farmers and fisherfolks, on the other hand, cited opportunities for capacity building as a consequence of the future increase in the allocated budget for LGUs. Given the gaps in human absorptive capacity, this study recommends hiring more technical staff for MAOs and providing the necessary capacity-building support to improve the implementation capacity and service delivery of AFES. Membership in existing farmer organizations should be encouraged to increase participation among farmers. Create new farmer organizations if necessary. This will strengthen the farmer's capacity to demand accountability by participating in budgeting and expenditure processes and monitoring agriculture and fisheries extension services.

Keywords: Agricultural extension services, farmers, full devolution, local government unit

EMMANUEL M. PREÑA

Opportunities of Social Services to Governance and Development: The case of LGU Prieto Diaz, Sorsogon, Philippines

Noemi Lobrigo-Ibo
Bicol University

Participation is one of the principles in governance. The study made use of mixed methods in gathering the data. The key informants are the Local Chief Executive (LCE), head of the agencies and Bantay Dagat volunteers. The findings revealed that the PNP and the BFP in Prieto Diaz, Sorsogon are occupying a fair physical structure facility, which were constructed and designed in accordance with the PNP and BFP standards, these offices house the officers and gentlemen responsible for the safety and security of the people of Prieto Diaz, Sorsogon. Small in number, the PNP and BFP had motivated and encouraged sizeable Barangay officials to join them in the patrol both in the land and sea areas of the municipality. Collaboration among BJMP, BFP and Bantay Dagat volunteers resulted to a secured community more so, during COVID 19 pandemic. With the convergence of the protective services, the opportunity to serve and protect the LGU of Prieto Diaz, Sorsogon is manifested. The display of participation by the protective service agencies pave the way for a strong/bigger opportunity to governance to LGU Prieto Diaz, Sorsogon, despite the lack of some logistical and human resources. The study recommends to populate and equip the BJMP as it is a vital component of protective services, a state-of-the-art equipment and facilities for the three agencies and inclusive participation of the constituents.

Keywords: Development, Governance, Opportunities, Participation, Protective Service

DR. NOEMI LOBRIGO-IBO

Food Security through Participatory Intervention: Descriptive Qualitative Evidence from Metro Manila

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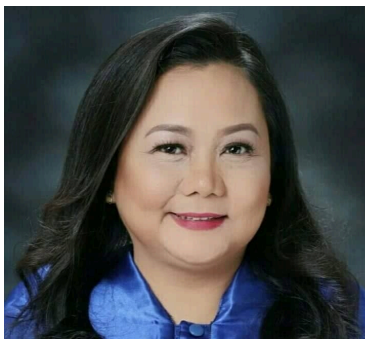
RSU-College of Arts and Sciences

Food security is one of the world's top concerns. Food availability and access is one of its pillars. By evaluating the performance of the National Food Authority (NFA) in Metro Manila, the study argues that participatory intervention is the key toward an improved food security program. Qualitative data were gathered from the local or the Local Institutional Ensembles (LIEs) and state's agency officials. Nine themes were drawn based from the qualitative data gathered, these are as follows: 1. budget; 2. procurement; 3. rice trading; 4. production; 5. NFA program; 6. concerned national government agencies; 7. national leadership; 8. consultation and local formations; 9. Externalities. The findings about participatory intervention critically delineate the fusion between governmentality and state regulation approaches to promote a more effective food security program.

Keywords: food security, rice policy, state regulation, governmentality, non- government actors



DR. MARIEL M. GAGARIN

Measuring Poverty, Evaluating Health Dynamics, and Promoting Economic Development of Indigenous People in Southern Luzon Philippines: Evidence from Econometric Modeling

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Partido Institute of Economics and College of Business and Management, Partido State University, Bicol Region

This paper examines the critical aspect of health dynamics in the context of poverty and economic development of Indigenous people (Agta Isarog & Agta Tabangnon) in Mt. Isarog, Southern Luzon, Philippines. The study utilized primary data through focus group discussions and key informant interviews, and secondary data through the Community-Based Monitoring System (CBMS) of Goa Municipality, complemented by IP Censuses. Poverty econometric modeling was applied and causal-explanatory research design was utilized. To begin, the core poverty indicators were analyzed in aggregated and disaggregated approaches in terms of health and nutrition, housing and water sanitation, education, livelihood and income, and peace and order. The poverty of 12 indigenous people locality differs yet a large portion of the entire households are living below the poverty and food thresholds. In addition, the poverty incidence (86.02%), gap (19.48%), and severity (8.37%) using headcount ratios, gap metrics, squared gap statistics, and watts indices (23.32%) were evaluated. It has been revealed that the poverty of Indigenous people is moderate to intense. Abucayan is the poorest and Salog is the least poor locality. 7,223 out of 8,022 (90.04%) indigenous people are poor. It then subsequently characterized the variables of health dynamics which vary per locality, and have been impacting poverty across all barangays. To confirm whether health dynamics predict poverty occurrences, 13 logistic models were estimated. Results confirm that health dynamics significantly predict poverty outcomes (Estat 86.14%). Finally, 54 policy recommendations through policy mapping and program targeting were outlined to alleviate poverty and promote economic development.

Keywords: Community-based Monitoring System, Economic Development, Health Dynamics, Indigenous people, Poverty

EMMANUEL A. ONSAY

Management Effectiveness and Capacity Assessment of Mount Guiting-Guiting Natural Park in Sibuyan Island, Romblon, Philippines

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Romblon State University-Santa Maria Campus

Mount Guiting – Guiting Natural Park (MMGP), located in Sibuyan Island, is recorded as one of the richest biodiversity in the world in terms of flora and fauna density, diversity, and endemism. Some species can only be found in the island and nowhere else in the planet. The greater and lesser Sibuyan forest mice, the Sibuyan giant moss mouse, the Sibuyan pygmy fruit bat, the Sibuyan striped shrew rat, and various plants are among them. The Park is home to the Philippine tube-nosed bat and the Philippine hawk-eagle, both endangered and vulnerable. The management board was found to have very effective management and assessed some indications of a low rating or just effective such as the inconsistencies of the Forest Land Use Plan with the MGGNP Protected Area Management Plan and the Provincial Development Plan. The Protected Area Management Board was assessed to have the capacity to manage and protect the MGGNP, but there were indications that the management has encountered some problems as to the number of staff and other resources such as the budget for the implementation of their work plan. There were also indications of the low resolutions of apprehended violations on forest protection and the full implementation of education and awareness programs. Researchers found out that fire, including arson and kaingin, mining, and timber poaching or wood harvesting for charcoal production and furniture has some negative impact on the MGGNP.

Keywords: Management Capacity, Management Effectiveness, Natural Park, Protected Area, Threat

DR. JOEMAR F. MANZO

Voting Preferences in Local Elections: Basis for Information Drive Campaign

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RSU-Graduate Education and Professional Studies

The study was conducted during the fiscal year 2021 to 2022 in Odiongan, Romblon. A total of 242 household respondents served as sample. Descriptive survey method was used to assess voters' level of knowledge about the importance of local elections, their reasons for voting in local elections, and their preferences in the selection of candidates. The researchers used the questionnaire in gathering the data and were analyzed using frequency, percentage, and ranking. The study found out that voters give much importance to local elections. Selecting the best leaders is the majority reasons of respondents in voting during election, and the top reasons of their voting preferences are candidates who knows the existing problems of their barangay and give immediate actions or solutions to the problems.

Keywords: Choice of Candidates, Information Drive Campaign, Level of knowledge, Local election, Voting Preferences

DR. EDNA M. SIXON

Crime Prevention, Intervention and Suppression Programs in Odiongan, Romblon: Baseline for Improved Approaches

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RSU-Institute of Criminal Justice Education

In the broadest sense, current crime prevention measures can be separated into law enforcement (policing, attorney office operations, courts, and penal facilities), developmental, community, and situational crime prevention. This research is all about the crime suppression strategies being implemented by the local police station in the barangay level. The respondents of this researcher were the police officers and barangay officials of 25 barangay. The municipality of Odiongan is not new to crime prevention, their LGU pledge to maintain and control in the public arena, suppress and manage crime, they also authorize punishment for criminal activities, and offer rehabilitation. Being the municipality in the province that has the highest crime rate, Odiongan seeks solution to counter this kind of problem. This study utilized the descriptive type of research and find out what possible intervention can be devised to help the law enforcement and barangay peacekeeping bodies in maintaining low crime rate and to improve existing crime prevention strategies in Odiongan, Romblon. This study also recommends a program to enhance the capability of barangay officials in addressing minor disputes and equip them with ample and essential knowledge in terms of crime prevention.

Keywords: Crime prevention strategies, Police Community Relation, Barangay Peacekeeping Operation, Police Visibility, Odiongan crime rate

JAREM M. MANAGO

Natural Hazards Awareness and Disaster Risk Reduction Practices: Basis for Designing a School Disaster Management Plan

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Batangas State University, The National Engineering University, JPLPC Malvar, Batangas

The undertaking determined the awareness on natural hazards and assessed the risk reduction practices in terms of prevention and mitigation, preparedness, response and rehabilitation and recovery of Batangas State University Malvar with an end view of proposing a school disaster management plan. Using the researcher-made questionnaire to gather the data, this study revealed that the respondents were extremely aware of natural hazards and risk reduction is practiced. Further, the developed school disaster management plans were found to be acceptable across all variables. Considering the results, it was recommended that the school administrator may conduct regular orientation of programs, seminars, trainings and workshops regarding environmental issues to strengthen the awareness on natural hazard and their disastrous impact. School administrators are also encouraged to periodically review and update the school disaster management plan in collaboration with the different agencies for continuous improvement and to strengthen the risk reduction practices. In addition, school administrators may engage stakeholder in planning, monitoring and evaluation through drills and simulations to make them more involved in disaster preparedness and emergency situation and organize activities regarding first aid to be led by trained or licensed personnel. The aforementioned activities may be given emphasis by the concerned authorities for maximum implementation.

Keywords: Natural hazards; risk reduction practices; school disaster management plan

RACHELLE M. QUINCO

Community Awareness on Preparation Towards Natural Disaster in the Municipality of Odiongan

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RSU-Institute of Criminal Justice Education

It is important to instill the knowledge of preparation, preventive, and mitigation issues. Being prepared involves developing, practicing, and communicating disaster plans with the public and other parties. This study evaluated the level of awareness in terms of prevention, mitigation, and preparation as well as the problem of natural disasters as evaluated by 386 participants from the selected barangays in Odiongan, Romblon. The mean and analysis of variance were used in the statistical treatment of the results. According to the study's findings, the majority for respondents were fully aware of the provided assessment indicators for prevention, preparation, and mitigation. The study's findings indicate the level of awareness for natural disasters. It was evident that, among the indicators, disaster prevention had the highest variables in awareness, followed by preparation and then mitigation, but the respondents' assessments of their level of awareness were consistent overall. The results of this study unequivocally demonstrate that the community's awareness is based on the crucial elements and successful operation of the concerned agency.

Keywords: Disaster and Risk Reduction Management, Odiongan Disaster Management, Awareness on Natural Disaster, Community Preparation on Natural Disaster, Mitigation on Natural Disasters

MARY ANN M. GALLOS

Does Eco-Innovation Affect Sustainable Performance?: The Case of MSMEs in Odiongan, Romblon

Ellaine Joy G. Eusebio
RSU-College of Business and Accountancy

MSMEs, particularly those in the foodservice sector, are critical to addressing environmental challenges. Eco-innovation has been demonstrated to be environmentally friendly, socially beneficial, and an economic growth driver. The purpose of this study was to see if the four eco-innovation dimensions (eco-process, eco-product, eco-organizational, and eco-marketing) have a positive influence on MSMEs' long-term performance measurements (economic, social, and environmental). Using a stratified random sampling technique, the 89 respondents were drawn from MSMEs in the Quick Service Restaurant sector in Odiongan, Romblon. Multiple linear regressions were used to evaluate the hypotheses. Eco-organizational and eco-marketing innovations boost MSMEs' economic performance, whereas eco-process innovation improves environmental and social performance. Conclusions and recommendations were presented.

Keywords: Environmental Innovation, Economic Performance, Environmental Performance, Social Performance

ELLAINE JOY G. EUSEBIO

Evaluating Tourism Supply and Competitiveness of San Jose, Camarines Sur towards Developing Local Tourism Plan

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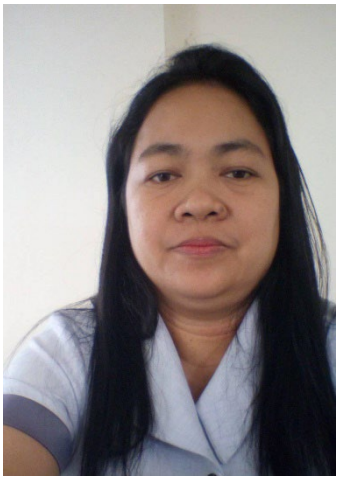
Partido State University

This paper focuses on evaluating tourism supply and competitiveness of the municipality of San Jose, Camarines Sur through Community Based Participatory Action Research (CBPAR) approach using the Tourism Rapid Assessment (TRA) tool. This strategy is used to generate new concepts that are competitive in delivering tourism and hospitality services. The value of evaluating the supply of tourism services in line with accommodation services, the structures and locations of potential tourism, accessibility, facilities and amenities contributes in the formulation of local tourism plan in the area, hence, this study. In gathering of primary data, the survey questionnaire and worksheet were utilized while interview and ocular visit were used for validation. For the secondary data, the researchers used available resources such as published articles, reports from various offices and other related studies. In analyzing the data collected, the descriptive statistics was adopted. The result revealed that San Jose has an adequate tourism supply for tourism development in terms of natural values, geological formations, cultural and historical sites, beaches and accommodation facilities. It was also noted in the growing agri-tourism sites in the locality. However, due to pandemic, there was a sudden change in the operation where the issues and challenges cropped up, thus, competitiveness in every tourism destination was at stake, hence, needs enhancement to deliver quality and competitive service. Likewise, the need to strengthen the policies and guidelines on tourism development will help improve the destination's competitiveness, hence, it is highly recommended in developing the local tourism plan.

Keywords: Supply, Competitiveness, Local Tourism Plan, competitiveness, local, plan, supply, tourism



DR. JOSSIE B. ROMERO

Consumer Choice on Korean Restaurant

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Batangas State University, TNEU JPLPC Malvar Campus

The study was conducted to determine the Consumer Choice on Korean restaurant. Respondents across sex, age, educational attainment, occupation, monthly income/allowance and religion assessed the Consumer Choice on Korean restaurant in terms of Korean cuisine, service quality, marketing communication and cultural learning. This study also determines if there is significant difference between the profile of the respondents and their assessment when grouped according to their profile. The researchers used the descriptive method of research which focused on the Consumer Choice on Korean restaurants. The study was composed of 100 respondents from different Korean restaurant in Tagaytay City. The statistical tools utilized were Frequency and Percentage, Weighted mean and Composite mean and Analysis of Variance (ANOVA) and T-test. The study revealed that majority of the respondents who dine in Korean restaurants were from ages 18-39 young adult, female, college graduate, student has an income of Php10, 000 and below and Roman Catholic. The customers in five selected Korean restaurants in Tagaytay City considered cuisine, service quality, marketing communication and cultural learning as highly chosen revealed by the grand mean scores of 3.69, 3.63, 3.62 and 3.58 respectively. Furthermore, the researchers conclude that there is no significant difference between the consumers' choice on Korean restaurant when they are grouped according to age, educational attainment, occupation, monthly income and religion. On the other hand, when the same test was conducted on the data considering the sex of the respondents the result goes the other way around revealing a significant difference between the consumers' choice and the sex of the customers. Based on the findings of the study, the researchers proposed strategies to Korean restaurants to sustain the attractiveness of it to Filipino customers.

Keywords: consumer choice, cultural learning, marketing communication, service quality

LAURICE E. TOLENTINO

Post-pandemic Tourism Behavior of Domestic Tourists in the Philippines: A Generational Analysis

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Partido State University

The purpose of this study is to analyze the generational differences and similarities in travel behavior to domestic tourist destinations before and after the pandemic. It also investigates the factors that influence the likelihood that they will travel after the pandemic. The study employed a quantitative method following a causal-comparative design. The study collected 1,516 responses from local tourists in the Philippines and used Chi-square and ANOVA tests to identify statistically significant generational differences. In addition, ordinal logistic regression was used to examine the factors that influence the likelihood of travel after the pandemic. This study looked at four generations: baby boomers, generation X, generation Y, and generation Z, and found significant differences in information source preferences, pre-pandemic destination visit history, likelihood of post-pandemic travel, destination evaluation criteria, and travel activity preferences. Tourism practitioners are presented with timely insights based on empirical research that led to a better understanding of the developing behavior of visitors before and after the pandemic.

Keywords: COVID-19 pandemic; Generational theory; Post-pandemic; Tourism consumption system; Tourism recovery policy; Tourist behavior; Travel and tourism

CALYD T. CERIO

Marble Industry in the Time of Covid19 Pandemic: A Rapid Assessment of the Impact of the Pandemic among the Marble Businesses in the Municipality of Romblon

Jonathan P. Wong*, Amaranth M. Wong, Jerson M. Mores and Erpie Christ Montojo

Romblon State University-Romblon

Creating a strategic action plan and sustaining excellent financial performance to keep a business afloat is one of the most challenging aspects of operating a company. The manner business owners manage their companies determines their success. However, the company is unlikely to succeed if the risk of financial failure is increased due to an unexpected pandemic. As a core economy in the municipality of Romblon, the marble industry has been impacted by the pandemic; thus, a rapid assessment study was carried out. Responses were received from 22 industry owners, which included the crushing, quarrying, cutting, lathe, and marble shop industries using online and actual interviews. Because of the situation, which caused enterprises to be disrupted suddenly, a non-standard sample approach had to be used. The responses, while highly informative, are not based on a random or representative sample, and financial aspects are only based on estimation. This rapid assessment of the impact of the pandemic showed the extent of the damage caused, ranging from total closure to loss of jobs and income for both owners and the municipality in general. Specific measures are recommended to help the marble industry recover depending on the type of business and capital.

Keywords: Covid19 Pandemic, Impact Assessment Marble Industry

DR. JONATHAN P. WONG

Customers' Perception vs. Waiters' Practices on Persuasion Skill: Basis for Increasing Sales of Selected Casual Dining Restaurants in Odiongan, Romblon

Khrisna F. Vicente, Ruth F. Vicente*, Gina V. Mapalad, Janine M. Faminial, Sisa F. Formento, Olga Eledia and Mc Anthony F. Fruelda

RSU- College of Business and Accountancy

Persuasion is an important skill in sales and marketing. People working in the hospitality industry shall have this generic skill to upsell their products and services. This study aimed to determine the customers' perception on how waiters exhibit persuasion skill in terms of customer service, effective communication and enthusiasm versus on how waiters' practicing their persuasion skill. Results show that most of the customers are female, college graduate, single and ages from 17-25. While most of the waiters were female, college graduate, single, ages from 26-32 years old and have been working in the restaurant from 1-5 years. Both respondents agreed that effective communication (waiter, M=3.36; customer, M=3.34) was the least effective in persuading. Moreover, waiters gave a higher rate on practicing persuasion skill compared to the customers' perception as being persuaded. It also found out that there is no significant relationship between profile of the respondents and their perception on persuasion skill of waiters. Lastly, results show that there is significant difference in the perceptions of waiter and customers on how the waiter persuade in terms of customer service and enthusiasm. Persuasion is a skill that can influence others in making decision. This can be useful in upselling and increase sales.

Keywords: communication, customer service, enthusiasm, persuasion skill, practices

RUTH F. VICENTE

Operations Management of Income Generating Projects (IGPs) of Romblon State University: Basis for Strategic Operational Plan

Marife M. Garcia
RSU-College of Business and Accountancy

The study aimed to determine the operations management activities practiced on design, planning and control and improvement, the operational performance objectives of quality, speed, dependability, flexibility and cost and to establish the differences and relationship of operations management activities and operational performance objectives in order to propose a strategic operational plan for the income generating projects of Romblon State University. The study used descriptive method of research with probability sampling design. It was conducted to 193 respondents using the questionnaire. After validity and reliability, it was administered to the respondents followed by unstructured interview, observation and documentation. They were collected, analyzed and interpreted using frequency, mean, independent sample t-test, analysis of variance and Pearson's correlation. Majority of the respondents affect the assessment towards the operations management of income generating projects. The agriculturally based projects were most patronized. The operations manager's activities were practiced in moderate extent that greatly affect the operations. The operational performance objectives were satisfactorily performed. The type of respondents significantly differed with the operations management activities. Likewise, the operations management activities practiced were observed significantly related to the operational management objectives. Since significant differences and relationships existed between the operations management activities and the operational performance objectives, the researcher proposed a strategic operational plan.

Keywords: income generating projects, operations management, operations performance, project classifications, strategic operational plan

DR. MARIFE M. GARCIA

Extent of Implementation of Smoking Ban Among Senior High School Students in Zambales, Philippines

Marshall James P. Dantic* and Mary Jane M. Balangon
President Ramon Magsaysay State University

The Department of Education, Zambales Division is also adopting anti-smoking measures in accordance with the above Deped guidelines and rules. Consequently, this study would assess the extent to which smoking ban was implemented among senior high school. The study utilizes descriptive research design where survey checklist was the main instrument used to gather data. The study was conducted in Zone 2, Division of Zambales which consisted of municipalities of Palauig, Iba and Botolan. The study used simple random sampling. There 527 senior high school students from different municipalities have served as respondents. The instrument was validated by three experts and treated through reliability testing. There are two parts of the instrument, (a) demographic profile of the respondents; (b) perception of the student-respondents towards extent of smoking ban implementation. Based from the results, therefore it conclude that the student-respondents assessed "Implemented" on the level of smoking ban implementation as to school policies and intervention, teachers' participation and students' participation respectively; that there is significant difference when grouped according all profile variables except for gender as to school policies and intervention and students' participation; and that there is no significant differences on the assessment towards dimensions on the level of extent of implementation of smoking ban as to school policies and intervention, teachers and student participation respectively.

Keywords: Implementation, Philippines, School Policies, Senior High School, Smoking Ban

MARSHALL JAMES P. DANTIC

Oral Hygiene in the Philippines: A Basis for Community Health Programs Development

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Emilio Aguinaldo College

It was highlighted by the Department of Health-Northern Mindanao, Philippines that 87% of Filipinos have oral health problems such as tooth decay and gum diseases. Filipinos are known to pay little attention to their dental health and only notice when anything is amiss. However, poor oral hygiene puts more than just teeth and gums at risk; the National Center for Chronic Disease Prevention and Health Promotion-USA states that oral conditions and chronic conditions are linked because poor oral health leads to chronic diseases like diabetes and heart disease. Moreover, oral health is important for people' and populations' physical, mental, social, and economic well-being. Since the mouth is the primary means of human interaction with society, the appearance of an individual's teeth and surrounding structures has a significant impact on how others perceive them and how they perceive themselves, and this perception has an impact on an individual's ability to work, contributes to one's social status, and can affect a person's socioeconomic position in society. Oral health is clearly important to one's health as well as one's engagement in society; therefore, it must be given full attention. This information inspired the researcher to carry out this study. Guided by a descriptive research design taking on quantitative research approach, this study has attempted to determine the perspective and practices of Filipinos towards oral hygiene, particularly in terms of dental check-up, tooth brushing, and toothbrush replacement. To present a clearer picture of the case, a comparative analysis of the responses of the respondents was performed in terms of their age and sex, identifying which age and sex groups tend to comply with the prescribed practices compared with other groups, consequently identifying which practices they are most engaged with and which requires more attention from the government. Findings of this study serve as guide for government agencies concerned with public health in developing programs that would promote oral health for awareness and engagement, which will result to healthier communities.

Keywords: Filipinos, Community Service, Oral Health, Oral Hygiene, Public Health

MARK GABRIEL W. AGUILAR

Reconnoitering COVID-19 Vaccine Hesitancy and Acceptance among Rural Residents: A Convergent Parallel Approach

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Davao De Oro State College

Vaccination is largely recognized as the only treatment for preventing and responding to natural disasters when it comes to pandemics. Every country has already been through a catastrophe, such as the present COVID-19 outbreak in many countries and because of this the world is currently experiencing a novel infectious disease. This study aimed to understand the reasons of rural residents towards the COVID-19 vaccines in order to further understand their views on the vaccines in response to COVID-19. The researchers of this study used the convergent parallel approach. For qualitative phase researchers used thematic analysis. Study shows that there are four major themes results that shows why rural residents are hesitant to administer vaccination these are; personal reasons, beliefs, government tactics and negative perception of others. For the quantitative stage, the data obtained are treated with the statistician's help using the following formula: Pearson-r and Exploratory Factor Analysis (EFA) and Structural Equation Model (SEM). Using the exploratory factor analysis (EFA), 4 factors are generated namely; Efficacious and Control, Motivations and Sources, Accessibility, Gender Influence, and Confidence, and Positivity. In this study, the consolidated qualitative and quantitative data are of divergent nature, as the qualitative phase focuses on vaccine hesitancy among rural residents, whereas the quantitative phase investigates vaccine acceptance. In conclusion, this study contributes to a better understanding of the population perspective required to design COVID-19 vaccine programs among rural residents.

Keywords: acceptance, hesitancy, COVID-19, rural residents, vaccine

EDU A. LAVEGA

SHE

Social Sciences, Humanities, and Education

Exploring Romblon's Intangible Cultural Heritage: A Cultural Memory Banking

Mary Jane R. Arboleda
Romblon State University-San Fernando

This study was conducted in order to discover, document, and collect cultural heritage of Romblon to create a cultural memory banking of various intangible heritage for preservation and acknowledgement of its value. This study employs qualitative research design that allows the researcher to observe and/or interact with participants in their real-life environment. It was used in creating cultural memory banking of record and documents of cultural heritage of seventeen municipalities in Romblon. The participants of the study were from selected Local Government Unit, Municipal Tourism Office, old folks and native of islands namely: Sibuyan Island, Tablas Island, Tres Islas, Carabao Island and Romblon, Romblon. Pre-Survey, in-depth interview (IDI) and focus group discussion (FGD) using thematic analysis were employed to document the data needed. The major findings of the study revealed that intangible cultural heritage of people in Romblon are related to their customs, culture, traditions and way of life. It is categorized into two, the oral tradition and performing arts. Cultural memory banking is the constructed understanding of the past that is passed from one generation to the next generation. Cultural memory banking is the longest-lasting form of memory. Indeed, cultural memory can last for thousands of years. Memory banking involves collection and documentation of knowledge and social practices. Memory banking is a novel data gathering approach. It can be both process and product. Cultural memory banking of intangible cultural heritage in oral tradition and performing arts was developed.

Keywords: cultural memory banking, intangible cultural heritage, memory banking, oral tradition, performing arts

DR. MARY JANE R. ARBOLEDA

Mapping of the Cultural Significance and Indigenous Knowledge of Mt. Mayon Natural Park: Albay's Icon of Natural Heritage

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Bicol University

One of the most celebrated natural heritages located in the Province of Albay is Mayon Volcano. It is a classic stratovolcano that rises up 2,462 m (8, 189 ft) above sea level and considered as the world's most perfectly formed volcano for its symmetry and one most active volcano and has been recognized for its diverse natural resources. This paper discussed the cultural significance and determined the indigenous knowledge associated with Mt. Mayon Natural Park from the residents of Barangay Buang, Mariroc, Magapo, Comon and Tabaco City, Philippines. It utilized purposive sampling as it identified Mt. Mayon Natural Park (MMNP) as a natural heritage that was mapped. It employed community immersion using Sikolohiyang Filipino or Filipino Psychology desktop research and document analysis as methods in data collection. Results revealed that Mt. Mayon Natural Park has inherent cultural significance that shaped and influenced the culture of Tabaco City and the Province of Albay. The residents of Tabaco City Albay have a set of folk beliefs about Mt. Mayon Natural Park which provided them insights on how to protect, conserve and value Mt. Mayon Natural Park. This study recommends that the Local Government Unit of Tabaco City should intensify its effort not only in the conservation of flora and fauna of Mayon Volcano Natural Park but also in the protection of its visual integrity in order to maintain its aesthetic significance. Moreover, the indigenous knowledge about Mt. Mayon Natural Park should be included in the localized/contextualized educational materials in Tabaco City.

Keywords: Cultural mapping, cultural significance, indigenous knowledge, Mt. Mayon Natural Park, natural heritage

EDGARDO L. BESMONTE

Ligao City's Folklore: A Repertoire of Culture and Tradition (Folksongs and Riddles)

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Bicol University College of Arts and Letters

Riddles and folksongs were documented in Ligao City, Albay Province in South Luzon Philippines through respondents that represent various clustered barangays that encompass four ecosystems- coastal, upland, urban, and lowland. A total of eight folk songs were listed and translated into English while 44 riddles were documented and categorized. Folksong and riddles that were considered forms of oral literature was examined in the City of Ligao from August to December 2018 based on anecdotal recall of selected respondents. Some folk songs identified were found to be authentic based on A. Manuel's vertical and horizontal tests. Anecdotal recall, documentation and authenticity tests were conducted. A great variety of riddles reflect two categories-enigma and conundrums. Continuous documentation is recommended across all municipalities to help promote the Region's rich and diverse culture and traditions. The study resulted to the collection various genres of folksongs and riddles from identified informants/respondents of the chosen locale; validated the authenticity of the texts as riddles material based on Arsenio Manuel's Vertical and Horizontal tests; translate the texts from the vernacular into the English language; and classify the riddles according to typology. The riddles were documented and classified. Some 38 out of 44 were considered to be Enigma- problems expressed in an allegorical or metaphorical languages requiring careful thinking and ingenuity to solve them while six were found to be Conundrums-questions that rely on punning for creating effects in a question or an answer.

Keywords: Folksongs, riddles, folklore,

RUBY M. MACASINAG

Ethnographic Study on 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, and the Spiritista), signifying that there is no clear distinction and the healer could be all four. The study collected 25 treatment types, with the corresponding type of illness/disease treated, equipment and folk medicine used, and the treatment method. 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: folk belief, folk healer, personalistic principle, Romblomanon, sickness and health

JOAN N. RUBION

Exploring Albayanos' Narratives on Disaster: A Sociocultural Study on Disaster Risk Communication

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This paper explores the narratives of residents of the Province of Albay, whose lives are constantly upended by natural calamities. Specifically, it examines the experiences of Albayanos who have experienced typhoons and volcanic eruptions and determine the communicative mechanisms they have adopted. Using sociocultural tradition of communication theory, this study looks at the ways norms and rules are worked out interactively in communication, it explores how Albayanos make sense of disasters, and how this meaning-making, in turn, influences their action and behaviour regarding natural calamities. The paper argues that memories of past disasters, personal experiences and local knowledge play an important role in the decisions that Albayanos make regarding evacuations when faced with natural disasters. Albayanos have articulated ways in which they were able to cope with typhoons and volcanic eruptions. They continue to thrive on lessons drawn from their experience and accounting for their social, economic and cultural realities. Finally, the paper offers a model for the integration of local knowledge in disaster risk communication for disaster preparedness and mitigation.

Keywords: cultural practices, disaster communication, disaster narratives, indigenous knowledge and risk communication

DR. ADRIAN B. AGUILAR

Project HELPER: Its Effect to the Reading Comprehension Skills of Ampucao NHS Grade-10 Learners in the time of COVID-19

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DepEd-Benguet

This action research aimed to address the poor reading performance of grade 10 learners of Ampucao National High School through Project HELPER, a home-based reading project that focused purely on reading comprehension activities intended to develop the vocabularies and comprehension of the learners in one quarter. Only the 30 participants residing within clusters 4, 5 and 6 of Barangay Ampucao were selected as the participants of this study as they were the ones who have not yet undergone any reading remediation apart from the fact that they were within the reach of the researcher given the challenges or threats of COVID-19. To gather the data, there was a need to conduct pre and post assessments in the form of paper and pencil tests consisting of 25-item questions. To analyze the data, descriptive statistics was employed based on the research questions formulated. The Philippine Informal Reading Inventory (Phil-IRI) Manual of 2018 was also used to assess and interpret the scores of the participants. Findings revealed that the intervention project worked better in the comprehension skills of the learners as they have significantly improved from frustration to instructional level. In terms of vocabulary, the project has no significant impact as the learners' reading level remained at the frustration level. In general, however, the intervention is effective among the participants as it improved their reading level. With these, it is recommended that similar reading intervention activities especially on vocabulary exercises may be constantly done at school.

Keywords: frustration level, instructional level, independent level, comprehension, COVID-19

BENJAMIN R. SACLA

Analysis on Code Switching Manifested by Filipino High School Teachers

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Switching of codes displays an exclusive structure and function of types and patterns of codes particularly in a bilingual community. The Philippines as an archipelago is truly a multilingual community, thus, chances of analyzing discourses are advantageous to its scholars and academicians. Hence, after extracting the respondents' discourses in their online classes, the researchers investigated the types and patterns of code switching among 15 college instructors through qualitative and quantitative analyses. They adapted the typology by Poplack (1980) and Myers-Scotton (1989). Poplack classified code switching into tag, intersentential, and intrasentential but later, Myers-Scotton added intraword. In the analysis of patterns, the researchers considered Muysken's (2000) code switching patterns namely insertion, alternation and congruent lexicalization. However, due to limitations of these patterns, only insertion is utilized, and the researchers modified it to fit the context of this study. These are Ilokolish, Taglish and Ilocotaglish – all are forms of insertion with alternate use of languages. Intrasentential code switching has the highest number of occurrence (471) among the utterances of instructors in the classroom followed by intersentential (122), tag (45) and intraword (24). As to patterns, Taglish (346) occurs most frequently among the mixed code utterances of instructors in the classroom. This is followed by Ilocolish (186) and Ilocotaglish (57). Therefore, it is concluded that switching of codes happens in Philippine high school classes even by teachers. Using code switching in high school classes is found to be beneficial. Thus, this paper could help teachers regardless of their subject area determine the proper context of switching. Their understanding of students' discourses could guide them in designing their lessons toward a more effective classroom interaction.

Keywords: types and patterns of code switching; Philippine college classes, Filipino college instructors; Taglish; Discourse theory

DR. LOUIE B. VILLANUEVA

In a K-12 ESL Space: Teacher's Indirect Corrective Feedback (ICF) and its Effects to Students' Writing Skills

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Mariano Marcos State University[1], RSU-College of Education[2]

During the development of writing as a macro skill, teachers provide indirect corrective feedback (ICF) to improve the written outputs of their students. To find out the effects of this scaffolding initiative, this study underscores the application of ICF to students' writing errors and investigates whether the interpretation of students to the ICF corresponds to the actual justification of their teacher. Following a descriptive-qualitative design, the corpora were collected by assigning a writing task to select public senior high school students and by conducting a follow-up semi-structured interview to both the English teacher and the student-participants. Samples from the data were organized, coded, and interpreted through thematic analysis. Findings indicate that the recorded writing errors were mostly found in the mechanics component and students' language use. A number of incongruities between the students' and the teacher's interpretations on the given ICF were also found, but similarities of interpretations were still relatively greater. Likewise, it was revealed that the student-participants manifest strong positive viewpoint towards ICF and considered this as beneficial in improving their writing skills. This study therefore recommends to language teachers the use of ICF to help learners translate their writing difficulties into holistic skill and aid them in attaining both the content and performance standards in the area of academic writing.

Keywords: academic writing, language usage, mechanics of writing, students' writing errors, teacher's indirect corrective feedback (ICF)

DONNA BEL F. SY

Mother Tongue-Based Multilingual Education: Effectiveness in Selected Public Elementary Schools in Sibuyan Island, Romblon

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Romblon State University-Cajidiocan

Mother Tongue-Based Multilingual Education (MTB-MLE) is the government's banner program for education, a salient part in the implementation of the DepEd K to 12 Basic Education Program. Its significance is underscored by the passing of Republic Act No. 10533, otherwise known as the Enhanced Basic Education Act of 2013. The purpose of the study was to see how effective Mother Tongue-Based Multilingual Education (MTB-MLE) in selected public elementary schools in Sibuyan, Romblon Island. Twenty-four teacher-respondents were chosen through purposive sampling from eight schools in Sibuyan, Romblon, in the municipality of Cajidiocan. It entailed gathering, evaluating, and integrating quantitative (surveys and checklists) and qualitative (interview) approaches using a descriptive methodology approach. The majority of teacher-respondents employed MTB-MLE in their classes, particularly in the context and localization of the curriculum. It is also important in the learning process, according to the respondents. Furthermore, it assesses the learners' interest and simplifies and makes the teachings more accessible to them. However, the majority of respondents opposed curricular indigenization due to a lack of indigenous background materials such as songs and films. The mean of the instructors' opinions on the effectiveness of MTB-MLE in language learning was 3.69, with a descriptive meaning of strongly agree. Locally produced resources, such as textbooks and teachers' manuals, should be written in the vernacular to depict the contextualization, localization, and indigenization of the curriculum.

Keywords: mother tongue-based multilingual education, contextualization, localization, indigenization

CLARA JEAN M. JUANZO

Students' Perception of Remote Teaching and Learning in Sibuyan, Romblon: Basis for Creating Learning Hubs within the Barangays

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Romblon State University-Cajidiocan

Remote teaching occurs outside of a physical classroom. Technology, such as video conferencing software, discussion boards, and learning management systems, is commonly used to aid remote teaching. This study sought to determine the Student's Perception of Remote Teaching and Learning in Sibuyan, Romblon. This study used a descriptive research design. The checklist was used for gathering data that is most suited for the quantitative design investigation. The respondents of the study were the 272 first year, second year, and third-year education and information technology students who are enrolled in Romblon State University-Cajidiocan Campus, which was gathered through stratified random sampling using proportional allocation and selected the sample in the strata via the table of random numbers. The research locale of the study is located in Sibuyan Island, which is part of the municipality of Cajidiocan, Magdiwang, and San Fernando. The result of this research revealed that the respondents are all satisfied in all the indicators, namely: instructor's support, student interaction, instructional support, usefulness, easy use of e-learning, academic efficacy, behavioral intentions of using remote, perception towards remote teaching, and learning, and learning outcomes. In terms of satisfaction level with remote teaching and learning according to address revealed that the composite mean on the respondent's satisfaction level with remote learning according to address is 2.80 with a descriptive remark of satisfied.

Keywords: Remote Teaching and Learning, Sibuyan Island, Students Satisfaction

CLARA JEAN M. JUANZO

Pagpangisda-Based Learning Module for General Mathematics: A Design Research

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This study aimed to develop Pagpangisda-based module for General Mathematics. This research study employed design research as a design. This utilized ADDIE Model which led to the development of Pagpangisda-based module in General Mathematics. Participants of this research study were the eight (8) traditional fisherfolks of Barangay Pawa, Panay, Capiz. During the analysis phase, these eight (8) local fisherfolks were interviewed to identify the mathematical concepts embedded in the traditional fishing of the province of Capiz. There were (10) Mathematics teachers and five (5) experts in the field of ethnographic research or curriculum who will serve as the Quality Assurance Team to quality assure the learning module in the development phase of the ADDIE Model. In the implementation phase, a teacher implementer and fifty (50) Grade 11 students from a school in the Schools Division Office of Roxas City which are located nearby coastal area were utilized for the pilot implementation of the contextualized learning module that was developed from the mathematical concepts in the traditional fishing. It was found out that the sociocultural practices of the fisherfolks include reverence to the sovereign, oneness with the nature, knowledge system transmits from one generation to another, fishing as a result of innovativeness, and they have the system of business and estimation. While the Mathematics concepts embedded in traditional fishing are relations and functions, business mathematics, and logic. The evaluation of the five experts on the learning module is Very Satisfactory. The evaluation of the ten Mathematics teachers is Very Satisfactory. They highlighted that the learning module can contribute the learning achievement expected from the learners. The evaluation of the 50 learners is Very Satisfactory. The results of this study are integrated inside the classroom practice which can be aligned to the context and interests of the learners. Hence, the beliefs, knowledge systems, and practices are recognized to support the learning of the learners and for the provision of the technical support.

Keywords: Learning Module, Pagpangisda-Based, General Mathematics, Traditional Fishing Design Research, Senior High School

JAY C. BLANCAFLOR

WaV-LIM's (Worktext and Video–Led Instructional Materials) Acceptability and Usability and Grade 11 Students' Performance in General Mathematics

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Romblon State University-Calatrava

COVID 19 outbreak brought a lot of changes in all educational processes. To ensure quality education in spite of this challenging situation, faculty members have done their part in preparing modules and other instructional materials and have familiarized themselves in different online learning modalities. To help the DepEd teachers and students in selected Senior High School in Tablas Island cope in this difficult situation, the researchers let them use the developed and validated worktext and video in teaching General Mathematics. This study is a Quasi- experimental research that envisioned to seek feedback from the respondents in terms of acceptability and usability, and to find out the effectiveness of these materials through Grade 11 students' performance in pre-test and post-test in General Mathematics. The results show that students strongly agree that the Worktext and Video are excellent in terms of adequacy, clarity, content, objectives, suitability and usefulness. Findings also show that students rated the video as excellent as to video quality, audio quality, substance of information, production consideration and bias-free presentation. Further, WaV-LIMs found to be effective as revealed in the significant difference between the Grade 11 students' performance in pre-test and post-test. These imply that these Instructional Materials are ready for utilization and dissemination. It is therefore recommended to extend WaV-LIMs to DepEd, Division of Romblon.

Keywords: General Mathematics, Instructional Materials, Video, Worktext

DR. LEILA R. FABELLA

Effectiveness of Geometrical Reasoning Using Higher Order Thinking Skills in Proving Postulates and Theorems of Mathematics Major Students

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Romblon State University-Cajidiocan

This research study was conducted to determine the effectiveness of mathematical reasoning using higher order thinking skills in proving postulates and theorems and to determine if there is a significant difference in the level of effectiveness across year level. A pilot testing through questionnaires focused on the respondents' performance on Geometrical Reasoning Using Higher Order Thinking Skills during the first semester of the school year 2017-2018 was conducted. Data gathered were consolidated, tabulated and analyzed. It was found out that the level of effectiveness of geometrical reasoning using higher-order thinking skill in proving postulates and theorems of mathematics major students is high. Likewise, its level of effectiveness in terms of year level is increasing in which second year math major students got moderately high, third year math major students got moderately high and Fourth year math major students got high. This shows that geometrical reasoning using higher order thinking skills of mathematics major students is effective. Furthermore, there is no significant difference in the level of effectiveness of geometrical reasoning using Higher-order thinking skills which implies that all of the math major students at all year levels have a high geometrical reasoning.

Keywords: Geometrical Reasoning, Higher Order Thinking Skills, Mathematics, Theories, Postulates

FLORO M. DE LA CRUZ JR

Performance of Senior High School in Physics Problem-solving using Blended Learning Strategies

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Romblon National High School

The problem-solving skills in physics of senior high school students in Romblon, Romblon, Philippines was assessed during the pandemic period. Assessment was done with blended learning strategies utilizing internet connection to access lesson materials for self-directed learning. Lessons covered were in kinematics and students were provided with assortment of printed or digital modules, powerpoint explainer videos and lectures in google meet. Participants were 21 students from Romblon National High School for the school year 2021-2022 and were purposively selected in the quantitative experimental research. Their performances were determined using the validated and reliable test questions in physics based on WISE problem-solving strategy. Analyses of data used the following statistical tools: Percentage, Mean, Standard Deviation, Analysis of Variance (one way), Kruskal -Wallis H test, T-test of dependent samples, Wilcoxon W-test, and Hedge's g test. The study concluded the blended learning strategies used were effective in improving the problem-solving skills. The most notable were the use of digital modules, powerpoint explainer videos and messenger for communication and support to students. Easy access to learning materials manifested to students. Difficulties in derivation of a formula by transposing the variables in equation to derive a working formula for solving the unknown were observed.

Keywords: Blended learning, Blended learning strategies, Physics blended learning, Physics education, Physics problem-solving

GENARO M. MOLINA

Information Seeking Practices, Technology Awareness, Preferences and Media Use among Fishing and Farming Communities

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Cagayan State University

With the growing demand of communities to be well-informed, this research study determines the information seeking practices, technology awareness of key stakeholders in fishing and farming activities. Specifically, this study provides relevant results along with socio-economic characteristics of the participants, their awareness of technology to boost productivity and efficiency, their access and use of media and information as well as their information-seeking practices. The descriptive-survey research design was employed in the study. Findings revealed that most of the participants take a balance in fishing and farming activities based on their socio-economic characteristics. Their access to information relies on available sources of information in their location and available media at home. Their information-seeking practices are dependent on the information needs and preferences of media in the area. Results of the study provides insights to redefining information dissemination practices and strategies catering to the immediate, relevant, and reliable information to fishers, farmers, gatherers, and processors. It is hoped that the study offers an opportunity to communicate the different relevant information to the stakeholders. Particularly in this study, it is hoped that the sustained management and upscaling of the MangngalApp, boosts the productivity, cost-efficiency, and faster turnaround.

Keywords: fishers, information, information seeking, mangngalApp, technology awareness

DR. BILLY S. JAVIER

The Effectiveness of the Technical Vocational Education and Training's (TVET) Flexible Learning Delivery in the Selected TESDA Technology Institutions in National Capital Region

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TUP-Manila and City University of Pasay

The study focused in five (5) selected TESDA Technology Institutions offering TVET programs under the Flexible Learning Delivery in the National Capital Region (NCR) offering the following programs under the flexible learning: Barista NC II, Bartending NC II, English Language, Japanese Language, Domestic Work NC II, EIM NC II/III, and SMAW NC III. A total of 10 (ten) trainers and 350 (three hundred fifty) scholars/graduates were the respondents of the study using the convenience sampling. Moreover, in this descriptive research it was found out that there is no significant difference between the perceptions of trainers and trainees on the effectiveness of TVET's Flexible Learning Delivery in the selected TESDA Technology Institutions in NCR and majority of the respondents didn't encounter problems regarding the TVET's Flexible Learning Delivery in the TESDA Technology Institutions in NCR. It is recommended for the TESDA management to purchase resources such as workbook that can be used effectively by the trainees and the management must make sure that the allowances for trainees shall be given on time for their stable internet connections. For the trainers, the TESDA management must upgrade the internet connection by subscribing to premium LMS provider and provide trainer's training regarding the LMS for them to answers correctly the queries of trainees regarding on how to use the LMS.

Keywords: flexible learning, Technical Vocational Education and Training's (TVET), Technical Education and Skills Development Authority (TESDA)

CYNIC TENEDERO

Rethinking Tabula Rasa in the Post-Pandemic: An Analysis

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Cebu Normal University

This study illuminates and interprets the student's habits and practices in learning using the idea of John Locke's philosophy of education. This study has used a method of qualitative analysis as the basis for research. John Locke's philosophy on education emphasizes that knowledge cannot be acquired through reason alone but through experience, observation and experimentation. Locke's philosophy of education indicates an assertion of tabula rasa emphasizing that a human being is described as equal to an empty can or a blank slate. This proclamation of a blank slate is not being understood as a degrading factual aspect of man but an authentic selfhood to be considered. Moreover, the idea of tabula rasa stands as a natural basis for the teachers to apply an innovative teaching curriculum, and a sort of reflection to exercise various innovations in the process of learning relevant to the needs of the students. This study also tackles a supplementation to widen the perspective of the educational system, also known as Outcome-Based Education (OBE) as to how it is implemented by the school in their respective teaching platforms. The learning outcomes of the student are the reflections of the consciousness of the school as well as of the teachers.

Keywords: John Locke's Philosophy of Education, Tabula rasa, Authentic Selfhood, Educational System, Outcome-Based Education

SPENCER P. REYES

Embracing Diversity: Empowerment of Filipino Pre-Service Teachers For Inclusive Education

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The increasing diversity in schools requires in-depth understanding of pedagogical approaches to teach diverse populations. This requirement demands Teacher Education Institutions to develop among pre-service teachers' positive attitude towards inclusion and prepare and train them to deliver inclusive practices in a mainstream classroom. This study investigated the attitude towards inclusive education, perceived level of readiness to implement inclusive education and assessment on the effectiveness of teacher education program for inclusive education in terms of collaborative teaching, techniques and strategies and collaborative experiences among pre-service teachers in one state university in Batangas Province, Philippines. Using descriptive-survey as research design with researcher-made questionnaire as tool to gather data, results have shown that the respondents have high positive attitude towards inclusive education. Further, the study also revealed that the respondents have high perception on their readiness to implement inclusive education. Lastly, teacher education program for inclusive education along with collaborative teaching and techniques and strategies were highly effective, while effective only in terms of collaborative experiences. Analyses of the findings afforded the researcher to formulate recommendations that higher authorities may use as inputs in formulating and designing programs to better empower future teachers to embrace diversity.

Keywords: awareness, diversity; inclusive education; pre-service teachers, readiness

GENALYN P. LUALHATI

Reengineering Learning: Examining Metacognitive Strategies of ESL Students

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This study described metacognitive strategies in learning English along with the intention of proposing course of actions to encourage the students in learning English. It determined the respondents' personal variables: sex, socio-economic status, and academic performance in English, metacognitive strategies, its relationship to the profile, and the course of action to encourage students to employ metacognitive strategies. Questionnaire was used to gather data and were grouped according to responses with descriptive-correlational method as the research design. When the respondents' employed metacognitive strategies in English it was paired with personal variables such as socio-economic status and academic performance in English. It was recommended that the students must be given classroom practices to bring out, unfold and enhance their metacognitive strategies in learning English and must be involved on the learning process to exercise actively the use of metacognitive strategies. Also, it makes the students aware of their metacognitive strategies in learning English to improve in their oral and written skills that might help in enhancing academic performance.

Keywords: academic performance, classroom practices, making predictions, metacognitive strategies

LIWANAG C. RUBICO

The Reliability and Concurrent Validity of the Qualifying Examination of the College of Education, Romblon State University

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RSU-College of Education

The study focused on establishing the reliability and validity of the Qualifying Examination of the College of Education at Romblon State University, which was officially utilized in 2019. The study determined the difficulty and discrimination indices of the test items in five subject areas: English, Mathematics, Science, Filipino, and Social Science. This study is descriptive developmental research. The respondents for the test item analysis were confined to forty (40) first-year education students. In comparison, respondents for the test item reliability and concurrent validity were limited to fifteen (15) senior high school students. The index of discrimination is the proportion of the examinees taking the test who got the item correctly. The discrimination index compares the correct responses from the upper and lower groups. Pearson's Product Moment Correlation was likewise used to determine the reliability and concurrent validity of the test items. The research study focuses on the Qualifying Examination, which consists of 150 teacher-made tests that cover five (5) general subject areas: English, Mathematics, Filipino, Science, and Social Science. Results showed that out of 150 test items, 107 were accepted - 22 in English, 20 in Mathematics, 22 in Science, 20 in Filipino, and 23 in Social Science. Results showed that the test items are reliable and valid.

Keywords: index of difficulty, index of discrimination, validity, qualifying examination, reliability, test item analysis

DANA KAYE F. FABIALA

Investigating Stressors and Coping Mechanisms of Frontline Workers in Odiongan, Romblon: Implications to Mental Health Awareness Program

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RSU-College of Education

The COVID-19 pandemic has great impact to the physical and mental health of people worldwide. Several studies have highlighted the need to investigate stress and coping mechanisms among frontline workers. This study explored the causes of stress and coping mechanisms of frontline workers in Odiongan, Romblon. Using thematic analysis, 59 frontline workers (medical professionals, administrative personnel, traffic enforcers, and uniformed personnel) who were in active duty during the first three months of community quarantine in the locality were interviewed using a semi-structured questionnaire. Findings revealed the major stressors to workers are extended work hours, undisciplined members of the community, and perceived threats of COVID-19 to the community. Appraisal-focused and adaptive behavioral coping strategies were commonly employed by the participants such as observance of health protocols, scheduled family time, and religious activities. Results of this study can be used for mental health awareness programs and advocacies.

Keywords: coping mechanisms, COVID-19 pandemic, frontline workers, mental health, stress

MARWIN D. SARANDIN

The Perceived Challenges and Effects of Asynchronous Learning on Students' Mental Health in the College of Business and Accountancy, Romblon State University

Joanne R. Dalisay, Gina V. Mapalad, Philip Henry F. Contaoi* and Orfelina I. Manzo
RSU-College of Business and Accountancy

In the Philippines, the long-term challenges of online learning, especially its impact on the mental health of college students, have been recognized by students, parents, professors and teachers. However, this is not well documented. This study described the challenges and implications of asynchronous learning among fourth-year students who were surveyed online and face-to-face using a modified research questionnaire. Data were analyzed using frequency and percent distributions, means, and Pearson's r. Results showed that those students who spent approximately 3-5 hours per week in asynchronous activities were more likely to be mentally healthy. The respondents also demonstrated good level of self-confidence and ability to manage, perceive, express and understand their emotions.

Keywords: asynchronous learning, College of Business and Accountancy, college students, mental health, online learning challenges

HENRY F. CONTAOI

Social Media Use of LSPU College Students on Social Isolation during Pandemic

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As everyone struggled with social isolation, especially in terms of overcoming loneliness and social adversities during COVID-19 pandemic, social media has been intensified and is the most popular means of socialization. Hence, this study was undertaken to determine the different uses of social media among college students while there is increased social isolation brought about by the pandemic. A self-structured questionnaire was made and pre-tested (N=30; α=0.50) that addressed to the Social Media (SocMed) use, frequently used platforms, and factors that affects the usage of SocMed. Descriptive Correlational Design was used to analyze and present the results. The majority of the 300 respondents were 18-25 years old, female (56.3%), and used Facebook (55%) as their main platform. Results showed that social media was extensively used for educational, social, and recreational activities, and act as a coping strategy. Eta correlation revealed that there is an association between commonly used social media platforms to the factors affecting social media use, yet sex has no association on these social media platforms (Coefficient=0.001). Moreover, Pearson's and Spearman Rho correlation reported that there is no significant relationship between age (p=>0.05) and year level (p=>0.05) to the factors affecting social media usage respectively. For future studies, it is recommended to evaluate the level of usage and additional variables like socioeconomic status for deeper analysis. Additionally, the current study also suggests that since social media is accessible to people of all ages, individuals who are underage should have their social media usage monitored and supervised.

Keywords: Social Media, Social Isolation, Pandemic

MICHAEL H. GALAPON

Sociodemographic, Posttraumatic Growth, and Emotional Intelligence Impact on Substance Abuse Resiliency Development of Filipinos

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The impact of drug addiction cannot be underestimated globally. It created havoc on communities, families, and human lives. Previous literature shows that out of the immense number of substance abusers, only a few have been able to fully recover from the misery of being a victim of addiction. Anchored on Posttraumatic Growth Theory, Emotional Intelligence Theory, and Resiliency Theory, this study specifically delves into three mitigating factors for sustaining drug abuse resiliency namely; socio-demographic, posttraumatic growth, and emotional intelligence among 202 Filipinos who had undergone rehabilitation in the National Capital Region (NCR) in the Philippines. Results of the structural equation modeling (SEM) revealed that emotional intelligence has no significant relationship with resiliency while post-traumatic growth has a positive significant relationship with resiliency. This then implies that post-traumatic is a predictor of resiliency but with a small effect. Moreover, participants who were older and stayed longer in the rehabilitation facility have lower resiliency levels while those participants who have more children show a higher level of resiliency. The findings from the dataset are essential as it provides useful information to help treatment rehabilitation centers have a sound basis in crafting programs that will rebuild and enhance the resiliency of substance abusers, thereby bringing them back to the fold.

Keywords: socio-demographic, emotional intelligence, posttraumatic growth, substance abuse resiliency

ROSE MAY B. BRIONES

PROJECT RUTH (Resounding and Unwavering Traumatic Howl) of Calatrava Widows: Input for Livelihood and Psychosocio-economic Training Program

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Most of the widows face traumatic challenges brought about by financial, emotional and psychosocial situations, much more felt during the pandemic and afterwards. This has a ripple effect on the individual, family, society and the country as a whole particularly on the economic aspect and personal well-being of affected individuals. Even in other countries research on widowhood mostly emphasizes negative outcomes. PROJECT RUTH is a descriptive research utilizing a survey questionnaire as a tool to determine the profile of the respondents in terms of age, number of children, source of income, among others, as well as their physical, emotional and psychosocial conditions and needs. This was conceptualized based on actual conditions observed in the Municipality of Calatrava. The participants in the study included all the 260 widows in the municipality of Calatrava. Mean and percentage are the statistical tools used in analyzing the data. The results show that most of the widows experienced negative outcomes in terms of their physical, emotional and psychosocial conditions and needs. It is therefore recommended to develop an extension proposal or intervention program for the identified problems and provide needed seminars and training workshops to empower them to cope with the new normal situations and challenges, and through the establishment of linkages with government agencies to help this marginalized group of widows with livelihood programs to augment their financial resources.

Keywords: emotional, physical, Project, psychosocial, Widows

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Factor Structure and Validation of a Remote Teaching Effectiveness Scale for RSU Faculty in the New Normal

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The COVID-19 pandemic drove the present teaching and learning structure, which required educational institutions to use various remote delivery methods. Despite this novel and challenging situation, teachers must perform well and successfully impart information. A measuring instrument that will somehow make the teachers' teaching efficacy visible is necessary to evaluate the teachers' performance in this remote learning arrangement. Therefore, developing a scale for online and offline instruction is essential. The present study intends to develop and validate a measure based on this remote teaching set up and provide a valid and reliable measurement framework for the Remote Teaching Effectiveness (RTE) scale. A total of 789 students responded to the survey and used the devised tool to rate the effectiveness of their teachers. The result of the principal component analysis produced four RTE factors—Proficiency, Expertise, Assistance, and Commitment with eigenvalues of more than one. The derived measure showed both good discriminant validity and good internal consistency. It is recommended that the tool be further improved and validated using confirmatory factor analysis.

Keywords: distance learning, remote teaching effectiveness, student evaluation, online learning

DR. JONATHAN P. WONG

Benepisyo at Hamon sa Pagkatuto ng Asignaturang Filipino

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Ang layunin ng pananaliksik na ito'y malaman ang mga benepisyo at hamon sa pagkatuto ng asignaturang Filipino ng mga mag-aaral ng Laboratory High School. Ito ay ginamitan ng disenyong diskriptibong pananaliksik na kinakapalooban ng paglalarawan, pagtatala, pagsusuri, at interpretasyon ng kasalukuyang kalikasan, komposisyon o proseso ng mga phenomena. Mayroong dalawang-daang (200) mga mag-aaral na respondente mula sa dalawang campus, Iba at San Marcelino, ng President Ramon Magsaysay State University. Sa dalawang konsepto rin ito umiikot, sa benepisyo at hamon sa pagkatuto ng asignaturang Filipino.Lubos na sumasang-ayon ang mga mag-aaral sa benepisyong dulot ng pagkatuto sa asignaturang Filipino sa larangan ng komunikasyon, kasaysayan, kultura at panitikan maging ang makabayan. Samantala sila ay sumasang-ayon lamang sa larangan ng sulatin at bokabularyo. Sumasang-ayon ang mga mag-aaral sa hamong nararanasan nila sa pagkatuto ng asignaturang Filipino sa larangan lamang ng matatalinghagang salita. Samantala hindi gaanong sumasang-ayon sila sa larangan ng instruktura ng wika. May makabuluhang pagkakaiba sa benepisyo at hamon sa pagkatuto ng Asignaturang Filipino kung ito'y nakagrupo ayon sa mga baryabol ng propayl. Inererekomenda ng pag-aaral na ito na mas paunlarin pa ang mga benepisyong naidudulot ng asignaturang Filipino sa pagkatuto ng mga mag-aaral gaya ng paglinang ng kanilang kakayahan na sumulat, bumasa at umunawa sa mga akdang pampanitikan. Bigyan rin ng pansin ang mga hamong nararanasan upang matugunan ang kanilang pangangailangan gaya ng pagsasagawa ng interbensyon. Mas mag-isip at magsawa ng mga makabagong istratehiya sa pagtuturo ng maging epektibo ang paraan ng pagtatalakay. Maaring dumalo ang guro sa mga seminar na makakatulong upang mabigyan ng kaalaman sa makabagong pamamaraang pagtuturo sa kasalukuyan.

Susing Salita: Benepisyo at Hamon sa pagkatuto ng Asignaturang Filipino, komunikasyon, kasaysayan, kultura at panitikan, makabayan, matatalinghagang salita at istruktura ng wika.

JHOANA MARIE L. ARAGON

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