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LIKHAMON 2022

BOOK OF ABSTRACTS

"Nurturing NextGen Innovators for a Gender-Responsive Industry 4.0"

1ST VIRTUAL RSU STUDENT RESEARCH CONGRESS

May 17, 2022 via Zoom

ROMBLON STATE UNIVERSITY 1915 PHILIPPINES

REDI
RESEARCH • EXTENSION • DEVELOPMENT • INNOVATION

GENDER AND DEVELOPMENT OFFICE ROMBLON STATE UNIVERSITY

LikHamon 2022 Book of Abstracts
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TABLE OF CONTENTS

Title Page i

Table of Contents ii

Message of the President v

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

Keynote Speaker and Panel of Evaluators viii

ENVIRONMENT, AGRICULTURE, AND NATURAL SCIENCES

Potentials of PET Bottle Caps and Biochar as Low-Cost Media Filter to Reduce Nitrogenous Waste in *Tilapia-Petchay* Aquaponics 2
Deo L. Rollan, Ian Rey M. Mangua, Jhon Joseph Montesa, Ernesto Jr. R. Mayo, and Rose Ann D. Balato

Growth and Yield Performance of Eggplant (*Solanum melongena* L.) Applied with Different Levels of Goat Manure Tea Mixed with Rice Water as Liquid Fertilizer 3
Gerry May F. Cha and Marjail I. Ferriol

Growth Performance of Eucheumatoids Species in Seaweeds Farming Sites of Sta. Fe, Romblon, Philippines 4
Chris Jun M. Marquez and Wilsa May M. Manalon

Green Chili Pepper: Growth Response on Different Organic Mulches 5
John Kenneth R. Mortel, Maressa R. Concepcion, Aiken R. Robis, and Clara Jean M. Juanzo

Ang Pangingisda sa Asing Calatravanhon: Isang Pag-Aaral sa Pagbuo ng Glosaryo 6
Ronalyn F. Gadon, Melissa Rose F. Morada, Jessica M. Morada, Leiyan Zanne M. Mortel, Neddy Lyn M. Sayse at Menchie F. Gadon

Commonly Traded Plants by Plant Enthusiasts in Romblon, Philippines: Implications for Conservation 8
Elaine Keith G. Familaran, Ginevie A. Fernandez, Anthony T. Francisco,Bryan Well C. Gacu, and Anna Beatriz R. Mayor

Ethnobotanical Survey of Medicinal Plants Used by Folk Herbalist in Alcantara and Looc, Romblon, Philippines 9
Angelica G. Gabuna, Ma. Elmie L. Asuncion, Gemmabel R. Fillartos, Jay-R S. Garcia, Judy G. Irabon, Jayson O. Grimares, and Jayson F. Enciso

ENGINEERING, DEVELOPMENT, AND INNOVATION

Acceptability of Food Pasada Delivery System 11
Jay-Ar R. Ribon, Artz A. Rase, Lea May R. Rosas, Rodel D. Bacuna

Effectiveness of Website in Tracing COVID-19 PUI, PUM And LSI for Magdiwang, Romblon 12
Nikko Jay D. Calixtro, Jhon Rhen R. Borden, Zhannen Bernadeth D. Galicha, and Raymund R. Ipedro

Student Online Voting System with Image-Based Capture 13

Mary Rose Cristine M. Magada, Rose Orfila, Ailhyn Mutia, Cigie Menciano, and John Rick Marmo

Online Grading System for Romblon State University, Romblon Campus 14
Jasmin Nicole M. Marzonia, Donna Mae B. Macalisang, Paul John E. Montero, Joeyreel C. Mijares, Noren M. Machon, Raine P. Rubio, and Joy Mariz Mindoro – Mesana

Employees' Attendance Monitoring System with Information Verification for Romblon State University, Romblon Campus 15
Joseph Angelo M. Mindoro, Jemimah Clarisse U. Maaba, Crystal Gayle M. Magano, Mike Jed M. Montojo, Joyce Ann M. Regla, Loren Omlang, and Joy Mariz M. Mindoro – Mesana

Acceptability Level of Gaylang (*Cyrtosperma merkusii*) Corm Flour as Polvoron 16
Jannette S. Erispe, Aila E. Rada, Cristel Joy C. Rada, and Clara Jean M. Juanzo

Acceptability Level of Spider Conch (*Lambis lambis*) as Burger Patties 17
Maika R. Ribot, Claire R. Roa, Sean Austin R. Torrefiel, Elliezar Ribot, and Clara Jean M. Juanzo

The Coolest Weed of the Sea: Acceptability and Salability of *Euchuema* Sp. Ice Cream 18
Kimberlyn M. Magbanua, Eloisa Jane F. Aurelio, Marian S. Solangon, Micah A. Visca, Rick Vincent S. Liberato, Miguel D. Visca, Jr.

Design of River Floating Trash Traps Using Recycled Plastic Bottles and Waste Analysis Characterization of Collected Waste in Odiongan, Romblon, Philippines 19
Micca Izza A. Cawaling, Jet Michael B. Fruelda, Van Russel F. Fajilan, Yollie Mae G. Merano, Blasé M. Fontillar, and Jerome G. Gacu

Development of a Portable Wind Power Conversion Apparatus as an Alternative Renewable Energy Charging Source 20
Mark R. Epino, Marklin P. Faderog, Reymart M. Falcutila, Yricka M. Indonila, and Virne B. Dalisay

Audit of the Electrical Energy Consumption and Outlay of the Municipal Building in the Island of Simara 21
Aldrin Jay F. Fajarito, Vince F. Fejer, Jaymark F. Rosa, Jay T. Oliveros, and Kenneth Neftali F. Sañosa

Civil Engineering Electronic Smart Application (CEESA): Evaluation, Enrollment, Grade and Downloadable Materials Database for Civil Engineering Student and Faculty 22
Gaymar F. Gaytano II, Michelle Abila1, Charisse F. Española, John Dave S. Famorcan, Shaina May Rose Fodulla, Llander John R. Ilagan, and Raymond Jay G. Severo

SUPERVISION, ADMINISTRATION, LEADERSHIP, AND MANAGEMENT

Financial Performance of Local Government Unit of San Fernando, Romblon F.Y. 2018-2020 24
Faith Maryglo V. Royo, Ferlyn R. Romano, Jecerie T. Romano, Joden R. Romero, Aira R. Roni, and Christine R. Soliman

Effectiveness of Hospitality Management Program for Industry Preparedness of Students of Romblon State University- San Fernando Campus 25

Camille M. Relox, Rowela P.Shem Rada, Joshua G. Masangcay, Renalyn Dadivas, Jervin R. Rabino, and John Paul R. Barroa
Scarcity in Water Supply: A Long Time Struggle of Locals in Canduyong 26
Rachel F. Tuquib, Merry Rose H. Pule, Ivy F. Fabon, Dennis M. Romero, Ryan M. Soledad, Jay Marvin M. Martinez, Joemar F. Manzo
Environmental Problems and Protection Initiatives of Barangays in Tablas Island 27
Anna Fe M. Avila, Lyndon A. Bibat, Chantal E. Gigante, Jessica B. Olimba, Waren P. Olimba, John Lloyd Rocero, and Joemar F. Manzo
Tuna Fish Catch and Supply Chain in Sibuyan Island 28
Kae Ann F. Villanueva, Cynthia T. Tayco, Armando F. Cesar Jr., Igleserio M. Fajutrao, and April Joy A. Fabella

SOCIAL SCIENCE, HUMANITIES, AND EDUCATION

Financial Literacy Level of Sibuyan Mangyan Taga-Bukid: An Assessment 30
Aivan R. Delima, Ivan R. Alicando, Realyn E. Almanzor, Jessel R. Francisco, and Conchita R. Mendoza
Developing a Game-Based Instructional Manipulative for Permutation and Combination 31
Jay-ar G. Beloy, John Bill P. Fajarito, and Frankie A. Fran
Assessing the Preparedness of Selected Casual Dining Restaurant in Odiongan, Romblon in the New Setting 32
Bob Lester F. Cangson, Rona Mae F. Faderogaya, Kyle Justin M. Fontamillas, Aien Joy L. Galario, Dannyca M. Mercano, Divine, Cristy O. Montesa, Arjel M. Rey, Elisabeth B. Tropa, and Khrisna F. Vicente
Life Behind Bars: Spiritual Life Experiences of Persons Deprived of Liberty in Odiongan District Jail 33
Jolo S. Ebora, Jessica T. Estilloso, Riza Mae M. Campugan, Ruffa Mae F. Seraspi, John Lloyd G. Anastacio, and Bernalyn M. Fiedacan
Establishment of English Pinnacle Online Group: Effects on the Social and Cognitive Presence of BSEd English 34
Ma. Fe Duron Magatao, Purita Regala Romano, Angilyn Rizo Madali, and Clara Jean M. Juanzo
Self-Assessment Competency of Hospitality Management Graduating Students in the Time of Pandemic 35
Jessel F. Sarceno, Emma Fe S. Casimero, John Kirtz A. Familara, Christian Carl S. Fetalvero, Mark John B. Lota, Ailyn M. Matanda, Cristina Ruben, and Khrisna F. Vicente
Students' Motivation and Performance Level in Learning Grammar Lessons Using Kahoot: A Game-Based Learning Platform 36
Ezekiel B. Roa, Reina Rose F. Rabida, Rijean Mae R. Codilla, and Clara Jean M. Juanzo

Message of the President

This [LikHamon] is indeed a very creative activity. Involving the students in research is just planting or sowing a seed among the next leaders or next educators. So, this is a very important activity since I know we wanted to invest in young minds because they still have much time to serve and make use of their potentials and talents for the good of the community or for the good of the Institution. Congratulations to the Gender and Development Director, Ms. Carolyn D. Fetalver, for having partnered with the Research, Extension, Development, and Innovation department, particularly the Research Unit, to invest the fund of GAD in activities like this.

The title says LikHamon from the word "*Likha*" at "*Hamon*", this is a challenge for the youth, for our young students to be creative and resourceful through research. I know that you value this opportunity, which will allow you to grow in terms of research. Your potential to be future researchers is being hound today so, I hope that you will be researchers in whatever field you are interested in, may it be in Social Sciences, Natural Sciences, in hardcore Sciences or even in the Culture and the Arts. Nurturing next generation innovators for a gender responsive Industry 4.0 is your thing for today so, I hope that you will be able to marry the two objectives wherein you will be gender sensitive in terms of being *malikhain* in consonance with industry 4.0. With your deep involvement in research, your ingenuity is developed, you become critical thinkers, you learn to gather data, you learn to manage time and resources and you become appreciative of the use of Data Science. It is very important that your decision making in the future should be data-based. These are the lessons you will get from research and with your exposure now, with the opportunity that is being given to you by the Research Unit in partnership with GAD unit, you must be very appreciative since not all are given this opportunity. This is also the 1st time that the REDI unit have initiated such activity, you are just hitting the nail on the head. This is what we want, this is the vision of the University to become a Research University in the future so, the best investment is being done now to the young people, to the next educators of not only of Romblon State University but all of them, many of them will go to DepEd, will go to different Institutions in the government or non-government or private.

MERIAN P. CATAJAY MANI, ED.D., CESE
University President
Romblon State University

If research culture is instilled in their minds, then, that will just naturally come out in their day-to-day work. So again, congratulations and hopefully we will be able to mentor some, nurture others and guide others to become successful researchers in the future. Not all of you can be

accommodated in the line of expertise that you are studying. But many of you can be employed as researchers in the future because this is now the trend of the time. So again, congratulations to the initiative of the Director for Research, Dr. Eddie G. Fetalvero, and the different Heads of the unit under him and the support of the REDI Vice President, Dr. Emelyn F. Montoya. The Administration is also in full support of all your initiatives. Congratulations once again, thank you very much and may I remind everyone of our mantra that in RSU we happily serve with Honor and Excellence. God bless your activity today!

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

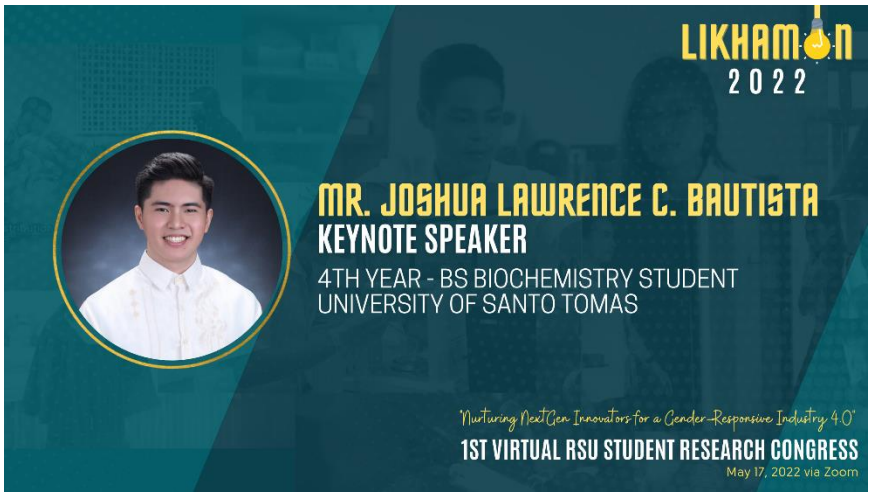
It is said that students are our innovators-in training. Creating or "*paglikha*" plays a major role in today's education, and this is a challenge or "*hamon*" that we should all take on. In short, this is indeed a LikHamon.

At this point, it is a great pleasure for me to welcome you to this very first RSU Student Research Congress or Likhamon 2022, with the theme "Nurturing NextGen Innovators for a Gender-Responsive Industry 4.0".

In this research Congress, we will be featuring students' outputs that are responsive to the needs of Industry 4.0. This also intends to mainstream gender sensitivity in all university undertakings especially in research and development and will identify potential properties for filing and eventually for commercialization. This is also an avenue for scholarly interactions and knowledge exchange as we foster the culture of innovation in our University.

Let me finally wish you a successful Research Congress, and let us continuously aim to be a bastion of innovation as we serve with Honor and Excellence.

Keynote Speaker



Panel of Evaluators

Panel of Evaluators

ENVIRONMENT, AGRICULTURE, AND NATURAL SCIENCES

Potentials of PET Bottle Caps and Biochar as Low-Cost Media Filter to Reduce Nitrogenous Waste in *Tilapia-Petchay* Aquaponics

Deo L. Rollan, Ian Rey M. Mangua, Jhon Joseph Montesa, Ernesto Jr. R. Mayo, and Rose Ann D. Balato

San Agustin Campus, Romblon State University

ABSTRACT

The main problem of aquaponics is to maintain good water quality parameters that are favorable to cultured fish and plants. Therefore, filtration media is one of the primary components of an aquaponics system. However, commercial filtration media is expensive for backyard and small-scale aquaponic farmers. Thus, this study was conducted to determine the effectiveness of polyethylene terephthalate (PET) bottle caps and biochar as potential low-cost filtration media to reduce nitrogenous waste in aquaponics. Results showed that biochar has a slightly higher water pH level of 7.4 compared to 7.1 of PET bottle cap. However, PET bottle caps showed a significant result in reducing nitrogenous waste of tilapia compared to biochar in aquaponics. The average ammonia accumulation in the PET bottle caps system was 0.4 ppm and then this was converted into toxic nitrite (0.9 ppm). This toxic waste was converted to nitrate (14.67 ppm), which is beneficial to plants. The results of this study indicated that PET bottle caps could provide a surface area utilized by nitrifying bacteria as an attachment substrate. The more bacteria attached to the filter media, the optimal nitrifying process occurs in the system, which converts waste into a beneficial form of nitrogen that can be utilized as fertilizer for the plants. Thus, this study suggests that PET bottles caps can be a potential candidate to develop a low-cost and renewable filtration media in aquaponics.

Keywords: renewable filter media, plastic bottle caps, aquaponics nitrification, polyethylene terephthalate, biochar

Growth and Yield Performance of Eggplant *(Solanum melongena L.)* Applied with Different Levels of Goat Manure Tea Mixed with Rice Water as Liquid Fertilizer

Gerry May F. Cha and Marjail I. Ferriol
College of Agriculture, Fishery and Forestry, Romblon State University

ABSTRACT

The study determined the effect of the different levels of goat manure tea mixed with rice water on the growth and yield of eggplant as fertilizer treatments. A total of 120 eggplants were used in this study. The experimental method of research was used and laid out in a randomized complete block design (RCBD). Four goat manure tea: rice water treatments were prepared: T1- control (no fertilizer), T2 - 45ml goat manure tea and 500ml rice water, T3 - 65ml goat manure tea and 500ml rice water, and T4 - 85ml goat manure tea and 500ml rice water. Each treatment was replicated thrice. Data on plant height, number of leaves, number of branches, length of fruits, diameter of fruits, weight of fruits and yield per treatment were analyzed through analysis of variance (ANOVA) for significance test and Tukey's mean comparisons for treatment mean comparisons. Based on the results, the growth performance of eggplant in terms of plant height and number of leaves was not significantly affected by the different levels of goat manure tea mixed with rice water. However, in terms of number of branches at 45 DAT, T3-treated eggplants has significantly developed a greater number of branches (11.53a) compared to other treatments, where the lowest number of branches developed was the untreated plants (8.53b). The T4-treated eggplants has the longest fruit length (16.15cm) but also does not have significant results. Meanwhile, the fruit diameter of eggplants in all treatments did not also show significant effect. The T3-treated eggplants has the heaviest weight of fruits per plant that weighed (72.444g) and has the maximum weight produce (563.567g) while the untreated plants have the lowest weight (332.667g). Based on the results of the study, the researcher recommended applying 65ml goat manure tea and 500ml rice water for better performance on growth and yield of eggplant.

Keywords: *Solanom melongena* L., liquid fertilizer, goat manure, rice water, fertilizer treatment

Growth Performance of Eucheumatoids Species in Seaweeds Farming Sites of Sta. Fe, Romblon, Philippines

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ABSTRACT

Eucheumatoids are the most economically valued seaweeds species farmed in the country. Seaweeds farming in Romblon has been one of the sources of income for coastal communities in the south of Tablas Island for almost two decades. However, studies of seaweeds performance in the province have not yet been established. Thus, this study determined the seaweeds' growth performance, survivorship, ice-ice and epiphytes incidence, and water quality of the farming sites. The eucheumatoid species such as *Kappaphycus alvarezii*, *K. striatus* and *Eucheuma denticulatum* were cultured for 45 days using monoline, and fixed-bottom method. Sampling and water quality monitoring was done every 15 days. Among the three eucheumatoid species, *E. deticulatum* showed promising performance in daily growth rate (DGR) and absolute growth (AG), while *K. alvarezii* has the highest survival rate. The optimum growth of all species was observed within 30 days of the experiment. Ice-ice disease and epiphyte occurrence were always noted. The *K. striatus* was more susceptible to ice-ice disease and less susceptible to epiphytes while *K*. *alvarizii* was more susceptible to epiphytes and less susceptible to ice-ice disease. The water quality is suitable for seaweed farming. Harvesting of seaweeds should be done on or before 30 days of the cropping. This study should continue to provide a more accurate planting calendar of seaweeds in Sta. Fe, Romblon. Nutrient and water movement should be assessed for a more comprehensive discussion.

Keywords: absolute growth, daily growth rate, *Eucheuma denticulatum*, *Kappaphycus alvarezii*, *K. striatus*, survivorship

Green Chili Pepper: Growth Response on Different Organic Mulches

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Clara Jean M. Juanzo
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ABSTRACT

The aim of this study was to observe and measure the growth response of green chili peppers on different organic mulches in terms of height, weight, and fruit production. The researchers used an experimental research design. The plant was measured at its height every five days until it was harvested. The purpose of this measurement was to show which organic mulches help the green chili pepper grow fast. The green chili pepper was measured for its weight and the number of fruits that it produced on each organic mulch when it reached 71 days. Based on the findings derived from the study, the rice hay showed a very efficient rating in terms of fruit production with an average of 2.2 yields per sample. The researchers found out that the green chili peppers are not capable of growing on sawdust mulch. Almost all green chili peppers did not grow better compared to the other two organic mulches, which are rice hay and grass clippings. The researchers recommended using rice hay mulch when it comes to planting green chili peppers.

Keywords: green chili pepper, organic mulches, rice hay, sawdust mulch, grass clippings

Ang Pangingisda sa Asing Calatravanhon: Isang Pag-Aaral sa Pagbuo ng Glosaryo

Ronalyn F. Gadon, Melissa Rose F. Morada, Jessica M. Morada, Leiyan Zanne M. Mortel, Neddy Lyn M. Sayse at Menchie F. Gadon
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ABSTRAK

Ang pananaliksik na ito ay isinagawa upang galugarin ang mga salitang Asing Calatravanhon at makabuo ng isang glosaryo patungkol sa mga salitang Asi na ginagamit ng mga mangingisdang Calatravanhon. Ang pananaliksik na ito ay naglayong malaman ang mga salitang Asi sa larangan ng Pangingisda sa Calatrava batay sa mga paraan, panahon, lugar, kagamitan, bahagi ng bangka, manggagawa, mga sukat, halaga o dami, bagay na matatagpuan sa dagat at iba pang salita. Ganoon din kung papaano ginamit ng mga mangingisdang Calatravanhon ang mga salita sa pakikipag-komunikasyon at ang pananaliksik na ito ay nakatulong sa pagpapaunlad ng diyalektong Asi sa mga mamamayang Calatravanhon. Ang pag-aaral na ito ay ginamitan ng sampling na dragnet na kung saan ang mga respondente ay pinili ayon sa kanilang kaalaman, tagal sa kanilang trabaho at malawak na karanasan sa pangingisda. Sa pamamagitan ng pakikipanayam ay napabilis ang pangangalap ng mga datos patungkol sa diyalektong Asi, partikular sa ginamit na mga salita ng mga mangingisda sa Calatrava. Sa pananaliksik na ito ay napatunayang may malaking ambag ang hanay ng kababaihan sa hanapbuhay na ito dahil sila ang naging katuwang ng mga lalaki. May kabuuang 24 na lalaki at 1 kasapi ng LGBT na may kabuuang bilang na 25 na respondente ang nakilahok sa pananaliksik. Ipinakita sa resulta ng pananaliksik na ito na malaki ang ambag ng wikang Asi pagdating sa paghahanapbuhay (pangingisda) ng mga Calatravanhon bilang instrumento ng komunikasyon. Dahil sa payak ang kanilang trabaho, maging ang salitang kanilang ginamit ay ini-angkop sa kung ano ang kanilang hanapbuhay. Ang higit na isinaalang-alang nila ay ang pakikipagtalastasan at pagpapalitan ng mga ideya patungkol sa kanilang trabaho. Natuklasan din sa pananaliksik na hindi halos lahat ay pamilyar sa

kung ano ang mga salitang ginamit ng mga mangingisda sa larangan ng pangingisda kaya inerekomenda ng mga mananaliksik na gamitin ang wikang Asi sa pagtuturo at pag-aaral upang ito ay mapalawak pa at hindi makalimutan, sapagkat kaagapay ng programang K-12 ang paggamit ng wikang kinagisnan o ang MTB-MLE sa pagtuturo at pagpapahalaga sa sariling wika. Gamitin at pag-aralan ang nabuong glosaryo sa pagpapaunlad ng kaalaman sa wikang Asi at palawakin ang bokabularyong Asi sa larangan ng pangingisda. Ipagpatuloy at palawakin pa ang pag-aaral na ito upang higit na mapalago ang mga kaalaman at madagdagan ng mahahalagang datos na makatutulong sa pagpapalawak at pagbuo ng glosaryo sa pangingisda sa wikang Asi. Ilan na rito ang pag-aaral ng iba't-ibang uri ng isda, pag-aralan ang wikang Asing Calatravanhon sa ibang larangan ng hanapbuhay, at paglilimbag-online. Higit sa lahat, gamitin ang wikang Asi sa pakikipag-uusap at pakikipagkomunikasyon bilang daan upang higit na mapangalagaan at mapagyaman ang wikang kinagisnan nang hindi mangambang ito ay makalimutan at mabura sa ating wikang taglay. Naniwala ang mga mananaliksik na malaki ang naiambag at naitulong ng pag-aaral na ito upang maibahagi at mailahad ang mga salita sa pag-unawa at pagpapalawak ng kaalaman sa mga salita at bokabularyo sa wikang Asi sa larangan ng pangingisda.

Susing salita: glosaryo, pangingisda, bokabularyo, Asi, Calatrava

Commonly Traded Plants by Plant Enthusiasts in Romblon, Philippines: Implications for Conservation

Elaine Keith G. Familaran, Ginevie A. Fernandez, Anthony T. Francisco,Bryan Well C. Gacu, and Anna Beatriz R. Mayor
College of Arts and Sciences, Romblon State University

ABSTRACT

In the era wherein people could not travel nor be able to get out of their homes due to coronavirus pandemic, many Filipinos has opted to bring the nature into their homes by collecting various plants. A growing community locally known as “plantitos” and “plantitas” (which is a combination of plant + aunt or uncle) has emerged signifying people who are into gardening. The study is deemed significant specifically to conservation practitioners, project stakeholders from DENR, and LGU in Romblon as they will be guided on the current situation and develop ways in making sustainable projects to the conservation of the flora in Romblon. Data was quantified by listing commonly traded plants and checking the conservation status of plant species considering the International Union for Conservation of Nature (IUCN) Red List Categories and Criteria Version 2021-2 and DENR Administrative Order No. 2017-11 (DAO No. 2017-11). The list of threatened plants that are commonly traded in Romblon compromises 124 in the following categories: Critically Endangered 17, Endangered 1, Vulnerable 10, Other Threatened Species 27, and Other Wildlife Species 70. Araceae is the most threatened group, while a two-fifth of plant species included in this study have yet to receive an assessment or are so poorly known that cannot yet ascertain whether they are threatened or not. It is concluded that the conservation status of commonly traded plants in Romblon is at low risk.

Keywords: threatened plants, traded plants, plant enthusiasts, biodiversity, conservatism

Ethnobotanical Survey of Medicinal Plants Used by Folk Herbalist in Alcantara and Looc, Romblon, Philippines

Angelica G. Gabuna, Ma. Elmie L. Asuncion, Gemmabel R. Fillartos, Jay-R S. Garcia, Judy G. Irabon, Jayson O. Grimares, and Jayson F. Enciso
College of Arts and Sciences, Romblon State University

ABSTRACT

Medicinal plants are an essential aspect of the Philippines' indigenous medicinal system. Historical accounts of Filipinos using medicinal plants occur throughout the Spanish pre-colonial period due to the influence of Chinese traders. This study aimed to gather data on well-known medicinal plants used in the municipality of Alcantara, and Looc Romblon, Philippines. A semi-structured interview was used to gather data from Folk Herbalist (FH) about the various ethnobotanical components (illness, plant parts used, mode of preparation and application, dosage of application, duration of application) in every medicinal plant. The study found that stomachache is the most common illness in Alcantara, whereas cough is the most common illness in Looc. Leaves are the most used plant parts by FH in two municipalities. Decoction and poultice are the most common methods of preparing and applying medicines to cure illnesses. The FH employed a variety of dosages depending on the illness reported by their patients. For the duration of the treatment, FH recommends using medicinal plants until fully healed. Considerably, more work will be needed to determine the accurate dosage of every medicinal plant used to treat illnesses.

Keywords: ethnobotany, medicinal plants, dosage of application, duration of application, illness, mode of preparation and application, plant parts used

ENGINEERING, DEVELOPMENT, AND INNOVATION

Acceptability of Food *Pasada* Delivery System

Jay-Ar R. Ribon, Artz A. Rase, Lea May R. Rosas, Rodel D. Bacuna
Cajidiocan Campus, Romblon State University

ABSTRACT

Ordering food is now as simple as clicking a button, and menus and recipes are available online, eliminating the need to travel to a fast-food restaurant and wait in line for an extended period of time to receive what you want. The advanced online food ordering system has transformed restaurant culture and brought a new degree of comfort to residents, particularly in Cajidiocan, Romblon province. This study was developed with the C# programming language. This delivery service had three restaurants that were part of the system and used their products to serve their customers. Customers could select from a variety of products and services supplied by participating restaurants by using the system. The owner/manager of each restaurant serves as one of the admins of the system and has complete control over the process of managing the price and products. Additionally, the system can notify the food delivery rider when an order has been placed, the restaurant from which it should be picked up, and when the order has been delivered to the customer. The acceptability level of the Food *Pasada* Delivery System in terms of accuracy, reliability, usability, and security is rated as "Perfectly Acceptable".

Keywords: Food *Pasada*; Delivery Rider; Food Ordering; Customers; Food *Pasada* Delivery System.

Effectiveness of Website in Tracing COVID-19 PUI, PUM And LSI for Magdiwang, Romblon

Nikko Jay D. Calixtro, Jhon Rhen R. Borden, Zhannen Bernadeth D. Galicha, and Raymund R. Ipedro
Cajidiocan Campus, Romblon State University

ABSTRACT

Contact tracing, in conjunction with rigorous testing, isolation, and management of cases, is a critical strategy for interrupting SARS-CoV-2 transmission chains and reducing deaths related to COVID-19. The minimum health protocol should be applied by municipal and Barangay authorities and followed by citizens in order to sustain and flatten the epidemic curve in the municipality. The study aimed to determine the effectiveness of a website in tracing COVID-19 PUI, PUM, and LSI for Magdiwang and Romblon in order to improve the existing manual transmission of information. During the first semester of A.Y., the study was conducted in the municipality of Magdiwang, 2021–2022. The effectiveness level of the developed website was evaluated by 10 municipal and barangay officials, 10 faculty members, and 30 randomly selected students of Romblon State University-Cajidiocan Campus using the 7-point Likert scale. The researchers have found that the website in tracking COVID-19 for Magdiwang, Romblon, was very effective in terms of functionality, usability, compatibility, and security based on the data gathered. In addition, it was determined that the website in tracking COVID-19 for Magdiwang, Romblon, was highly effective in terms of functionality, usability, compatibility, and security.

Keywords: PUI, PUM, LSI, COVID-19, Contact tracing

Student Online Voting System with Image-Based Capture

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ABSTRACT

Reliable voter identification is one of the key requirements to guarantee the eligibility and validity of the voters. Romblon State University – Romblon Campus encountered problems in the past election. Some of the problems encountered include the validity that the voter is the one who cast his or her votes, the transparency of votes, and especially for the security of the information including the voter's information, candidates' information, and the number of votes cast by the voters. The developers came up with the idea to develop the online voting system with image-based capture. This is designed to cast votes to elect the desired candidate and take a snapshot to validate the voter using the system. This particular online voting system with image-based capture allows the voters to capture their faces and cast votes during the voting period. The developers used the Likert scale to determine the interval and the ranking of the questionnaire. The developers have calculated the level of satisfaction and the average result of the evaluation. Moreover, the result of the evaluation proved that the system is acceptable in terms of functionality, usability, performance, and compatibility. The security specification of software for voters has been validated with a general weighted mean of 4.49 (Excellent) and the election committee with a general weighted mean of 3.97 (Very Good).

Keywords: online voting system, image-based capture, election, online, voting

Online Grading System for Romblon State University, Romblon Campus

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ABSTRACT

The most common issue that students have is misplacing their class cards, while the teachers have difficulty in releasing the class cards in the new normal classroom set-up. The researchers sought to assist the teachers by simply designing a system that would reduce their paperwork and will allow teachers to electronically encode students' grades and for the students to view their grades online. This study aims to design and develop an Online Grading System for Romblon State University - Romblon Campus. The modified waterfall approach was used in the design and development of the online grading system. The Likert scale was used by the developers to establish the interval between the questionnaire's rankings, allowing them to calculate the level of satisfaction and the average evaluation result. The importance of this project is that it will benefit both instructors and the students. Instructors can encode grades online, and the students can view their grades online. Furthermore, the results of this study shows that the system meet the following features: (1) Encoding of final grades of the students, (2) Viewing of final grades, and the system was tested using ISO 25010:2011 standard with the weighted mean of 4.4 and the result obtained was "excellent", applying this system to Romblon State University - Romblon Campus.

Keywords: online grading system, waterfall method, Likert scale, final grade

Employees' Attendance Monitoring System with Information Verification for Romblon State University, Romblon Campus

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ABSTRACT

The biometric fingerprint device serves as the attendance monitoring system for the employees of the Romblon State University – Romblon Campus. It can generate the attendance data of each employee, which is needed for their payrolls but there is still a need to produce an individual report. This study aimed to enhance the performance of the existing system in terms of the accuracy and automation of report creation. The proponents developed a system with the use of an RFID card to acquire the attendance of the employees. Some high-level activities include programming using VB.Net, SQL, and MySQL is used in databases. One of the best features of this system is it enables computing and generating the reports that are needed by the admin in the submission of the reports by the end of the month. ISO: IEC 25010:2011 standard was used to evaluate the functional suitability, performance efficiency, reliability, and security of the existing and the developed system. The instrument was validated and pretested accordingly. The findings of the study show that the developed system was very satisfactory to be used as the attendance monitoring system of the campus. Overall, the developed system shows that the Faculty & Staff of RSU-Romblon Campus are very satisfied with the developed attendance monitoring system. Also, most of them agreed that the EAMS is acceptable and ready to use for the attendance monitoring system of the employees in RSU-RC.

Keywords: Developed System, Employee, Attendance Monitoring System, Monthly Reports, RFID

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

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ABSTRACT

Giant swamp taro (*Cyrtosperma merkusii*) is a giant herbaceous perennial plant with typically 6-8 huge leaves arising from a short subterranean stem. The aim of the study was to investigate the characteristics of flour derived from *Gaylang* root crops in terms of color, odor, texture, and aroma and the acceptability level of polvoron derived from *Gaylang* root crops in terms of taste, color, texture, and aroma. The researchers used a quantitative - evaluation research design utilizing three trials for the product. The product was presented to the respondents using checklist as the instrument for gathering the data. The data gathered were carefully analyzed and interpreted through various statistical tools such as frequency count and weighted mean. From the data gathered, the researchers found out that the flour derived from *Gaylang* root crops has a cream color, smells like ordinary flour, and has a fine texture. The results also showed that the acceptability level of polvoron derived from *Gaylang* root crops in terms of taste, color, and aroma is perfectly acceptable, and the texture is acceptable. Lastly, the researchers found out that trial 2 is the most acceptable of the three trials in the acceptability level of *Gaylang (Cyrtosperma merkusii)* corm flour as polvoron.

Keywords: *Gaylang*, Polvoron, Corm Flour, Sibuyan Island, *Cyrtosperma merkusii*

Acceptability Level of Spider Conch (*Lambis lambis)* as Burger Patties

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ABSTRACT

Spider Conch *(Lambis lambis)* is a genus of large sea snails sometimes known as spider conchs, marine gastropod mollusks in the family Strombidae, the true conch family. It is a kind of edible sea snail that has a tough shell. It is usually found on the nearshore, along with sandy sea floors, anywhere on the Island shore of Sibuyan. This study aims to assess the spider conch *as* Burger patties on its taste, texture, appearance, and aroma. It focuses on the acceptability level of spider conch as burger patties in the product in terms of taste, texture, appearance, and aroma and the significant difference between the taste of the burger patty as a stand-alone patty and as a burger. The data were gathered using a validated rating scale questionnaire. The burger patty was personally delivered, administered, and eaten by the respondents, which are composed of students and faculty in Romblon State University – Cajidiocan Campus and local burger shop owners. After the administration of the questionnaires, the data gathered were tabulated and analyzed using statistical tools. The results showed that the spider conch as a burger patty tastes like an ordinary patty and has good texture, appearance, and aroma. The acceptability level of spider conch as a burger patty is very acceptable. Furthermore, the spider conch patty is more tasteful when eaten or served as a burger.

Keywords: spider conch, *Lambis lambis*, burger patties, food preparation, food innovation

The Coolest Weed of the Sea: Acceptability and Salability of *Euchuema* Sp. Ice Cream

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ABSTRACT

Seaweed is a major aquaculture product with healthy benefits to human such as vitamins, minerals, and fiber. This study was conducted to determine the general acceptability in terms of odor, flavor, color, texture, and salability of seaweeds ice cream products prepared using two methods of seaweeds preparation to different level of consumers namely students, professionals, vendors, industry, and farmers, respectively. Data gathered on the GA were interpreted using 5-point hedonic scale and analyzed using ANOVA, T-Test and LSD and the salability was determined in terms of Return of Investment. Result revealed that seaweed ice cream using soaked method was extremely acceptable (4.71) to the different level of consumers while ice cream using boiled method was in acceptable level (4.49). T-test on the overall mean sensory evaluation of the products showed that the soaked method attained significantly higher as compared to boiled method in terms of odor and texture. However, no significant difference observed between the two products in color and flavor in almost the correspondent groups, except in vendor sector. Soaked method (4.85) was also more flavorful than boiled method (4.23) based on the T-test result of student respondents. Moreover, economic viability ice cream using soaked method registered higher salability with an SRP of Php 25 as compared to the boiled method with Php 23.54. This higher salability resulted to higher economic viability which was measured by ROI of the product (21.57 %) as compared to the other one (14.47 %).

Keywords: Acceptability, economic viability and salability, *Euchuema* sp., seaweeds ice cream

Design of River Floating Trash Traps Using Recycled Plastic Bottles and Waste Analysis Characterization of Collected Waste in Odiongan, Romblon, Philippines

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ABSTRACT

Water pollution is a significant problem in the Philippines, and rivers are one of the bodies of water that are affected by this pollution. Accumulation of solid waste from rivers that hinder the quality and life below water is one reason for this pollution. According to the Comprehensive Land Use Plan of the Municipality of Odiongan, rivers and creeks are used as solid and liquid dumping sites, resulting in pollution. In addition, the municipality also generates tons of waste every month. This project aims to design floating trash traps installed in the municipality's three (3) rivers, specifically Bangon River, Gabawan River, and Poctoy River. These plastic-made traps are strategically placed near downstream rivers to stop solid waste from floating further downstream without hampering aquatic life movements and are installed in a parabolic path to maximize their collection capacity. The materials used in the proposed design consist of plastic bottles, poultry net, and nylon. Fieldwork was done at the rivers and characterized the collected wastes by their wet weight. The floating trash traps generated a total of 260.56 kilograms. A total of 74% (193.08 kilograms) of biodegradable waste were collected, consisting of leaves, twigs, logs, driftwoods, and branches of trees. For non-biodegradable, 5% (13.3 kilograms) of trash were gathered containing plastic packaging, styrofoam, miscellaneous plastics, and cigarette butts. 15% (39.05 kilograms) of the waste is recycled material (plastic bottles, cans), and 6% (15.13 kilograms) is residual waste, mainly heavily soiled plastics, were accumulated. In conclusion, the design of the floating trash traps has been proven as a potential solution for collecting marine wastes, particularly in rivers.

Keywords: marine waste, trash traps/barriers, recycled bottles, waste characterization, solid waste management

Development of a Portable Wind Power Conversion Apparatus as an Alternative Renewable Energy Charging Source

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ABSTRACT

This project aims to evaluate the performance of a portable wind turbine generator and develop an apparatus for smartphone battery charging and USB LED light applications. The wind turbine generator is intended for low wind speed areas of Tablas Island, requiring an investigation into the available wind resources. An emergency power source is required to recharge the batteries of a common electronic and communication device of the household members to extend hours of activities day and night when the wind speed requirement is satisfied. The portable wind energy conversion device consists of the following: an H-rotor type turbine PVC blades, a small DC generator, a wind energy charging controller, a voltmeter, a battery management system (BMS), and lithium-ion batteries. The wind turbine generator was tested in the laboratory and selected field areas. Tests showed that the municipality of Alcantara, Calatrava, and Sta. Maria in Tablas Island recorded a wind speed of at least 5.5 m/s and higher to produce 1.3 V ~6 V. The voltage is optimal when turbine blades were tilted 60 degrees angle from the horizontal. The wind speed is required for a wind turbine generator to charge the lithium-ion batteries efficiently.

Keywords: portable wind power apparatus, renewable energy, wind turbine generator, wind power, wind energy

Audit of the Electrical Energy Consumption and Outlay of the Municipal Building in the Island of Simara

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ABSTRACT

This study was conducted to perform an energy audit of the municipality building of Corcuera in the province of Romblon. The energy audit was done through an inventory of all existing electrical loads followed by waste energy investigation to determine the opportunities for energy conservation measures, and lastly cost analysis. Results show that lighting loads accounts the lowest consumption at only 5% of the total load while air conditioning units (ACUs) consumed the highest at 88% or equivalent to 2,660 kW-hr per month. Possible energy wastages in the ACU were identified such as air leakages in doors, jalousies, and sliding windows and measures to correct these were suggested. Also, applying conservation measures to lighting loads only can reduce an approximately 22.752 kW-hr per month in electricity consumption which translates to a yearly carbon emission reduction of 61.425 kg (CO_2). This study was able to identify existing energy wastages and formulate conservation measures than can be applied by the municipal employees to save more energy.

Keywords: energy audit, energy consumption, energy conservation measures, cost analysis, electric consumption

Civil Engineering Electronic Smart Application (CEESA): Evaluation, Enrollment, Grade and Downloadable Materials Database for Civil Engineering Student and Faculty

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ABSTRACT

The study Civil Engineering Electronic Smart Application (CEESA) is a smart application use for evaluating, enrollment, viewing of grades for students and database for instructional materials in civil engineering also, the application is for encoding of grades for faculty and monitoring. The application uses Firebase free-tier Plan Data base for free storage of data. Kotlin Android Studio Software for programming the application. CEEESA is a smart application with two portals: Smart Application Portal for student and Admin Website Portal for faculty. Smart Application Portal is for student, and has features limited to accessibility to their account, account creation, log-in and customization, integration with database, enrollment, grade viewing and file lecture download. The admin website Portal is for faculty use only and has the following features, account log-in and customization, integration of data, enrollment management, student, grade, course, and file management. The website portal for admin has the function of encoding and uploading the data for grades, course and uploading of materials. The development of this application is piloted on the civil engineering department for managing student enrollees, but it could be extended to the college of engineering and technology and even in the main campus for further development.

Keywords: smart application, evaluation, enrollment, database, civil engineering

SUPERVISION, ADMINISTRATION, LEADERSHIP, AND MANAGEMENT

Financial Performance of Local Government Unit of San Fernando, Romblon F.Y. 2018-2020

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ABSTRACT

This study aimed to determine the Financial Performance of Local Government Unit of San Fernando, Romblon F.Y. 2018-2020 using the New Local Government Unit Financial Performance Indicators based on revenue and expenditure performance from the guidebook of the New Local Government Financial Performance Monitoring System (LGFPMS) issued by the Bureau of Local Government Finance (BLGF). The researchers used mixed research in context and in design. The data needed are the Statement of Receipts and Expenditure and population in the year 2018-2020 which are collected from the LGU-San Fernando, Romblon and Philippine Statistics Authority (PSA). According to the result, the year 2018, 2019 and 2020 has poor revenue performance. As for the expenditure performance, the year 2018 and 2019 were both poor while the year 2020 has good performance. Thus, 2018 and 2019 belongs to Type 4 LGU Financial Performance which both have poor revenue and poor expenditure while 2020 belongs to Type 3 LGU Financial Performance which has poor revenue and good expenditure. Therefore, the year 2020 has better performance than the year 2018 and 2019.

Keywords: expenditure performance, financial performance, financial performance typology, local government unit, revenue performance

Effectiveness of Hospitality Management Program for Industry Preparedness of Students of Romblon State University, San Fernando Campus

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ABSTRACT

This study was entitled "Effectiveness of Hospitality Management Program for Industry Preparedness of Students of Romblon State University – San Fernando Campus." The study was conducted in Romblon State University – San Fernando Campus. The respondents were composed of one hundred ninety (190) from 3rd and 4th year Hospitality Management students. Particularly, it measures the student's skills that are needed in the industry those skills are generic, functional, main areas, and proposed interventions. The study provides benefit to the following: BSHM/BS tourism students, Hospitality Management/ Tourism Management Program, and future researchers. The study employed random sampling techniques. The researchers used descriptive research design to collect the necessary data. The results show that students are prepared to work in the hospitality industry based on the excellent rating they have disclosed on their skills. They have developed the necessary skills required of hospitality industry after graduation. However, there are still areas in the Hospitality Management curriculum that needs an improvement.

Keywords: Analytical skills, competency skills, HM students, hospitality industry.

Scarcity in Water Supply: A Long Time Struggle of Locals In Canduyong

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ABSTRACT

The aim of this study is to put an end to the long-time struggle on water scarcity of Barangay Canduyong as it analyzes demographic profile of participants, the problems encountered in terms of water scarcity, how the participant view the effort of the government in solving water scarcity, and what are the possible output that can be crafted based on the findings. This paper reviewed the existing water source in the subject Barangay, with the goal of understanding the evidence base for water scarcity intervention of the local government. The authors conducted a qualitative methodological approach where they purposively interviewed participants and analyzed data using thematic method. Research on water scarcity impacts and solution is still an emerging field. In connection, researchers found the need of the subject barangay to an equal access to potable and adequate supply of water. Plans included like improving the water source, carrying out potability testing, and enhancing drought risk approaches as mentioned by participants. The recommendation was a Policy paper which includes executive summary, introduction, approach, policy option, policy recommendation, and resolution that targets characterizing Barangay Canduyong, experiencing water scarcity, assessing the community needs, tracking the water scarcity, and recognizing the human right to water.

Keywords: water scarcity, thematic, policy paper, environmental problem, water source

Environmental Problems and Protection Initiatives of Barangays in Tablas Island

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ABSTRACT

Environment has been and will forever be essential for living souls. As the basic political unit, the Barangay serves as the primary planning and implementing unit of government policies, plans, programs, projects, and activities in the community. Since environmental protection is a vital program in every LGUs, its implementation should start in the smaller unit of the Government, the barangay. In accordance with, the study was conducted to analyze the environmental problems and protection initiatives of Barangays in Tablas Island. The researchers sought to know the common environmental problems that the barangay encountered; to know how the participants protect their environment in barangay level; to know the resolutions implemented in their barangays; and to craft possible recommendations based on the findings. The researchers included 25 randomly selected barangays and used an interview guide as a secondary data collection tool. The qualitative thematic analysis technique was used in the investigation. In addition, the researchers distributed an open-ended interview guide to Looc, Alcantara and Ferrol MENRO to validate the real and existing environmental problem in Tablas Island. The study found out that there were problems on solid waste management and other environmental issues, implementation, assessment, and penalization in the barangays of Tablas Island. A policy paper creating a pollution control unit in barangays of Tablas Island was crafted to serve as an instrument in eliminating problems arising in the barangays; it shall monitor, evaluate, assess, promote, and conduct environmental awareness, and ensure conformance with regulations and ordinances.

Keywords: environment problems, environmental protection, Tablas Island, thematic, policy paper

Tuna Fish Catch and Supply Chain in Sibuyan Island

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ABSTRACT

Tuna is a huge, predatory pelagic fish in the Scombridae family that swims long distances and lives in temperate and tropical oceans all over the world. In terms of volume and value of landings, the tuna fishery in the Philippines is among the most vital marine fisheries and thus, prone to exploitation. In accordance, data on tuna catches are required to give critical information about this species and its current level of exploitation. Thus, researchers decided to conduct this study to determine the tuna fish catch and supply chain in Sibuyan Island. A total of 100 tuna fishermen were randomly selected and interviewed using a self-administered questionnaire. In addition, the island's Municipal Agriculture Offices (MAOs) were also visited to secure data regarding tuna production. This study identified the tuna supply chain begins with fishermen and continues through middlemen (regatones and merchants), local markets in island communities, markets in Romblon, Odiongan, and Looc, and markets outside the province. Moreover, upon evaluating the data using content analysis, Sibuyan Island's tuna fish catch reaches 54,300 kilograms per year which is significantly reduced compared to the past years. With this result, researchers suggest that a strict policy in Romblon province protecting the resources from the exploitation of non-native commercial fishing vessels should be implemented.

Keywords: tuna catch, supply chain, key players, tuna problem, tuna

SOCIAL SCIENCE, HUMANITIES, AND EDUCATION

Financial Literacy Level of Sibuyan *Mangyan Taga-Bukid*: An Assessment

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ABSTRACT

The study assesses the level of financial literacy of Sibuyan *Mangyan Taga-bukid* (SMT) members. The study surveyed 93 heads of households to investigate their level of financial literacy through the administration of questionnaires. The results showed that the respondents answered about 49.5% of the questions correctly, which, based on the benchmark, indicates that SMT members have a low level of financial literacy. The results also revealed that many of the respondents do not always practice good personal financial management practices. The incompetency exhibited by the SMT members therefore limits their ability to make sound financial decisions and makes them more likely to have financial-related issues in the real world. The low level of financial literacy could also make small financial issues become overwhelming, which could lead to financial stress and consequently affect other aspects of life, such as personal relationships or the way the SMT members engage in business as they sell their products in the lower land. The low level of financial literacy and its consequences then shows the need for government in the educational system to put policies in place to ensure that the level of financial literacy among SMT members is improved since financial literacy has essential implication for future behaviour. It is recommended that financial literacy training and programs must be given to the SMT members by the government, and it is also recommended to the NGO's that as they support the SMT members they must also give priority in providing financial literacy training and programs.

Keywords: financial literacy, knowledge in savings and borrowings, knowledge in investment, personal financial management practices, Sibuyan *Mangyan Taga-bukid*.

Developing a Game-Based Instructional Manipulative for Permutation and Combination

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ABSTRACT

The use of instructional manipulatives in teaching mathematics has significantly contributed to the teaching and learning process. Thus, the Department of Education strongly encouraged teachers to develop and contextualize instructional materials to aid classroom instruction. In this study, an instructional manipulative was developed and evaluated, the Probity. In this developmental research, the development of the material was based on the survey on the needs and difficulties of teachers handling Mathematics 10. Based on the results, teachers confirmed that they faced challenges in teaching permutation and combination due to lack of instructional materials such as manipulatives. Additionally, literatures showed that students have low understanding of permutation and combination concepts and their ability to plan out problems is limited. Nine (9) curriculum and content experts from the Division of Romblon evaluated Probity based on the guidelines and standards of the Department of Education to assess its suitability for classroom instruction. The results revealed that the manipulative passed the criteria mandated by the Department of Education. Also, it was found that the manipulative was aligned with the prescribed learning competencies and could potentially reinforce students' learning specifically for permutation and combination. In addition, the manipulative helps in enabling learners to be critical thinkers and problem solvers. Therefore, the development of Probity is timely and relevant. Evaluators discovered that it is different from traditional manipulatives, which has a potential to provide learners a strong foundation in permutation and combination. Consequently, the evaluators recommended the evaluation of effectiveness of Probity through experimental research.

Keywords: combination, evaluation, manipulatives, permutation, Probity

Assessing the Preparedness of Selected Casual Dining Restaurant in Odiongan, Romblon in the New Setting

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ABSTRACT

This study assessed the preparedness of the selected casual dining restaurants in Odiongan, Romblon during this time of the pandemic. There were two groups of respondents in this study composed of five owners and 18 employees. The researchers used the purposive sampling technique. The instrument's reliability was tested thru Cronbach's Alpha resulting in 0.700 interpreted as a good instrument. The owners gave a higher response to all variables when it comes to being prepared in battling COVID-19 compared to the employees. Meanwhile, managing operations in foodservice establishments got the highest overall weighted mean (Owner=4.0; Employees=3.87) however managing food in the pick-up and delivery got the lowest overall mean (Owners=3.96; Employees=3.70). Results also revealed that there is no significant correlation between the socio-demographic of the respondents and their preparedness. Moreover, managing food in the pick-up and delivery shows significant differences among other variables as perceived by both respondents. It is vital to assess the preparedness of the restaurants against COVID-19 to ensure the health and safety of the community.

Keywords: preparedness, casual dining restaurants, pandemic, new normal dining, Odiongan

Life Behind Bars: Spiritual Life Experiences of Persons Deprived of Liberty in Odiongan District Jail

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ABSTRACT

Spirituality is one important aspect of human life. The life behind bars basically means the life of imprisonment. A total of 60 respondents were randomly asked to answer a self-made questionnaire about spiritual life experiences and problems encountered of persons deprived of liberty in Odiongan District Jail. Using the Pearson's-Spearman Correlation, it was revealed that the spiritual aspect and the problems encountered of PDL is significantly related. Further, results showed that the respondents strongly agreed that the institution accepts visit from a representative of any religion, however, they claimed that there were not enough religious affiliations who voluntarily conduct services in the jail. Moreover, findings revealed that, and detainees were able to gather as a group for a collective prayer. All problems encountered by the detainees were tagged as not serious. Providing the necessary facilities needed for religious gatherings, respecting religious affiliations, and allowing religious representatives to conduct worship to help improve the well-being and mental health of persons deprived of liberty regardless of religious affiliations were recommended.

Keywords: life behind bars, spiritual life experience, religious affiliation, faith, justice

Establishment of English Pinnacle Online Group: Effects on the Social and Cognitive Presence of BSEd English

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ABSTRACT

Change is the only constant in life, and the ability to adapt to those changes will determine one's success. Collaborative learning with the integration of technology is an effective approach in education, especially amidst pandemic. The researchers came up with the Establishment of an English Pinnacle Online Group that aims to stand as a pillar of support and contribute to the effective enhancement of students' social and cognitive presence in Romblon State University-Cajidiocan Campus as a response to remote teaching and learning. The research study utilized a descriptive method. Forty (40) respondents undergo two weeks of experimental studies using a Facebook page to find out the efficacy of an English Pinnacle Group on an online highway. All the data gathered from respondents' two weeks of experience through an online survey were collected, tallied, encoded, and interpreted using a weighted mean. The survey revealed that the conducted assessment in terms of social and cognitive presence was both effective. Another result also showed that the creation of English Pinnacle was totally agreed upon after meeting the average satisfaction level of major in English. Therefore, this research concluded that collaborative learning indeed could contribute to social improvement, and the sense of belongingness can eventually result in the enhancement of social and cognitive presence.

Keywords: English pinnacle group, social presence, cognitive presence, collaborative learning

Self-Assessment Competency of Hospitality Management Graduating Students in the Time of Pandemic

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ABSTRACT

COVID-19 pandemic has affected the education system in our country. Suspension of classes were being mandated to lessen the spread of the virus. Thus, it became a challenge for both schools and students to develop their competencies required on their major subjects. This study examines the competencies acquired by the Hospitality Management (HM) graduating students on their major subjects taken during pandemic period from A.Y. 2020-2022. There were five core competencies assessed in this study which are required in the hospitality industry: human relations-communication, professional image and operational knowledge, interpersonal communication-cultural diversity, human resource management and, leadership and critical thinking. A survey questionnaire was utilized and tested its reliability (α= 0.945). There were 89 HM graduating students as respondents and answered e-survey questionnaires using google form. This study shows that among of the core competencies professional and operational knowledge is the highest (WM=3.33; Competent) while Leadership and Critical Thinking was lowest (WM=3.15; somewhat competent). In terms of most major subject learned during distance learning is Research in Hospitality and least subject is Micro-perspective of Tourism and Hospitality. Meanwhile, the Food and Beverage Cost Control was the most essential major subject for the respondents to improve their competency and Asian Cuisine was the least. This study shows that there is significant correlation among the five core competencies as perceived by the respondents. Thus, determining of competencies acquired by the students during the pandemic period is essential. As this will be their tool for their chosen career in the future.

Keywords: self-assessment competency, COVID-19, hospitality management, academic achievement, professional competencies

Students' Motivation and Performance Level in Learning Grammar Lessons Using Kahoot: A Game-Based Learning Platform

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ABSTRACT

The advancement of technology over the past decades continues to expand and skyrocket, traversing across multiple fields, including education. It has some advantages, including improving students' performance and motivation, encouraging active learning, and keeping track of students' progress. Since learners of today's generation were technology savvy, very receptive to the integration of technology, and immensely hooked on technology-based games, the researchers of this study made use of these trends of interest. The researchers utilized Kahoot, a game-based online learning platform, as an alternative means of learning grammar lessons. The main objectives of this study are to assess students' motivation and performance level in learning grammar lessons through the use of Kahoot and examine whether there exists a significant relationship between the two. The descriptive correlational method was used in the study. Forty-five (45) BSEd major in English students from Romblon State University—Cajidiocan Campus were randomly selected as participants. Data were collected by administering a Kahoot grammar quiz and a survey questionnaire on the motivational level. The results showed that students were very good at learning grammar lessons through the use of Kahoot and were very highly motivated. Also, findings reveal that the performance of students tends to increase as their level of motivation also increases. Therefore, the researchers concluded that students are generally receptive to the use of this tool and find it useful to increase their motivation as well as improve their performance.

Keywords: Kahoot, students, game-based, motivation, performance level

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