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RESEARCH AND EXTENSION OFFICE

Vision

Lorma Colleges as the hub of research excellence equipped with the capacity to strategically leverage its intellectual assets, knowledge resources, and ICT infrastructure to pro-actively respond to the ever-changing landscape of the institutional, regional, national, and global environments, imbued with the social responsibility of developing and empowering human resources and communities.

Mission

The Research and Extension Office acts as the strategic leverage of the institution in nurturing the mindset essential in developing the capability to sustain the momentum of research production and the heartset essential in institutionalizing a research-driven organizational culture in collaboration and partnership with the research teams, faculty, staff, and students.

Philosophy

Lorma Colleges believes in a system of management devolution; sustained delivery of quality research outputs in a given time by improving governance and management; effective and efficient management of the research processes and resources; the preparation of its students and faculty to be members of a more cohesive world; the generation of knowledge on a more global orientation; and the provision of its academic resources, to the extent feasible, to institutions involved in international activities.



LORMA COLLEGES Research Journal
Volume 5, October 2019

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FOREWORD

Lorma Colleges has increasingly progressed in line with research. To start with, our faculty members further qualify themselves by enrolling in the masteral and doctoral studies. In this way they qualify themselves to teach and their research or thesis help them to guide better their students in their research requirements.

With research guidance from faculty members as well as colleagues in the teaching profession we have now used research designs such as quantitative, qualitative, experimental, and applied.

Also, both our faculty members and students experience winning with the acceptance of their research for oral as well as poster presentations nationally and even internationally.

The research studies in this volume of the research journal are from our students of the health-related programs namely: Nursing, Pharmacy, Medical Laboratory Science and Physical and Respiratory Therapy. Also, students from the College of Business, College of Education and Sciences, College of Computer Science and Engineering and Basic Education School.

We thank our faculty members and students who contributed to this volume. Let us continue contributing our research outputs as we need these in relation to Accreditation, Center of Development, and Deregulated status. We are aspiring for higher levels in the aforementioned levels as well as towards University hood.

We have accepted challenges related to stewardship for Lorma Colleges for her greater glory.

Pacita G. Apilado, MAN, Ed.D.
Executive Director for Academics

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PART I - STUDENT RESEARCHES

**CATEGORY : Qualitative
Researches**

ABC's of ONLINE DATING

by:

Danielle Marie Peralta

Xian Nicole Baguitan

Moira Samantha Sales

Martin Mari Salas

Karl Mikhail Delavin

Daniel Martin Obong

Research Adviser : Mr. Fernando Oringo

ABSTRACT

The main focus of this research named “the ABC’s of Online Dating” was pertained towards the teenagers’ views and relationship with online dating. For answering the statement of the problem, the dimensions of online dating had included love, time, accessibility and communication. The concept of love was defined as a fun influence of support and trust, time was a struggle for long-distanced partners yet they found time to manage and prioritize, and accessibility and communication were related to online dating from the apps technology had given them that led to a growing communication between many lovers. The impacts of online dating towards teens were comprised of how aware they had become with the challenges of dating online, and how they were benefited with the support through difficulties. The lived experiences of the participants involved in online dating specified how they went through many labors of building trust and opening up to people, as well their conflicts and their opinions on how they felt towards this topic. In conclusion, the dimensions of online dating were love, time, accessibility, and communication. The impacts of online dating towards the teens interviewed are how they had become more aware of difficulties in relationship building and how they had been benefited with support and comfort, and the lived experiences of the said teens vary from being fun, hard, useful, or opposed. A recommendation for teenagers involved in online dating was to balance one’s focus in their online relationship and personal priorities like studies, and etc.

**TAKING PRIDE ON TATTOOS AND PIERCINGS:
THE LGBTQ COMMUNITIES OF LA UNION**

by:

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Chrysta Joy Ganal

Adrian Louise Pugal

Lance Micaiah Dauz

Chrislyn Kate Balanon

Research Adviser : Mr. Fernando Oringo

ABSTRACT

Due to the evolution of our society, one's emotion or life story cannot only be seen in forms of literature or speech but also in the form of "body art" like Tattoos and Piercings. Nowadays, the LGBTQ Community has used body art as a way to cope up with their different experiences and to express themselves. Although possessing body art can be a difficult process, physically and mentally, as some undergo painful procedures and experience discrimination that affected their careers due to these tattoos that can be seen negatively. The researchers aimed to analyze the meanings of the tattoos among the LGBTQ members. For this phenomenological study, the researchers gathered data by conducting a semi-structured interview to LGBTQ members who possess tattoos. To further justify our research, pictures of the tattoos were taken. Based from their responses, they are motivated by the people close to them and others are motivated by the life-changing experiences they had. The symbols of their tattoos where mostly animals that represent emotions like freedom and love while some are symbols of their organization. The tattoos may differ from their sizes and designs but the similarity is that it represents an important mark that changed their lives. With the data gathered, the researchers concluded that tattoos is more than just an aesthetic but it serves as a platform to express one's experiences and a reminder that one has dealt with an obstacle and was able to show it through art.

CULTURAL REFLECTION OF FASHION AND DEATH

by:

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Research Adviser : Mr. Fernando Oringo

ABSTRACT

We live in an era where, within our culture, beautifying the dead is seen as an essential way to provide a refined look for the bereaved family's satisfactory. Herewith, this study revolves around the makeup and clothes worn by the dead, as it turns out to be a unique kind in the fashion industry. Accordingly, customs, traditions, and historical circumstances have been shaping the way people in various times feel about clothing and exposure. The purpose of this research is to determine the factors regarding the fashion of the dead whilst discussing its uniqueness in the perspective of services, and its manageability in terms of religion, decisions, and societal standards. Thus, to generate participants' perspectives, the researchers focused on using Narrative and Phenomenology Research Designs to accumulate textual information, and made use of Snowball Sampling to search for funeral directors and embalmers. The data gathered is grouped thematically based on the framework and the general factors behind the answers of the respondents. This study identified adaptation to beliefs, execution of cultural practices, religious affiliations, preservation of traditional apparels, carrying out of cultural practices, and recognition of symbols as the factors that have led to the evolution of the fashion of the dead. The researchers determined how the funeral directors execute trends through motifs and familial requests, and how they manifest professionalism and exceptional artistry in beautifying the dead. Research also shows that the fashion of the dead lies on the belief conformity, symbolic recognition, and familial decisions.

WEAVING THE CULTURE OF DIGITAL TOURISM IN THE SUMMER CAPITAL OF THE PHILIPPINES

by:

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Research Adviser : Mr. Fernando Oringo

ABSTRACT

As time passes and culture is passed on to different generations, the elements of tourism diverse. With the prevalence of technology in our country, its citizens will have a better grasp of what tourism actually is. This paper tackled and delved deeper on how beneficially technology can affect and be the bridge to connect the gap between tourism and culture. In the modern era, technology is ever-evolving, and it can be a great enhancement or tool for boosting tourism especially through digital tourism. Whilst its social costs, both globalization and modernization cannot be ignored; digital tourism can transform the imagery and identity of a locality. The scholars used the method of semi-structured interviewing and analyzed their accumulated data through thematization for this phenomenological study. The researchers have identified the elements of Digital Tourism mainly focused on programs, technology and media. Meanwhile, the researchers also determined the implications of Digital Tourism to the locals, the tourists and the government. The following influences of Digital Tourism are also scrutinized by the researchers on culture and the development of the city. As a conclusion, the scholars have found out that Digital Tourism is firmly applicable to the City of Baguio and is adhered by tourists, locals and the government.

THE X-FACTOR OF CROSS DRESSING

by:

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Patrice Zarsadias

Elisha Libadia

Beatrice Bambao

Michelle Tobler

Lycel Joy Sibayan

Research Adviser : Mr. Fernando Oringo

ABSTRACT

Clothing, as usually regarded as a means of protection and necessity, has also served as a determinant of identity, expression, statement, and status. Transgenders have restrictions when it comes to expressing themselves through fashion. Transgenders face discrimination because of the way they choose to dress and express themselves which is not approved by the society. The aim of the study is to evaluate the negative evidences of crossdressing in the corporate world as well as how the non-crossdressers perceives it. For this study, Within the phenomenology design and the mixed qualitative approach, the researchers conducted an interview with a total of 13 employed crossdressers in the City of San Fernando, La union with the use of purposive sampling where they gathered and analyzed the experiences of male to female crossdressers with the use of purposive sampling. After the analysis and interpretation of the data gathered, the researchers have come up with the following conclusions; Crossdressers could be influenced by Ms. Gay, barbie, tito, friend, and other crossdresser but some crossdress because of personal decision. In a societal perception, more families are more open to the idea of crossdressing, although some religious people are still against it. Criticisms by the society are usually ignored by crossdressers. Some even choose to defend or speak for themselves. In this study, it greatly depends on the person themselves if they would allow the society to accept, influence and understand the way they dress. When in fact, the only choice they made was to be themselves.

A THORNY PATH TO FLOWERY HILLS

by:

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Denielle Mari Z. Galamgam, Jonathan B. Guiang,
Patricia Nichole G. Jucar, Wyona Joesh A. Miguel,
Aprille Joy G. Orbino, Juliet S. Rimorin*

Research Adviser : Ms. Emelita Macabiog, RRT

ABSTRACT

College life can be difficult to adjust into. Add to it the new social challenges, a different skill set for those transitioning from high school is required where studies are concerned. Time management and test anxiety often impact new students. Students also benefit from learning new study techniques and how to maximize their strengths. Academic concerns may influence a student's performance in the classroom negatively, but they are also likely to have a significant effect on the other areas of life. Concerns of an academic nature can relate to a student's performance in the classroom and might also include their behavior toward teachers or fellow students.

Phenomenological type of research was employed in the study. The study was conducted at Lorma College. The main instrument was used was an interview guide. Individual interview was conducted. Data gathered were transcribed, coded into a range of themes then analyzed and interpreted.

Based from the respondents responses, two major themes were formulated: 1.) "Knots of Struggles" 2.) Unravelling the Knots. The "Knots of Struggle" theme pertains to the problems encountered by the students inside the campus. For the theme "Unravelling the Knots" it pertains on how the respondents cope with their problems.

In conclusion the Knots of Struggle experienced by the students are the following: environmental problem, financial problem, emotional problem, social problem, and academic problem. For the recommendation, they must avoid behaviors that make the problem worse. Just be brave and just keep moving forward. Furthermore, think that challenge is a learning opportunity. Set some goals in your life and begin to embrace and trust yourself.

**PART I - STUDENT
RESEARCHES**

**CATEGORY : Experimental
Researches**

PHYTOCHEMICAL COMPONENTS OF ATIS (*Annona squamosa* Linn.) LEAVES AS ANTIBACTERIAL AGENT

by:

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ABSTRACT

The study aimed to determine the phytochemical components of Atis (*Annona squamosa* Linn.) leaves. Specifically it sought to determine the substances, effects and nutrients present in Atis (*Annona squamosa* Linn.) leaves and significant difference among the components present in Atis (*Annona squamosa* Linn.) leaves.

The study has undergone 1 phase: 1.) phytochemical analysis of Atis (*Annona squamosa* Linn.) leaves.

According to the results of the Phytochemical analysis of Atis (*Annona squamosa* Linn.) leaves, the components are Alkaloids, Tannins, Saponins, Flavonoids, Phenolic Compounds, Carbohydrates, Reducing Sugar and Fixed Oils and Fats. The most important components of Atis (*Annona squamosa* Linn.) leaves are Alkaloids, Tannins, and Flavonoids since these are known to be antibacterial agents.

Based from the results of the test, the following conclusions were drawn. The Atis (*Annona squamosa* Linn.) leaves contain antibacterial properties because of the abundance of Alkaloids, Carbohydrates, Reducing Sugar, Flavonoids, Tannins, Fixed Oils and Fats.

In the light of the results and conclusions, the following were the researchers recommendation: 1. Further study on the Phytochemical constituents of other plant parts. 2. Test the different parts of Atis (*Annona squamosa* Linn.) to determine constituents and inhibitory properties. 3. Use of other methods of extraction which is mechanical to effectively define which is better. 4 Use other solvent to be used for extraction.

**AN IN VITRO STUDY OF THE ANTIFUNGAL ACTIVITY OF
SAGO WORM (*Rhynchoporous ferrugineus*,
Dryophthidae) FATS AGAINST *Trichophyton species*
AND FORMULATION OF ANTIFUNGAL SOAP**

by:

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Research Adviser : Marisol Jomaya, MAN

ABSTRACT

The in vitro study discovered the antifungal activities of the different alcoholic concentrations of sago worm fats (*Rhynchoporous ferrugineus*, *Dryophthidae*) against *Trichophyton species*. An initial survey was conducted at San Agustin, one of the most dilapidated areas in the City of San Fernando , La Union to assess the prevalence of fungal infection in the area because they live near the seashore where fungal infection such as athlete's foot and ringworm is most common. It is then the objective of the study to evaluate the antifungal activity of sago worm fat and formulate a soap from it to help in the prevention and treatment of fungal infection for the said community.

The study design used in the study was experimental design. The sago worm fat was first macerated in ethyl alcohol then later, used to conduct test that would help identify the constituents present. Meanwhile,

four concentrations of the sago worm fat were prepared (25%, 50%, 75%, and 100%) and were later utilized in the Antimicrobial Susceptibility Test using paper diffusion disc method. The most effective concentration was then used to prepare the soap for the Patch and Scratch test to evaluate its safety profile. Once established as safe to use, an effective antifungal soap was formulated.

The sago worm fat was found to contain alkaloids, triterpenes, sterols, flavonoids and proteins. Moreover, mean results showed that the 25% concentration of the extract was *not active*, the 50% and 75% were only *partially active* while 100% was *active*. Furthermore, the formulated soap was deemed as non irritating and therefore, is safe to use. Therefore, it can be used as an alternative soap for the prevention and treatment of dermatologic fungal infections. It can be concluded that sago worm fat is as effective as the positive control, akapulko which has an established antifungal activity. In the Patch and Scratch tests, the average primary irritation index was zero which means no erythema / eschar and no edema were formed during the test, hence, the formulated soap is safe to use. In conclusion, the results show that a safe and effective antifungal soap can be produced from sago worm fat.

LAXATIVE PROPERTY OF TARO TUBER (*Colocassia esculenta*, Fam. Araceae) FORMULATED AS SYRUP IN ALBINO RATS WITH LOW FIBER DIET-INDUCED CONSTIPATION

by:

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Ella Mae D. Cruz

Joely Ann Apple M. Master

Ndubueze Okoye

Research Adviser : Beverly Bagayao-Barut, RPh

ABSTRACT

Constipation is infrequent or difficult evacuation of feces, which are typically dry and hard. Minor episodes of constipation may occur with changes in diet, particularly decrease in fiber intake, and with alterations in daily routines such as travel and decreased physical activity. Studies shows that glycosides and amino acids present as constituents have laxative property. *Colocasia esculenta* is a plant known to have glycosides and amino acids which is used to establish a good digestion quality, adding bulk to stools and allowing them to pass easily. The researchers conducted experimental type of research to determine the laxative property of taro when administered in albino rats. To achieve this objective, the following procedures are carried out: The extract was subjected to phytochemical testing and formulated into three concentrations (50%, 75% and 100% solution). Rats were constipation induced by low fiber diet. Constipated rats were treated with 50%, 75% & 100% Taro formulated as syrup for 4 days during which the feeding characteristics, total weight and nature of stool, onset and frequency of defecation were monitored. Based on data gathered, laxative property will be evident if the average value for total weight of stool, nature of stool, frequency of defecation and onset of action of the test animals are in same range with untreated rats. Treatment of constipated rats with the 50%, 75% and 100% taro syrup increased total weight of stool, normalized nature of stool, increased frequency of defecation and onset of action is fast.

**ANTIBACTERIAL AND WOUND HEALING PROPERTY
OF DATILES (*Muntigia calabura*) CREAM
ON ALBINO RATS**

by:

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Naomi F. Habon

Maria Divina B. Habon

Emmanuel I. Okafor

Research Adviser : Ellen Mae P. Abiqui, RPh, MSPharm, CPT

ABSTRACT

Wound that are slow to heal are the problem worldwide. In developed countries, one to two percent of the total population is projected to experience a chronic wound during their lifetime. Chronic wounds currently affect 6.5 million people in the U.S. and the numbers will likely increase. In addition, a UK report suggested that treatment and care of chronic wounds account for 3% of total healthcare expenditure in developed countries. In the Philippines, statistics in 2002 shows that children 5-17 years old who experienced injuries while working or playing percent suffered cuts and got wounds and/or punctures. Many plants are used by tribal and folklore in many countries for the treatment of wounds and burns. These natural agents induce healing and regeneration of the lost tissue by multiple mechanisms. These phytomedicines are not only cheap and affordable but are also safe.

This study aimed to provide an effective and safe herbal therapy for the treatment of wound and antibacterial effect against *Staphylococcus aureus*. To achieve the objective of this study the following method were carried out: the leaves of the Datiles plant were collected, washed, dried and subjected to extraction by maceration in 70% ethanol. The macerate was then subjected to phytochemical testing, which confirmed the

presence of flavonoid, saponin, alkaloids and tannins. Different concentrations (25%, 50%, 75% and 100%) of the extract were prepared and were subjected to the Kirby-Bauer Test to determine the zone of inhibition against the bacteria *Staphylococcus aureus*. The 100% concentration which has the greatest average zone of inhibition was deemed as the “most effective” and was formulated into cream and was further used in the treatment of wound in albino rats. Further, the patch and scratch test of the formulated cream shows that it is safe to use because of the zero (0) primary irritation index. In conclusion, the result showed that the formulated Datiles cream can be used for bacterial infection and wounds.

**ANTHELMINTIC PROPERTY OF SANTOL (*Sandoricum koetjape*,
Meliaceae) LEAF EXTRACT FORMULATED INTO
SYRUP AGAINST *Ascaris suum*, AN IN-VITRO STUDY**

by:

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Marinel F. Opetina, Maria Allysa G. Santos

Research Adviser : Conrado Apusen III RPh, BSCLinPhar, CPS

ABSTRACT

Helminthiasis is one of the major prevalent diseases in the world. They contribute to the prevalence of undernourishment, anemia, and pneumonia. Ascariasis is among the several parasites which are widely prevalent helminthic disease of public health significance. Among the *Ascaris* species, *Ascaris lumbricoides* and *Ascaris suum* are the parasitic nematode infections of humans and pigs with serious outcomes. Despite of several synthetic anthelmintic available, there is still continuous search for alternative herbal medicine since they are safer to use and possess less toxicity. This study intended to provide a safe, effective, and acceptable herbal therapy for helminth infections. This study was then conducted to produce an alternative medicine from *Sandoricum koetjape* leaf extract indicated as an anthelmintic. To achieve the objectives of the study, the following were carried out: the extract was subjected to phytochemical screening test. Acute toxicity study was also conducted on test animals to determine the lethal dose using the method based on the OECD/OCDE guideline no. 423. Once the safe dose was established, anthelmintic susceptibility test using the Adult Motility Assay (AMA) was performed on the test organisms (*Ascaris suum*). In conclusion, Acute Oral Toxicity test revealed that Santol leaf extract is safe to use. Furthermore, the inhibition of Santol leaf extract to the motility of worms follow a concentration-dependent manner. Though all the santol leaf extract concentrations are effective in paralyzing *Ascaris suum*, there is still a significant difference between each treatment. However, the 90% concentration which has the greatest anthelmintic effect, was comparable with the standard anthelmintic, Mebendazole.

ANTIBACTERIAL ACTIVITY OF CACAO (*Theobroma cacao*) FORMULATED AS HERBAL SOAP AND ITS LEVEL OF ACCEPTABILITY

by:

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Maria Carolina E. Gayados

Mariel P. Tabon

Research Adviser : Ellen Mae P. Abiqui RPh, MSPHarm, CPT

ABSTRACT

Global prevalence of infectious diseases caused by bacteria is a major public health problem. In particular, infections involving the skin is the most frequent complications affecting humans. Medicinal plants play great roles in the treatment of skin infections and have immense potential for the treatment of wound. Many hundreds of plants worldwide are used in traditional medicine as treatments for bacterial infections. Plants are rich in a variety of phytochemicals including tannins, terpenoids, alkaloids, and flavonoids which have been found *in vitro* to have antimicrobial properties. The use of plant extracts with these phytochemicals, both with known antimicrobial and antibacterial properties, can be of great significance in therapeutic treatments. This research was conducted to know the potential activity of Cacao fresh leaves (*Theobroma cacao*) as an alternative medicine for skin infections caused by the bacteria *Staphylococcus aureus* and *Pseudomonas aeruginosa*.

This study aimed to provide a safe and effective herbal soap with antibacterial activities. To achieve the objectives of the study, the following were carried out: the Cacao extract was subjected to phytochemical screening to validate the presence of the above-mentioned phytochemicals. Three concentrations (50%, 75% and 100%) were used as test solutions, which were then subjected to the Kirby Bauer Test to determine the zone of inhibition against the bacteria. The concentration with the greatest average

zone of inhibition was deemed as the most effective and was consequently formulated into an herbal soap and subjected to evaluation in terms of level of safety and acceptability after the conduct of the patch and scratch test on guinea pigs and responses obtained from the participants . The results obtained show that the 100% concentration has the greatest average zone of inhibition against the bacteria *Staphylococcus aureus*, a gram-positive bacterium and the 50% concentration the against the bacteria *Pseudomonas aeruginosa*, a gram-negative bacterium. It is at these concentrations that the microorganisms are “most susceptible”. The formulated herbal soap is evaluated as “safe” because of the zero (0) primary irritation index and was considered “very acceptable” to the users. In conclusion, the researchers were able to formulate an herbal soap which is effective, safe and acceptable to the general public.

**THE GASTROPROTECTIVE PROPERTY OF MANGGA LEAVES
(*Mangifera indica*, Anacardiaceae) EXTRACT
FORMULATED AS TEA AGAINST HCL-ETHANOL
INDUCED ALBINO RAT MODELS**

by:

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Remi Edraleen R. Leal
Vernadette T. Mazon*

Research Adviser : Beverly Bagayao-Barut, RPh

ABSTRACT

Peptic ulcer disease (PUD) is a breach in the lining of the digestive tract. Normally, the stomach mucosa contains cells that secrete gastric juice and enzymes. If this defense is disrupted an inflammation of the stomach occurs and progress to an ulcerated area. This study will aid in the search of new gastroprotective agents from hebal plants. Use of herbal medicines expand rapidly in national healthcare settings. This study aimed to prove that Mangga leaves is an effective alternative medicine which provides herbal therapy for treatment of ulcer. To achieve the objectives of the study, phytochemical analysis was performed and yielded flavanoids as the main constituent. A total of 21 female albino rats were used. Acute toxicity testing and preliminary testing was performed. There were 6 groups; Groups 1 (HCl-ethanol), A (-), B(+), and groups C, D, E (3g, 2g, 1g/150ml). After treatment, the rats were induced with HCl-ethanol. Gross and histopathological evaluation of the stomach of all rats were recorded. It has been found that (100%) Mangga extract is safe. The formulated tea (3g/150 ml) has the highest potential activity among the other doses for treatment which exhibited no flattening of mucosal folds, mild edema and no erosions, congestion and inflammation.

PART I - STUDENT RESEARCHES

**CATEGORY : Quantitative
Researches**

CHALLENGES IN THE HOSPITAL ENVIRONMENT AND COPING MECHANISMS OF BSN IV STUDENTS

by:

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Research Adviser : Randy B. Sandoval, MAN

ABSTRACT

Nursing is a challenging job and issues arise that are out of control. A core component of nursing education is clinical experience. Students participate in supervised learning sessions in real world health care environments, which provide them with the opportunity to put what they've learned in the classroom into practice. Nursing students are more exposed to stressful events than students from other courses, because they are continually embroiled in situations of responsibility for the lives and health of patients.

The study utilized descriptive survey research design since it practically aimed to collect information which pertains to the extent of challenges in the hospital environment, and level of effectiveness of the coping mechanism among 4th year nursing students of Lorma Colleges.

The researchers utilized and develop a closed ended questionnaire

as the mode of instrument to collect the views and observations of the nursing students relative to the study.

Conclusion were drawn from the findings of the study that student nurses were considerably exposed to emotional, intellectual, and social challenges in the hospital environment. They temperately recognized the presence and usefulness of coping mechanisms to address challenges along emotional, intellectual, social, and spiritual aspects. The effectiveness of the coping mechanisms as recognized by the respondents directly address the challenges in the hospital environment particularly on emotional and intellectual challenges.

SLEEP DEPRIVATION: CAUSES AND EFFECTS TO SENIOR PARAMEDICAL STUDENTS

by:

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Jade Supnad

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Mikael Kristian Ortiz

Christian Robert Baltazar

Research Adviser : Randy B. Sandoval, MAN

ABSTRACT

Sleep Deprivation is common to university students, especially to health allied students who are having their clinical duties and classes at the same time. While there were research studies who stated that insufficient sleep leads to slowing response and alertness and draining the executive function of students including memory and cognitive function. A cluster sampling was used with 247 respondents from different paramedical courses in Lorma Colleges.

Sleep Deprivation was monitored using a questionnaire with an equivalent scale. Slovin's Formula and Weighted mean were used to determine the number of respondents each degree program. However, Frequency test and Chi square were used to determine the significant relationship on the causes and effects of sleep deprivation on senior paramedical students and was measured using a 5-point Likert Scale System.

The findings are, 1. Technology has a weighted mean of 3.20, 2.Substance has a weighted mean of 3.46 and 3. Activities have a weighted

mean of 3.46. In chi-square contingency test, an average of 0.0022 p-value was computed and there is significant relationship between the factors of that causes sleep deprivation and its effects to the respondents. It affects the cognitive factors, memory and performance of students.

The following recommendations were formulated: have a proper sleeping habits and hygiene. Try to avoid gadgets during bedtime. Avoid procrastination and try to finish your assignments and projects as early as possible. Instead of limiting the study in Lorma Colleges, the researchers recommend having the study done in other Colleges/Universities. Try not to limit the study to paramedical courses only, instead include other courses for more comparison. More emphasis on other factors such as employment responsibilities and extracurricular activities.

KNOWLEDGE AND PRACTICES IN THE CONTROL OF RABIES IN CATBANGEN, SAN FERNANDO CITY, LA UNION

by:

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Ma. Via Mae V. Aquino
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Research Adviser: Ms. Christine Marie B. Gonzales, RMT

ABSTRACT

This study identified the extent of the knowledge and practices in the control of rabies in Catbangen, San Fernando city, La Union. Specifically, it determined the residents' knowledge in the occurrences and transmissions of rabies virus as well as their preferred intervention to animal bite cases. This study made use of descriptive- correlational method, the most appropriate method for this study, as it examines the knowledge and awareness of the people in rabies control. This study was conducted among the residents of Barangay Catbangen, San Fernando City, La Union with population of 8, 537 with the sample size of 361 determined by the aid of Lynch formula. Incidental sampling was employed and data gathering tool used was a researcher- made questionnaires. The data gathered were statistically treated using frequencies, percentages, and weighted means and analysed with the use of statistical approach and computer- aided statistical tool. From the data gathered, it was found that a high percentage of respondents are knowledgeable in the occurrence of rabies virus compared to the transmission of it. And most people in Barangay Catbangen preferred medical alternatives over non- medical alternatives in handling animal bite cases. It can be gleaned from the results that there is a high level of awareness in the control of rabies in Barangay Catbangen.

LA UNION SCHOOLS TRANSITIONING TO 21ST CENTURY SMART SCHOOLS

by:

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Mark Israel M. Dechavez
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Allen Roye S. Tulali
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Herbert I. Orteza

Research Adviser : Mr. Fernando Oringo

ABSTRACT

The world continues to develop as technologies continually undergo innovations. Each day our knowledge about technology expands and are being incorporated in learning. And some are being infused to education such as schools or institutions. Different institutions start to turn into smart schools which is being defined as schools which embraced technological advancements, this is According to the study "Information and Communication Technology in Science". This study aims to create a standard which will be used to evaluate what technologies do schools in LA Union have, which will serve as reference if they are ready to become or transition to a smart school. The objective of the study is to check if the institutions in La Union are prepared to modernize into a smart school and also suggest solution on the discovered issues regarding the transition process the researchers concluded that both schools are not yet fully prepared to transition into a smart school due To the lack of advanced technologies and its ineffective utilization. The researchers made use of questionnaires to gather data from the two institutions surveyed, LORMA and SICAT. Therefore, descriptive qualitative and survey quantitative were used as data gathering tools. To improve the study, the recommended action is to seek reliable resources that can provide them accurate information about their school. It is also essential to survey schools with a large amount of the population in order to get various results which can be used to compare with other data.

**THE CORRELATION OF MULTIPLE INTELIGENCES TO THE
ACADEMIC PERFORMANCE OF THE STUDENTS OF THE
COLLEGE OF EDUCATION AND SCIENCES**

by:

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Mark Jim A. Villena

Research Adviser: Edna O. Evangelista, MAEd

ABSTRACT

The study aimed to determine the multiple intelligences and academic performance of the students of the College of Education and Sciences of Lorma Colleges for the School Year 2017-2018. Specifically, it seeks to identify the level of the respondents' academic performance and their Multiple Intelligences. It further determined the relationship between Multiple Intelligence and Academic Performance of the respondents as basis for enhancement program to strengthen and enhance their Multiple intelligences relation with the academic performance and on the field they need to improve.

Frequency counts and percentage were used to determine the academic profile and multiple intelligences of the respondents, and chi-square was used to determine the relationship between the multiple intelligence and academic performance of the students of the College of Education and Sciences.

The findings of the study show that the majority of the respondents have an average grade of 81 – 85% in terms of academic performance and they are mostly belonging to the e\Existentialism Intelligence. There is no significant relationship between the Multiple Intelligences and Academic Performance of the respondents that is why Enhancement Program were recommended to strengthen and enhance the relationship of multiple intelligences and academic performance of the respondents.

Based from the findings, the following conclusions were drawn. The students of the College of Education and Sciences are unsatisfactory". The

students of the College of Education and Sciences belong to the Existentialism Intelligence. There is no significant relationship between multiple intelligences and academic performance of the respondents. Enhancement program was proposed to improve other multiple intelligences that came to be the lowest.

In the light of the findings and conclusions, the following were the recommendations: 1) Enhancement Program focusing on the Multiple Intelligences of the respondents – a) introducing the 9 multiple intelligencers, b) Verbal-Linguistic Activity “Vocablove”, c) Logical-Mathematical Activity, d) Bodily-Kinesthetic Activity “Zumba”, e) Visual-Spatial Activity Art Interpretation”, f) Musical-Rhythmical Activity, g) Naturalist Activity “Care for the Future, h) Interpersonal Activity “Reflect to Connect”.

The teachers should likewise attend Enhancement Program on developing CES students’ academic performance in new teaching strategies. The administration should provide support to the Enhancement Program to strengthen and uplift the students academic performance.

PART I - STUDENT RESEARCHES

**CATEGORY : Applied
Researches**

DEVELOPING A GAME-BASED LEARNING APPLICATION FOR PROGRAMMING USING CONSTRUCT 2

by:

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Inno Patrin Gozun

Godswill Njoku

Research Adviser: Ardee Joy Ocampo , MIT

ABSTRACT

Programming plays a very significant role in this modernized era. It brings forth a wide range of purposes in the daily lives of people since almost everything nowadays is being run and utilized by a program. Hence, it is essential to learn it. The researchers intended to develop a supplementary tool that can efficiently teach programming applying Game-based learning. Game-based learning is a type of game play that has defined learning outcomes. It encourages the player to learn at the same time enjoy. The study applied Design thinking for the research and Game Development Life Cycle for the game development. The study had 100 respondents for evaluating the game. Fifty individuals with random ages, nationality, and courses and another fifty junior high students from Lorma San Juan. As for the results of the evaluation, majority of the respondents have proven the game to be an efficient tool in helping student solve a problem. It was also proven that the game was quite flexible and has a wide range of content, making it an operational, engaging, and entertaining game application.

ONE TAP MANONG

by:

Feherson Jay Abad

Jason Nel Taopo

Robert Delinila

Research Adviser: Janelli Mendez, MIT

ABSTRACT

Home problems like water pipe leaks, electrical issues, household cleaning, malfunctioning appliances, laundry, technicians are usually problems people encounter. Most people look for services when they aren't sure how to do it, that's why these services does require a person who has the skills and experience to get the job done. Fixing those issues are easy but finding a service provider is the real question. The researchers developed an application called One Tap Manong a Mobile Based Service Provider Application for City of San Fernando to be a resolve in helping the people of San Fernando find fast, safe, and reliable service to their nearest areas in an immediate assistance.

AQUA-TECH: A SMART WATER TEST DEVICE IN THE FRESHWATER AQUACULTURE

by:

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Research Adviser: Genato A. Gines, MCS

ABSTRACT

Understanding the water quality is laborious and difficult job especially if it is the main factors in controlling aquaculture production. The usage of water instrument parameters are really expensive and the process of sending to water testing laboratory are hassle and time-consuming. Hence, the water test kits are mostly used by the aquaculturist. But, the process of mixing the water test kit and getting a water sample is tedious job. Therefore, the researchers created a device that automatically test water quality using the API water test kit. The process of the device includes getting a sample water, dropping a required amount of solution, mixing it together, reading the color using color recognition sensor and analyzing the results. It has the ability to set an scheduled water testing every week and informs the user through text message whether the results are 'Normal' or 'Above Normal.' The data conducted are sent in the cloud server and can be accessed by the user via web and mobile application. The project is capable of testing four water parameters namely the ammonia, nitrite, nitrate and pH which are toxic if these reaches the high level. This paper focuses on achieving the improvement of the water quality and mitigation of frequent water testing.

RASPBERRY PI INTEGRATED MICROSCOPE

by:

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John Gabriel Galvez

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Michelle Mae Esperanza

Research Adviser: Ruth C. Navarro, MIT

ABSTRACT

The design project that is a digital microscope that serves as a teaching microscope inside a classroom laboratory. This digital microscope is integrated with Raspberry Pi v3 that serves as both the microcontroller and server of the project. This microscope could be accessed through its GUI, or through the Android App. The admin - usually the professor, can add and remove users that are connected with the microscope. The Gui and App enables viewing, recording, streaming, and capturing of images of specimens. The user could also adjust the microscope through it's preferred adjustments such as zooming in and zooming out. For accuracy check of the structured paper, user can run the option Manuscript Validation. It informs the user of the wrong or missing values in the paper. The user must correct the paper as per validation messages and rerun Manuscript Validation.

**5 POULTRY 2 1: A COUNTDOWN FOR BACKYARD
POULTRY FARMING SUCCESS
A Feasibility Study**

by:

Clodine Jamilah P. Briosos

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Joseph Rey L. Jandoc

Gwynette G. Lite

Aileen G. Orpilla

Rhonald Anthony S. Ponard

Neil Dominique E. Ponce

Research Adviser: Nino Romyr A. Saavedra, PhD

ABSTRACT

The name of the business is “FIVE POULTRY TWO ONE FARM” and the main product of the business is fresh broiler chickens. The business will supply its product on the different food establishments in the municipality of San Juan and City of San Fernando, La Union. The increase of demand in chicken products is a reason why the researchers proposed a poultry business that could satisfy the demand of the market.

One of the proponent’s mother, Mr. Neil Dominique Ponce, has a background in agribusiness and she wants to establish a business that is related to poultry farm. The location of the business will be at Calincamasan, San Juan, La Union. The business chose to rent a lot consisting of 150 sqm. at Calincamasan because the place is a rural area and no houses nearby.

The main purpose of this business is to earn profit for the benefit of the people involved in the business and to satisfy the needs of every potential consumers, and to produce high quality dressed broiler chickens in every food establishments in the municipality of San Juan and City of San Fernando La Union.

The form of ownership of the business is Sole Proprietorship and will be owned by Neil Dominique E. Ponce, contributing ₱300,000.00 as an initial capital. The initial fund will be used and maximized in the entire operation of

the business, and other business expenses possibly for the first operating year of the business. The owner will accept complete responsibility, especially for business debts and liabilities. The other proponents will serve as employees of the owner to run the business.

The owner, Mr. Neil Dominique E. Ponce has the ability to provide the initial capital that will be used in the entire operation of the business. The one who oversees the entire flow of the business, from financial, productions, operations and distribution of the products to its customers.

The Farm Manager, Ms. Aileen Orpilla has a degree in Business Administration that makes her qualified to be in the managerial position. She is the one involved in overseeing chicken farms and handle sales and shipping of chicken products to the market, distributors and food manufacturers.

The Caretakers, Mr. Joseph Jandoc and Mr. Rhonald Ponard, are high school graduates and took vocational agricultural course. They are responsible for the daily care of chickens. They will work together during day and night. They will distribute feeds for the chickens; monitor chickens' behavior; and maintain the cleanliness of the poultry.

The employees of the business will be receiving benefits that are mandated by law like Salary and Wages, 13th Month Pay, Parental Leaves, Home Development Mutual Fund (HDMF) or PAGIBIG Fund, Home Development Mutual Fund (HDMF) or PAGIBIG Fund, Social Security System (SSS), Philippine Health Insurance Corporation (PhilHealth). The employees of the business will be receiving benefits that are non-mandated by law like Anniversary and Christmas Giveaway.

The researchers agreed to have a democratic management style. In democratic style, ideas move freely amongst the group and are discussed openly. The manager allows the employees to take part in decision making and planning but the business will follow the decision of the majority. On the agreed administrative policy, the business will mainly be focused on Health and Safety Policy and Attendance Policy.

The targeted customers are about 1,027 food establishments in the municipality of San Juan and City of San Fernando, La Union.

The business will be selling dressed chicken. The products that will be offered by the business is healthy and high quality. The chickens are well raised and sanitized properly. The business will be selling the dressed chicken at ₱130.00 per kilogram. Five Poultry Two One Farm will be using Market Penetration Pricing. The business will be located at Calincamasan, San Juan, La Union wherein it is a good place to create business such as poultry farm. The proponents chose the place, mainly because it is away from the urban area and other neighboring community. The business will maximize the usage of face to face selling on getting new customers and maintaining loyal customers. The business will also maximize the usage of social media platforms like Facebook and Instagram to promote the products and to post some updates about the business.

The proponents considered only one competitor that has the same product as theirs, and it is the Chickenville Poultry Farm. The said poultry farm is the nearest and biggest poultry farm in Bauang, La Union owned by Engr. Jimmy Pau Phee and is located at Barangay Pugo, Bauang, La Union but their main supplier of chicks is located in Pangasinan.

The production and operation of the business will be divided into six different stages. The first stage will be pre-loading, followed by loading, then harvesting, sales, delivery and payment.

The tax paid by the business in the government will contribute in the welfare of the community and will go to the government funds that will be used in developing and improving the government facilities and establishments. The goal of the business is to make a more convenient poultry farm where they could avail a well-raised poultry product without worrying about the quality of the product and its price. The business will make it convenient by establishing a business in a place that is reachable and accessible to the market. The business' impact on the industry and in the community is that the business will show to the community that you can start a poultry farm with a limited capital.

COOP-erating for SAN GABRIEL SOFT BROOM

A Feasibility Study

by:

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Research Adviser: Nino Romyr A. Saavedra, PhD

ABSTRACT

The researchers proposed project is “Buy-boy ti Kailyan Cooperative”, which will help the livelihood of the people and the local government of San Gabriel, La Union as well as the proponents to give them additional information about the said project. The name Buy-boy ti Kailyan Cooperative is also available and not yet registered to as a trade name in the Department of Trade in Industry (DTI) The amount of money is one of the most essential parts of its operations. The initial capital will be amounting to Php 280,000.00 which will be provided by the members of the cooperative.

We envision Boy-buy tiKailyan Cooperative to be a well-known production cooperative in the different municipalities of La Union. Our mission is to fulfill the goal and objectives of the cooperative and to support their livelihood to generate substantial economic return for the members and to help the community promote the agri-tourism of San Gabriel. The cooperative requires effective and efficient people to manage the business to come up with a good outcome. Buy-boy tiKailyan Cooperative used functional structure. For instance, the employees are grouped based on their specific skills and knowledge. Workers within each functional department communicate with each other exclusively.

The daily wage rates of the employees will be based on the National Wages and Productivity Commission (NWPC) of Department of Labor and Employment (DOLE), the minimum wage for non - agricultural business in

Region 1 as of 2018 is from Php256.00-Php310.00. The Employees of Buy-boy ti Kailyan Cooperative are equipped with benefits, starting with the basic, such as Social Security System (SSS), Phil Health, Contribution of Home Development and Mutual Fund (HDMF) and 13th month pay. (SSS, PHILHEALTH, Parental Leave). The Cooperative will provide rice incentives and it will be given in every six (6) months. All members will be given 25 kilos of rice amounting to Php 875.00 each in every half year or the month from January to June. Buy-Boy ti Kailyan Cooperative is a business that aims to enhance the skills of the residents and offers livelihood assistance for the constituent of San Gabriel, La Union. Thirteen (13) of the fifteen (15) barangays published in answering the questions/survey, namely, Amontoc, Apayao, Balbalayang, Bayabas, Bucao, Bumbuneg, Lacong, Lipay Este, Lipay Norte, Lipay Sur, Lon-oy, Poblacion and Polipol to better understand the point of view of each respondent per barangay. Buy-boy ti Kailyan Cooperative will be located at the front of municipality of San Gabriel, La Union. Tha Daligues Building is on the east part of the market.

Buy-boy ti Kailyan Cooperative will cover social services. It will cover livelihood programs, hospitalization, community extension program and trainings. Livelihood programs will help the people of San Gabriel to have income. Health services will help the residents to have assistance once there are problem or emergency about their health. Once a member registered in the cooperative they can avail those benefits and services offered by the cooperative. The Buy-boy ti Kailyan Cooperative will also market the products through pasalubong center. Based on the survey conducted by the researchers, it has been determined that 83.77% of tourist/residents is willing to pay Php 90 to Php 120 for a soft broom in San Gabriel, La Union. The Buy-boy ti Kailyan Cooperative will be located in ~ Brgy. Poblacion in front of the municipality of San Gabriel, La Union. The researchers chose this location because it is accessible to all people of San Gabriel and tourist. The building is along the San Juan-San Gabriel road, where in all people who pass by can easily spot the cooperative. It is also near the market, church, police station, fire station, and health center of the municipality. The building has the potential to be recognized by the tourists who visits Tangadan Falls since the building is along the road going to the famous tourist spot. Buy-boy ti Kailyan Cooperative will be located in Brgy. Poblacion, San Gabriel La Union. The Project site will be in San Juan - San Gabriel Road, Daligues Building, San Gabriel, La Union. The place is located at the center of the town of San Gabriel. It will be in front of the municipality of San Gabriel. The proponents

sought help from Ms. Eyla Sharent, 4th year Engineering Student of Saint Louis College to come up with a decent floor plan. The objective of this chapter is to analyze the financial viability of the project. The following assumptions have been complying the membership fee of 300.00 per member.

Salaries and wages of employees including 13th month pay, SSS, HDMF and PhilHealth. Depreciation expense is based in straight line method. Office Supplies increases 5% annually. Supplies are assumed to be used within the year of operation and purchased at the beginning of the year. Allocation of Net Surplus- patronage refunds are distributed among the members every fiscal year at 30% of net income. Soft broom cooperative will be exempted from taxes, fees and charges relating to local taxes and national taxes. They are transacting business with their members and shall not be subjected to taxes. Number of members will increase 12% annually. All collections will be deposited at the Soft broom cooperative's BDO savings account. Interest will be 2% annually. Telephone bills are assumed to be 575.00 every month. First cash deposit at BDO will start on December 31, 2019. Bank charges are assumed to be 1,200.00 for the whole year. The cooperative shall deposit 20% of the net income every year. General Assembly cost incurred during general assembly is assumed to be 2,500.00. Sales increases at 10% annually. Ending Inventory is 20% of total goods available for sales. Utilities expense increase 3% every year. Purchases increase 5% annually.

The establishment of Buy-Boy ti Kailyan Cooperative will generate three (3) employment opportunities. Three (3) of which may be filed college undergraduate. The managerial position requires a college degree while the assistance can fill with college undergraduate such as the secretary education and membership. The proponents of the business prefer these jobs be filled by undergraduates who are looking for financial assistance. This will benefit them not only in terms of monetary problems but further more with their experience in cooperative industry. Undergraduates who gain experience before finishing college have greater opportunity of employment compared to those who have no experience at all. The income of the employees will break on minimum wage. All benefits required by DOLE will be provided accordingly, including benefits from the business all the mandated and non-mandated by law such SSS, PHILHEALTH, HDMF, and semi- annual grocery package. The wages will be distributed twice a month, on the 15th and 30th day of the month.

PART I - STUDENT RESEARCHES

Poster Paper Presentation

THE INTERPLAY BETWEEN ARTS AND WASTE MANAGEMENT: A PHENOMENOLOGICAL STUDY

by:

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Alonzo Rimando

Shanaia Argueza

Vincent Marron

Christian Aban

Research Adviser: Mr. Fernando Oringo

ABSTRACT

Many economically developing countries produce more waste for as a country develops, the level of consumption also increases which causes the diminution of proper waste control because of the continuous production of wastes. Waste management liabilities states that waste management practices, knowledge, and awareness differ by sex, class, and age of the students. In general, the cooperation of communities and government is important to minimize the effects of poor waste management of our community which encouraged the government implementing rules which creates creating necessary institutional mechanisms and incentives, declaring certain acts prohibited and providing penalties and appropriating funds. It's found out that students have a moderate practice level in waste management. Several surveys want to capture the level of knowledge, attitude, and practices among the people in educational institutions especially the teachers and the students since they are said to be the future and hope of the community.

**PUBLIC SERVANTS SERVING THE ENVIRONMENT
THROUGH URBAN AGRICULTURE**

by:

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Research Adviser: Mr. Fernando Oringo

ABSTRACT

The research looked over the possibility of Urban Agriculture and encountered a lot of certain topics such as Production of Foods, Lack of Space, Early Childhood Education, now Urban Agriculture offers such an alternative ways to continue with the flow of modernization without any complications. This research covered implications of Agriculture in cities once it's already implemented. The goal of this study is to find ways of implementing Agriculture in urban areas that can benefit the people and also the country. Policemen of Baguio City who participated in the Gulayan sa Kapulisan program were the chosen participants for the study. The researchers made use of semi-structured interview as the instrument in data gathering for the research. The policemen of Baguio City applied organic farming, vertical gardening and crop rotation which is a way to maximize the limited space available. Urban Agriculture interplays with food production, early childhood education ,and space wherein it provides secure access to food and the policemen were raised in a childhood of knowing basics of gardening, and maximizing space but certainly some were affected by road widening. As a conclusion, Agriculture is open for any profession wherein the policemen became role models for students and bystanders because they motivated people and sparked their interests.

NOLI ME TANGERE INTERACTIVE GAME

by:

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Kaeser A. Valencerina*

Research Adviser: Adrian Lore P. Milo, MIT

ABSTRACT

Reading a novel is a bit boring and tiring, so our research group intends to make a game, based on a novel named Noli Me Tangere, an open world game that allows a player to control the main character to do the quest that based in the novel so the player will understand the story by playing it. We all know that some Students today are so much obsessed with computer games and choose gaming over studying and is a real concern among parents so we came up with the idea to use these disadvantages and obsession to the game advantage such as using gaming as a field of education so we have this idea To use these disadvantages and obsession to the game advantage such as using gaming as a field of education so we have this idea to create an educational game that the kids, teens and adults will love to play rather than forcing the them to study or read a very long story novel. In the novel that we choose is from 1 of the greatest novel of Jose Rizal, Noli Me teenager this novel widely known in the Philippines but most of the Filipinos do not know the story of this novel because the story is too long and it's tiring to read. For decades, children's media use was essentially limited to watching television, listening to music or playing video games. Although few parents complained about a child becoming obsessed at listening to music, the idea of children being obsessed at playing video games is a real concern among parents. Students nowadays are so much obsessed to computer games and choose gaming over studying. Games are being used much more widely in schools than they were when the researchers first started hearing about them 2 or 3 years ago. The games they are using are mostly designed to be educational. Rapid advancement of technology is increasing and there are many ways on

educating our society. The researchers can use disadvantages and obsession to the researchers advantage such as using gaming as a field of education so we have this idea to create an educational game that the kids, teens and adults will love to play rather than forcing the children to study. The project will be made in order to use gaming, and educate children obsessed in computer games as well as promoting philippine history, trivia and facts to people around the world. By developing a game that allows the player to be a part of the story and controlling the protagonist of the novel. The storyline will continue upon finishing quests or missions and advancing to the next chapters of the story, The purpose of this project is to make the players gain knowledge and to widen their knowledge while playing this game, and not to make the parents worry anymore to their children to be obsessed in this game This research is all about the novel Noli Me Tangere. The goal of this game is to evolve learning process by using computer video games and to use latest technologies to create the graphics that will attract the gamers. The game can play anyone who wishes to learn through it or who is willing to play the game. There will be an instructional guide in the game in cause the player are new to play this kind of game. Also some features for this game is that the player can save and load the progress and the player can freely roam the vast environment of the game. Also the game has a main quest system which is the main story line for the game and the player are required to play it all along side with the player main character, side quest system is an optional quest where in villagers often will be on some kind of daily troubles that the player main character can help and collectibles, is where the player collect items throughout the world. Npc and AI. Npc will be the one who the player can interact with and get quest from. AI is npc like where in they will be scattered throughout the world and serves as a normal human being living in ones place to make the game more alive in a way there will be more people like in it.

MONITORING AND INVENTORYING COMPUTER LABORATORY PERIPHERALS USING RFID

by:

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Research Adviser: Genato Gines, MCS

ABSTRACT

The proposed system is an application curtailing the process of manual inventorying in the computer laboratory of Lorma Colleges' CCSE Department. Time consuming and paper wasting are the drawback of the classic inventory process. Radio Frequency Identification Reader, RFID Sticker, Arduino Uno, ESP12E Wifi Module would be utilized in generating an efficient inventory application. The system is an application that registers a computer peripheral with an assigned special radio frequency identification sticker that is recognized by the Radio Frequency Identification Reader and through the help of the ESP12E Module, it would wirelessly communicate and feed the server with the needed data. The methodology used by the researchers was Engineering Design Process because it fits the standard of the study. With thoroughly following the process of EDP, the researchers had built a prototype that has been the basis of developing the project. Months of generating the solutions, the researcher's findings were it wasn't easy compensating which computer peripheral was out for repair, missing and which room it was assigned to without the proper specifications in the actual inventory. This method overcomes the problem of manually calculating the inventory, time and date etc. This system is made to build a system that benefits the laboratory custodian in the way that it rapidly reads and analyzes the RFID sticker and instantly saves in the inventory report and generates the daily report afterwards.

OAQUI OINK FARM

A Feasibility Study

by:

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ABSTRACT

Businesses with different specialties are being built up around the world. In the Philippines, one of the most leading businesses is agribusiness. Agribusiness or agricultural business is farming, production and marketing agricultural commodities. There are different fields in this kind of business such as farming, conservation, ranching and sales. Since agribusiness is booming in the Philippines, a feasibility study about building up a piggery was conducted. The proposed piggery was named Oaqui Oink Farm. The researchers have agreed to the business name since it provides information to the customers. Information such as the name of the location, the products offered and the field of business. The term “oaqui” was used in the business name because it is the location of the piggery. The term “oink” was also used because the researchers wanted to be exceptional in making the business name. The term “farm” was used because Oaqui Oink Farm is engaged in pig farming.

According to the housing and land use regulatory board, under RA – 674, in putting up a piggery business and was also seconded by the Municipal Agriculturist, Engr. JandyCastillio, the proposed location must be 500 meter radius away from residential houses and major highways. In this

resolution, all the regulations are listed wherein all businessmen engaged in this kind of business must abide. The waste disposal of Oaqui Oink Farm was also based on this resolution. Before the location was cleared, it was checked and visited by the by the MPDC office members of the Luna Municipal Hall.

The purpose of the study is to encourage people to put up their own business, may it be agricultural or not. The study was also conducted for the purpose of promoting employment to the residents of Barangay Oaqui no. 1 to Barangay Oaqui no. 4, Luna, La Union. The study conducted will serve as a guide and help to seekers and aspiring businessmen who are interested in putting up their piggery.

The proposed piggery is a sole proprietorship business that will be owned by Ms. Stefanie Medina since she has the capability in financing the necessities of the proposed piggery. The initial amount of funds is ₱300,000.00. This amount will be used in purchasing supplies and equipment's that are needed in the piggery. This will also be used in the building construction of the pigpen, buying of starting products and other expenses that are related in the business.

The management of Oaqui Oink Farm Is composed of the owner, piggery caretaker, and a swine technician/veterinarian. Oaqui Oink Farm will only need one piggery caretaker since the business is only starting and it only offers a small amount of pigs. Fifteen piglets are the business' first product for the first half year of its operation. The swine technician or the veterinarian is not a regular employee of Oaqui Oink Farm since it is on call. The piglets will be vaccinated and castrated only twice a year. Rest assured, all the employees will be paid fairly and they will be given and entitled of justifiable and deserving benefits from both mandated and non-mandated by laws.

Since Oaqui Oink Farm is a pig supplying business, they will sell their products to their customers and they will be supplying to the meat vendors.

Their target markets are the residents from Barangay Oaqui no. 1 to Barangay Oaqui no. 4, Luna, La Union and the meat vendors of Luna Public Market. All in all, there 2,294 people residing in the whole barangay of Oaqui Luna La Union. Meanwhile, there are fifteen registered meat vendors of Luna Public Market. The information was given by the treasury office of the Municipality of Luna, La Union. To gather such informative data that will help the researchers in their study and to helping them determine the feasibility of their proposed business, the researchers have conducted a survey through floating of questionnaires. Due to the large number of population presiding in the barangay, there was a need for the researchers to get their sample size. The Slovin's formula was used in determining the sample size and it has given the researchers the number of 341 residents as their sample size. The fifteen meat vendors of Luna Public Market were all humbly asked to answer the given questionnaires. Both of the target markets were given different sets of questionnaires since the researchers have prepared different questions for each of the market. All of the results of the survey have absolutely and undoubtedly helped the researchers for their further steps in the conduction of the study.

In the marketing mix of the proposed business, the researchers have listed and discussed the 4P's of marketing such as the Product, Price, Promotion and the Place.

The main products of Oaqui Oink Farm are pigs that are classified as landrace. The piglets are aging two months old and sooner they will be fully grown. Each age division of the pigs, they will be sold at different prices since they will all differ in weight. For the pricing of the pigs, they will be sold for ₱130.00 per kilo. The place of the proposed piggery is in Barangay Oaqui no. 1, Sitio Dique, Luna, La Union. The location was chosen because is locatable by valued customers. The place also, is not disregarding the law of piggeries since it was chosen to abide with the law. The location was also chosen because it will be a good environment for raising the pigs. For the promotion of the business, a facebook page was created and named as Oaqui Oink Farm. In the facebook page, customers and profile visitors will be able to see the location of the address, the contacts in which they can communicate with the management and the products offered by the

business. Flyers will also be distributed not only to the target markets but also to others. To be seen in the flyers are the location of the piggery, logo, the products offered and the contact information of the management. Word of mouth will also serve as their business promotion through referrals.

The production and operation of Oaqui Oink Farm includes Buying, Growing, Prospecting, Payment and Delivery or Pick up.

Their first operation is to buy piglets that will serve as their starting product to a different hog seller. Since the owner does not own any piglets yet, there is a need to buy from others. In finding a seller, a landrace breed must be offered for it is the proposed breed and product of Oaqui Oink farm.

Second operation is the growing of pigs. In this situation, the piglets that were bought will be fed. In here, they will also be vaccinated to prevent unwanted diseases. Piglets will be continually fed even if they have reached maturity. Also, in this process, pen mating will take place and will be followed by farrowing. This results to increasing the number of the pigs and implies that the owner will no longer need to buy from other sellers since the production of pigs are now being implemented.

The third operation is prospecting. Prospecting is where finding and looking for buyer takes place. Here, a prospect will ask about your product. The prospect will show interest. It is in this process where negotiating of the price and quantity is being discussed.

Fourth is the payment. When the prospect decides to buy your product, the payment will now be the buyers, next move as soon as the payment is handed to the seller the buyers can now have the products. Lastly, the delivery or pick up. This is where the sold products will be

handed over to its buyer.

A great business is located in a great place. Oaqui #1, Luna La Union as the business will not harm any residents because it is far from houses. The land measured 1,639 square meters and the size of the pigpen is 28.5 square meters in the total and can hold up to 15 pigs.

In the Financial Aspect of Oaqui Oink Farm, it consists of 5 parts. First part is the Financial Assumption and Estimates, shows the 9 assumptions and estimation of the business. Next is the Initial Project cost, it shows all the cost of the materials that are needed to start the operation of the business. The total initial project cost of the business is amounting to ₱276,878.89. The third part is the financial statements under this are financial position, statement of financial performance and statement of cash flow and the statement of changes in owners' equity. Oaqui Oink

Farm's financial statement shows the written record that conveys the business activities and the financial performance of the business. It shows how the business earned profit for the 5 years of operation. Another part is the notes, it provides additional information pertaining to the business operation and financial position and are considered to be integral part of the financial statement of the business. Lastly, the financial ratio analysis, it shows here how the business is performing and of areas needing improvement for the 5 year operation of the business.

HYPOURICEMIC ACTIVITY OF GUMAMELA (*Hibiscus rosa-Sinensis*) FLOWER EXTRACT FORMULATED INTO TABLET IN ALBINO RATS INDUCED WITH YEAST

by:

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ABSTRACT

Hyperuricemia is the leading cause of various serious diseases like gouty arthritis and kidney stone and many other diseases. Hyperuricemia often accompanies metabolic syndrome, hypertension, diabetes, dyslipidemia, chronic renal disease, and obesity. Based on these facts, it is believed that the uric acid level only partly reflects the lifestyle origins of the disease, and it merely serves as a marker of cardiovascular disease. The study is to determine the hypouricemic activity of Gumamela (*Hibiscus rosa-sinensis*). The extract was subjected to phytochemical screening and rendered attributes of hypouricemic effects. A total of 15 male Albino rats were used in the study. All the rats were randomly divided into 5 groups. Group 1 is composed of 3 rats which serves as the negative control group, which received only distilled water; Group 2 is composed of 3 rats which served as the positive group, which received Allopurinol; Group 3 is composed of 3 rats, which received *Hibiscus rosa-sinensis* extract (100% concentration); Group 4 is composed of 3 rats which received *Hibiscus rosa-sinensis* extract (75% concentration); Group 5 is composed of 3 rats, which received *Hibiscus rosa-sinensis* (50% concentration). The rats were dosed (twice) daily and administered via intraperitoneally. Blood uric acid levels of rats (all 5 groups) were recorded. It has been found that all the concentrations used in treating the test animals namely 50%,75%,100% have hypouricemic activity, but the 100% concentration of *Hibiscus rosa-sinensis* extract has the highest hypouricemic potential among all the treatments.

**ANTIEMETIC ACTIVITY OF GINGER (*Zingiber officinale*,
Zingiberaceae) AND COMBINED GINGER – FIRE TREE
(*Delonix regia*, Fabaceae) ON CHICKS FORMULATED AS TEA**

by:

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ABSTRACT

One of the very distressing symptoms triggered by different factors is nausea and vomiting. Antiemetic drugs shown to reduce these symptoms. Ginger and Fire tree have shown to produce antiemetic activity. The aim of the study was to formulate the most effective preparation into a tea. To achieve the objective of the study, the following procedures were conducted; extraction and phytochemical screening, acute oral toxicity test, antiemetic activity determination of Ginger and combined Ginger-Fire tree, and formulation of the most effective preparation into tea. Data and results were gathered from the experiment. Chicks treated with the positive control was found to have a lower mean of retches as compared to the negative control. The Preparation A (3g) was comparable to the Preparation B (2g) and Preparation C (1g) in both Ginger and Combined Ginger-Fire tree. The lower the number of retching the more effective the preparation. Preparation A (3g) of Ginger tea has the lowest mean number of retching. Among the different preparations of both Ginger and Combined Ginger-Fire tree, Preparation A (3g) of Ginger have shown to be the most effective preparation. However, metoclopramide still has the highest antiemetic activity. The highest safe dose for both Ginger and combined Ginger-Fire tree was 2000mg/kg. Preparation A (3g) shows to exhibits the highest antiemetic activity among other preparations. There is a significant difference between both tea preparations with the positive control.

**PREVALENCE OF ESCHERICHIA COLI IN WATER SOURCES IN
BARANGAY NAGYUBUYUBAN, CITY OF SAN FERNANDO, LA UNION**

by:

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Research Adviser: Raniel Jhay L. Sandaga, RMT

ABSTRACT

This study determined the prevalence of *Escherichia coli* on the water sources in Barangay Nagyubuyuban, City of San Fernando, La Union. Investigation shows that some of the areas of Barangay Nagyubuyuban yielded a positive result for the presence of *E. coli*. The survey method type of descriptive design was used to obtain information concerning the current status of water source in the Barangay Nagyubuyuban, City of San Fernando, La Union. Specimens used for this study was acquired in Barangay Nagyubuyuban, City of San Fernando, La Union. Prior to collection, the researchers facilitated a survey with questionnaires distributed to the residents. In Barangay Nagyubuyuban, seven sitios are installed with individual public water reservoir tank for public consumption. From these tanks, collected water samples of 20 ml quantity will be the subject for testing. The samples were processed and tested within 5 hours prior to collection by the researchers in the MedTech Lab, LB-101, Lorma Colleges.

The data gathered pass through 3 phases. The experimental phase in which the questionnaires are distributed to 35 residents and water sample is collected from the 7 sitio. Second, the experimental phase,

is performed using lactose broth enrichment medium, eosin methylene blue selective agar and triple iron sugar. Lastly, the post-experimental phase simply the determination of the degree of Escherichia coli contamination. The statistical used to treat the obtained data is Oneway Analysis of Variance (ANOVA).

The important results of the study are as follows: (1) 100% of the households use spring as the source of water supply (2) there is a presence of E. coli contamination on springs. (3) there is no significant difference on the contamination of E. coli among water sources in Barangay Nagyubuyuban, City of San Fernando, La Union.

EFFECTIVITY OF TAMARINDUS INDICA LEAVES AS A MORDANT IN GRAM'S STAINING

by:

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ABSTRACT

This study aimed to determine the effectivity of *Tamarindus indica* leaves as a mordant in Gram staining using the dilution 1:1, 1:5, and 1:10.

Specifically, the experiment assessed the mordanting capability of *Tamarindus indica* leaves in terms of the color end result. The study was conducted by obtaining leaf extract through percolation method and was tested on both gram positive bacteria *Staphylococcus aureus* and gram negative bacteria *Klebsiella pneumoniae* against the control, Gram's iodine. The effectivity was statistically determined at 0.01 level of significance with t-test (getting the mean of two samples). The experimental method was employed to gather, analyse and interpret data.

Findings revealed that the 1:10 dilution of *Tamarindus indica* leaves is an effective mordant in terms of the end color result on both gram-negative and gram-positive bacteria, exhibiting the end color of light violet and dark red respectively.

DEVELOPMENT AND EFFECTIVENESS OF SAFRAL EXERCISE PROGRAM TO OVERWEIGHT STUDENTS OF LORMA COLLEGES

by:

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ABSTRACT

The study was conducted at the Lorma Colleges Carlatan Campus which is entitled "EFFECTIVENESS OF THE PROPOSED SAFRAL EXERCISE PROGRAM TO OVERWEIGHT STUDENTS OF LORMA COLLEGES." The study aimed to find the effectivity of SAFRAL exercise program to the BMI of overweight students of Lorma Colleges S.Y. 2017-2018. SAFRAL Exercise program was done twice a day in the morning (10 mins.) and afternoon (10 mins.) which consisted of high planking for 60 secs, jumping jacks for 120 secs, lunges for 120 secs, elbow to knees for 60 secs, dips for 60 secs, mountain climbers for 60 secs, stutter steps for 120 secs and deep breathing for 10 secs after each exercises. A checklist was used to record how the exercise program was managed.

The study was conducted among 20 respondents aged 18-25 years and had a body mass index of 25.0 – 29.9. The exercise program was done for 20 minutes twice a day.

The study presented by the researchers suggests that the Safral Exercise Program to Overweight Students of Lorma Colleges was effective in helping students to lower their BMI to normal level. The punctuality and willingness of the respondents to attend or perform the exercise program played the main role in the study. The proper execution and persistency of the respondents made it easier for the researcher to complete the study. The ability of the researchers to teach the respondents the right way to execute the exercises and close monitoring of the respondents also made the major role in the success of the research.

**PSYCHOSOCIAL FACTORS AFFECTING THE ACADEMIC
PERFORMANCE OF 3RD YEAR PARAMEDICAL
STUDENTS IN LORMA COLLEGES**

by:

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Maria Estelita S. Fontanila

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Research Adviser: Bernardo Tayaban, MDA

ABSTRACT

The subjects are the academic performance of Physical Therapy, Respiratory Therapy, Radiologic Technology, Pharmacy, Medical Technology and Nursing students of Lorma Colleges Year 2018-2019. Specifically, the students addressed the following sub problems; Academic Performance, Parents/Guardians, Academic Instructors. Where there are four (4) students Physical Therapy, one-hundred one (101) Respiratory Therapy, sixty-seven (67) Nursing, thirty-four (34) Radiologic Technology, twelve (12) Pharmacy and forty-Nine (49) Medical Technology with a total of two hundred sixty-seven (267) students of Lorma Colleges for the 1st semester S.Y. 2018-2019. This students served as the respondents of the study were universal sampling was employed.

A survey questionnaire was used to gather the needed data for the respondents which consisted of 10 questions each for personal, environmental, behavioral and social factors.

The study revealed that the academic performance of the paramedical students of Lorma Colleges during the 1 st semester of S.Y. 2018-2019 as to General Weighted Average (GWA) is that most of the respondents are at average level garnering 50.93% (136) of the total

population of the respondents (267). The psychosocial factors, personal, behavioral, environmental and social, affects the academic performance of the 3 rd year paramedical students. The overall results of the presented findings indicated that there is a high degree of relationship between academic performance and psychosocial factors among 3rd year paramedical students. These indicates that students who display determination and autonomy helps the 3 rd year paramedical students to achieve rate of academics; but with uncertainty, it may become a hindrance to academic demands. So maintenance of the psychosocial factors are suggested since it reveals high degree of relationship to the academic performance of the respondents.

COMMUNICATION KNOWS NO BOUNDARIES

by:

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Sonido, Mae Jasmin, Banchiran, Shaira
Graycochea, Lourenshiel, Esperanza, Rochelle
Bayuga, Jamie, Macayan, John*

Research Adviser: Valiant Oscar Canlas, RRT

ABSTRACT

The aim of this study is to explore the experiences of local students of Lorma Colleges. It determines how the students described how they feel and the problems they faced when communicating with an international student. The Descriptive type of research was employed. Participants were the current students of Lorma Colleges, Carlatan City of San Fernando, La Union. The main instrument used was an interview guide. Moreover personal interview and personal observations was utilized to enrich the tool for more accurate and precise gathering.

The study shows the reason why almost half of the participants find it hard to understand the international students, on the other hand, almost half of the participants, also find it good or normal to communicate with the international students.

This study explores the problems that was faced by the local students when they are engaged in communication with international students, also on how these students surpass the said problems.

In this study we would like to draw mindfulness among local students on how important communication is. We recommend that a student may never be afraid to communicate to anyone in any other races because effective communication may let you heighten your social skills. Communication is important, it doesn't matter where you came from what matters the most is how you express yourself and create a good and effective communication towards each other.

PART II

PROFESSIONAL RESEARCHES

**INSTRUCTION, RESEARCH, AND EXTENSION PROGRAM
OF THE COLLEGE OF NURSING, LORMA COLLEGES**

by:

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ABSTRACT

The rationale for integrating research, extension, and education is to have a mutual language to plan, discuss, implement, and demonstrate program performance and accountability. This can be done best through a rationalized integration of instruction, research, and extension. Research serves as medium that connects instruction to the extension activities of the higher educational institutions. Convergence of the three pillars would mean higher quality of education and realization of higher academic standard.

The vision of the College of Nursing to become a model of nursing education emphasizing quality, Christian values, and leadership skills locally responsive and relevant for global competitiveness inspires the faculty to attain higher levels of education not only to advance professionally but also to proficiently transfer the learning they acquired to their students.

Descriptive method was utilized to describe the status of the Instructional Program along Curriculum; Program Administration; Library; Laboratory Requirements; Classroom Requirements; Nursing Skills Laboratory; and Clinical Facilities and Resources. The strengths and weaknesses of the stated areas were identified based from the status. Recommendations shall be proposed to improve or sustain the status of

the instruction, research and extension programs of the College of Nursing. The study was conducted at Lorma Colleges, San Fernando City, La Union. All 25 Clinical Instructors were the main source of data and information needed.

The researchers found that the College of Nursing conforms with the policies, standards and guidelines as stipulated in CHED Memo #14 series of 2009. The College of Nursing actively participates in research and extension that creates a great impact to the community; hence the College of Nursing has strong instruction, research and extension programs.

It is therefore recommended that college would to continue build up its capacity to deliver, accept, and embed community engagement within the core teaching and research activities. Extension programs should be constantly monitored for success, sustainability and proactive implementation, be regularly evaluated to ensure relevance and effectiveness. The College of Nursing should strengthen and widen its network with various governments and non-government organizations and enhance instruction-research-extension linkages. It would also be better if participatory extension be promoted to make extension programs emancipatory and sustainable.

A.R.U.G.A, A.R.U.G.A, OKAY NGA BA?

by:

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ABSTRACT

ARUGA is an acronym that stands for: A-ctive, R-einforced, U-nified, and G-uided A-ctivity, apart from its being a Tagalog terminology which means care. This is a form of group study emphasizing on the identified weaknesses of the student nurses. In addition, it is a sort of Problem-Based Learning because the students are allowed to examine what they know and what they don't know about specific concepts in their major nursing subjects. They, themselves will discover what they need to learn. They are given the chance to state and defend their positions which provide them the opportunity to become more flexible in processing information. "A.R.U.G.A." will likewise help the students to develop Lifelong Learning, which is one of the key aspects of the Outcome-Based Education.

The study determined the benefits gained and problems encountered by the students in the College of Nursing during the A.R.U.G.A activity. The participants were twelve (12) Nursing students from batch 2018. Purposive sampling was used in choosing respondents and phenomenological method of research was employed in this study. Interview and focus group discussion were utilized to gain information needed from the participants.

The study showed that the participants recognized the essential benefits of A.R.U.G.A program of the College of Nursing because this

enhances their knowledge both in the classroom and clinical area.

This activity developed skills in leadership, communication and personality development. In general, the A.R.U.G.A project has a high impact on the Nurses Licensure Examination result of the nursing students of Lorma Colleges. Problems were also encountered during the A.R.U.G.A sessions like the surroundings, classmates' behavior, the use of gadgets like cellphones or tablets, time allotted is not enough for the discussion and the Clinical Instructor leaves student while the session is ongoing.

The study revealed substantial implementation of A. R. U. G. A. program in the College of Nursing. Participants are highly encouraged advocating the benefits of A.R.U.G.A to their classmates as well as to the Level 2 and Level 3 nursing students. The following have been proposed based on the identification problems encountered. This includes having two to three (2-3) groups only to occupy a room for A.R.U.G.A, presence and supervision of instructor during the conduct of A. R. U. G. A. and the strict implementation of no use of gadgets during the session thru the collection of Clinical Instructor of their gadgets. Clinical Instructors should instruct their students to make a list of at least 2-3 topics only to control time for the session and require the team leader to submit on the last day of the second week of duty a hard copy of the topic discussed so that the leader will be able to make the quiz for the group to avoid the issue of leakage test questions/ answers.

ROUND IS A SHAPE, WEIGHT I'M GAINING IT

by :

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ABSTRACT

The core of the study aimed to gain an in-depth understanding into the perspectives and life experiences of obese adolescent nursing students. It determined the perception of the nursing students about their weight, uncovered the cause of obesity, discerned how obesity affects their life and integrated plans in weight reduction.

Qualitative- phenomenological research design was utilized for the study. There were 13 participants of the study, each of the participants met the inclusion criteria. As a method of investigation, the researchers have operated through the use of in depth individual and focus group interview and participants' observation in the place of study. Ethical considerations were observed during the study.

Obesity positively and negatively affects the self-worth of an individual. Collective pathogenesis of being obese is diet, genetic, environment factor and physical inactivity. Being called cute and huggable, earning respects from others, and having extra protection from cold and shock are the positive outcome/pros of being obese according to the participants. However, the common negative outcome/cons of obesity discerned include: difficulty finding clothes and shoes that fit,

lowered self-esteem, and health problems. Cutting out diets and exercising are the measures that were integrated as their plans in weight reduction.

In the light of the findings of the study, the following recommendations derived.. For the participants, healthy diet and regular exercise were emphasized. Parents were encouraged to provide their children healthy foods at home and encouraged physical activity. Administration will establish effective school policies implementing nutritional standards and engage students in at least 30- minutes of moderate to vigorous activity each day. For future research attempts to include children and parents from varying socio-economic groups .

AGE DOESN'T MATTER

by :

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ABSTRACT

Quality of life is now recognized as one of the new philosophies of health by the World Health Organization, especially among older people. Old age is a process that cannot be stopped but must be protected, promoted, and extended. As the aged population continues to increase, it is essential for quality of life to be emphasized. Promoting societal networking and active involvement is one of the approaches to enhance older people's health and promote quality life.

The study explored the lived experiences of older people in their working environment and how this concept affects their quality of life. Phenomenological qualitative design was used. Data were collected through in depth individual interviews from six elderly employees aged 60 years old and above in Lorma Colleges, San Fernando City, La Union.

The study generated themes, which included job contentment ; relationship with their colleagues identified challenges in their working environment opportunities coping strategies to overcome challenges in their working environment. Participants interviewed indicated that they are satisfied with their job in their working environment.

In view of conclusions drawn in this study, the following recommendations are given. Co -workers should make some conscious

effort to maintain connection with their elderly ones in the department through different means, such as telephone calls, text messaging, chats on Facebook, and others. During the National Senior Citizen day celebration, elder employees should be recognized to ensure that they receive the price.

During the Senior Citizen day, the elderly should be consulted to choose places of interest to them. Such activities can help them feel important, happy, and involved in the planning of the Senior Citizen day. The elderly should be engaged in senior citizen activities so that they do not feel disconnected through limited involvement. This can be in the form of fitness activities, ballroom dancing, out of town travel time and many other activities. Senior citizen associations should be strengthened to provide another source of social connectedness to the elderly through the establishment of leisure centers, gardens, playgrounds, and communication centers, among other options. Lastly, Personnel Relations Office should organize events that will regularly bring the elderly together.

**ATTITUDES AND INTERESTS OF B.S. PHARMACY
STUDENTS TOWARDS A CLINICAL PHARMACY PROGRAM
AT LORMA COLLEGES**

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ABSTRACT

According to the ACCP, the setting up of a Clinical Pharmacy practice in hospitals has been justified in several studies conducted throughout the years. However, some factors were identified that hinder this vision: diminished professional confidence and resistance to broaden responsibilities beyond the dispensing function. In the Philippines, students taking the Bachelor of Science in Pharmacy Program are required to take a 3-unit Clinical Pharmacy subject in their senior year. It only involves the cognitive development of the students along evidence-based medicine and therapeutic outcomes, complementary and alternative interventions, physical assessment skills, therapeutic planning and patient counseling, drug monitoring, and ADR reporting, among many others. Several procedures should be considered as students are prepared to shift from the product- to patient-centered practice model. This necessitates a huge help leap from what is required in CHED Memorandum Order No. 3, series 2006, to a bolder, yet better Pharmacy curriculum where the practice is patient-based. Lorma Colleges, in its quest to upgrade its Pharmacy curriculum while maintaining quality and complying to minimum requirements set by CHED, aims to introduce the B.S. Clinical Pharmacy. It is then the objective of this study to determine the students' attitudes and

interests towards the establishment of the program in the College. A questionnaire which was designed by the Pharmacy Faculty was distributed to one hundred and one B.S. Pharmacy students. The responses were tallied and sent to the statistician. Results show that students always attend their Pharmacy classes, consider each subject as significant for their future, enjoy being a Pharmacy student, believe that it will be an achievement to be a part of the Clinical Pharmacy program and that it will be useful as a stepping stone for their future success. First and second years claim they do not yet have an idea what Clinical Pharmacy is and all year levels do not see themselves attaining good grades and have less confidence in Pharmacy subjects. They, however, believe that if they will take or continue to the BS Clinical Pharmacy program, it will not be a waste of money, time and effort. In terms of interests, students like to interact with patients, want to be a part of a Clinical Pharmacy team in hospitals, love to collaborate with colleagues and other health caregivers. They, however, do not take pleasure in memorizing generic and brand names as well as doing dosage calculations. Over all, they want to become Clinical Pharmacists someday. When grouped according to year level and gender, there are no significant differences in the attitudes and interests of B.S. Pharmacy students. This information may be used by the administration along with other feasibility studies as basis in opening a B. S. Clinical Pharmacy program at Lorma Colleges.

**ANTIPATHOGENIC PROPERTY OF SOURSOP
(*Annona muricata* Linn.) LEAF EXTRACT**

by:

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ABSTRACT

Plants are the foremost naturally effective and least expensive sources of medicine. The leaves of soursop (*Annona muricata* L.) has long been used as an alternative treatment of bacterial diseases. The phytochemical constituents present in soursop leaf extract are alkaloids, carbohydrates, reducing sugars, saponins, diterpenes, phenolics, tannins, flavonoids and protein compounds. The antibacterial potential of 100%, 75% and 50% ethanolic extract of soursop leaf against *Enterococcus faecalis*, *Staphylococcus aureus* and *Staphylococcus saprophyticus* was investigated using agar well diffusion method at Ilocos Training and Regional Medical Center, City of San Fernando La Union. The experiment was laid out using Completely Randomized Design. The zone of inhibition of the extract was determined and compared with the standard drug Doxycycline. *Staphylococcus aureus* was found to be susceptible to the 100%, 75% and 50% concentrations. *Enterococcus faecalis* and *Staphylococcus saprophyticus* were resistant at any concentration of the soursop extract.

MATHEMATICS BELIEFS AND PRACTICES OF TEACHERS IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS STRAND

by:

Taryn Kay S. Tabing

ABSTRACT

Mathematics education has the accompanying jobs in Philippine Education: encouraging investment, giving a method for comprehending the world, filling in as methods for correspondence and working as an entryway to national advancement. A descriptive-survey method of research was employed in the study and was anchored on the concept of evaluation of the research problems on the belief and awareness and instructional practice of the Mathematics -STEM teachers in La Union as perceived by the teachers and students. The sample was selected through simple random sampling technique in which 295 students were selected out of 1120 total population. Total enumeration was used in for the 22 Mathematics teachers and 6 supervisors as respondents of the study. The study highlights the mathematical beliefs of STEM teachers along teacher allowance for student struggle in problem, teacher modelling for incremental mastery and teacher's awareness on student's disposition towards mathematics including instructional practices in the classroom of STEM teachers in La Union. The findings reveal that both teachers and students recognize the importance of productive struggle with problems, teacher modelling for incremental mastery and the teachers' awareness of the mathematical dispositions of their students in teaching mathematics. The teacher utilizes both the mathematical transmission orientation practices and mathematical constructivist orientation practices in teaching mathematics hence a blending of these two approaches in the actual classroom practice which could have impacted on the students' mathematics performance.

**STRENGTHENING THE PARTNERSHIP BETWEEN THE
SCHOOL AND THE COMMUNITY THROUGH RESEARCH:
THE LORMA COLLEGES BASIC EDUCATION
SCHOOLS EXPERIENCE**

by:

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ABSTRACT

Looking at the context of community involvement in the Philippine Basic Education Schools, it is mostly limited to outreach programs, extension and community service activities. Dewey (1902) emphasized the role of school-community partnership where the school is seen as the central institution of a community. The school provides an avenue in the production of knowledge and skills needed by the community. With the benefits of school-community partnership towards the social, emotional, civic and intellectual development of learners, few types of research are considered when it comes to the development/ analysis on the interaction of the learners to the community. They are often given tasks to come up with programs to solve the pre-determined problems identified by their teachers without having enough knowledge about the problems. This study aimed to determine the impact of community-based research in building a strong foundation towards school-community partnerships in Lorma Colleges Basic Education Schools. The qualitative case study made use of focus group discussions and narrative analysis as research instruments. The participants were the Grade 10 student researchers of Lorma Colleges Special Science High School who are involved in community research. The research highlights the context of partnerships among various communities determined by the participants namely: Ilocano, OFW, ASEAN, LGBTQ+, and online communities. Results showed that the participants' concept of community is not only limited to a geographical location but rather the various communities that play a significant role in authentic learning. In conclusion, the study unraveled the value of research to a wider understanding of various communities as well as the role of research in school-community partnerships.

Keywords: community-based research, partnership, community, school, and basic education.

FINANCIAL LITERACY OF SENIOR HIGH SCHOOL STUDENTS OF LORMA COLLEGES

by:

Nino P. Cabasa

ABSTRACT

Financial literacy is a combination of awareness, knowledge, skills, behavior and attitude necessary to make sound decisions to reach financial wealth. This study made use of descriptive survey research design to determine the level of awareness of 380 Grade 11 and 12 students of LORMA Colleges, City of San Fernando, La Union on the components of financial literacy for S.Y 2018-2019.

The respondents of the study were the students themselves and their seven (7) teachers teaching entrepreneurship and business management course. Frequency counts, percentages and weighted mean were the statistical tools used for this study.

Findings revealed that the students were moderately aware of the components of financial literacy hence, it is implied from these results that their level of awareness be enhanced to improve their money management behavior.

EXPLORING CLASSCRAFT AS AN EFFECTIVE GAMIFIED LEARNING TOOL BASED IN BEHAVIORISM LEARNING THEORY

by:

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ABSTRACT

This paper presents a learner-centered approach to the Classcraft gamification app, the learning approach of students was evaluated based on the behaviorism learning theory. The assessment of the gamification app was based on two criteria: Game elements of the gamification app and the Evaluation criteria in student learning. The gamification app was introduced to students to evaluate the learning capacity and its effect on students. From the base data accumulated from students who are a novice in multimedia applications, 50% from the total number of 50 students are unfamiliar or has no knowledge with multimedia development, the incorporation of Classcraft engaged the students to learn to multimedia development in a manner that they are motivated and their behavior towards learning was improved. With the presence of class craft only 20% of the 50 students need intervention. Which is manageable for the teachers to conduct reinforcement thru allowing their classmates to engage the achieving students to peer tutor or help their classmates.

FROST PROTECTION PARAMETERS FOR HIGHLAND CROPS BASED IN IOT FOR BENGUET PROVINCE

by:

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ABSTRACT

Severe weather condition decreases agricultural productivity. Recent years have witnessed a confusion of IoT answers useful to varied application domain names. This paper presents an occult IoT observation post platform for good farming. Specifically, the researcher tends to design a frost protection system with early warning system that collects from the deployed devices on the farmland in time period and provides frost forecasts and an early warning for the farmers using SMS based and Web-based monitoring for the weather stations. The planned system will effectively facilitate boost agricultural productivity by providing farmers with a lot of accurate frost forecast, thereby reducing the chance of frost harm.

I. Introduction

Severe weather conditions decrease agricultural productiveness in many nations around the world. In the agriculture enterprise, superior selection assist through IoT (Internet of Things) technology is gaining interest as it enables precision farming. Smart agriculture based totally on microclimate facts evaluation facilitates enhance productiveness, avoid useless expenses associated to harvesting, and use proper pesticide and fertilizers. Technically, the word "frost" refers to the formation of ice crystals on surfaces, either by freezing of dew or a segment alternate from vapour to ice [1]. Growers frequently use the terms "frost" and "freeze" interchangeably, with the vague definition being "an air temperature less than or same to 9 °C". When temperatures drop below freezing and the temperature reaches the dew or frost point, the ice on the ground is termed frost or frozen dew. "Frost" can form in two ways: Either by

deposition or freezing. Depositional frost is also known as white frost or hoar frost. It occurs when the dewpoint (now called the frost point) is below freezing. When this frost forms the water, vapor goes directly to the solid state. Depositional frost covers the vegetation, cars, etc. with ice crystal patterns (treelike branching pattern). [2]

The province of Benguet within the self-sustaining location of Cordillera represents a main rainfed upland agroecological sector committed to high-fee crop manufacturing and trade. Benguet's mountainous terrain and large dependence to seasonal rainfall make the rural stakeholders within the province especially sensitive to seasonal climatic anomalies. Recently, January 31 to February 2, 2019, The Public Information Agency (PIA) of Cordillera stated frost keeps affecting vegetables in some parts of Atok, Benguet due to the current temperature drop. Barangay Paoay, Atok, a low-lying area, began experiencing frost last December after the temperature started dropping. Last January 28, PIA said Baguio City recorded the lowest temperature of 9.8 degrees Celsius, Atok's temperature was estimated to be lower by three degrees Celsius than in Baguio City.

This work affords the improvement of a wireless sensor network (WSN), so that it will be used for frost characterization in precision agriculture by way of measuring temperature to help the farmers in Benguet especially in the towns of Atok, Kibungan, Kapangan and Bugias Benguet. One of the key goals is to ascertain the parameters and establish an architectural framework using Internet of Things in frost occurrence, allowing several dimension factors in step with node and the faraway monitoring of the sensor's behavior. Precision agriculture (PA) makes use of choice help structures to control the plants. The ambiently parameters needed (e.g., temperature, humidity) may be measured using sensors. The community layout makes a specialty of achieving a neighborhood requirement of environmental parameter tracking in times of frost. The damage resulting from the frost takes place whilst the temperatures are below than a tolerable limit for the plant life.

II. Related Works

The development of a weather station connected to the cellular network, which automatically generates alarm signals to the user when it detects Zonda wind or no chance of frost is presented. The frost prediction

is performed with a least square's approximation sequence based on distributed temperature measurements in the field and placed in the sight's wireless sensors. The researcher also has other sensors for different meteorological variables that the user can access remotely at any time via a simple text message protocol. [3]

The integration of agriculture with IT can increase the productivity of it with the help of different Internet of Things (IoT) techniques. IoT is the network of physical objects embedded with sensors, electronics, software, and network connectivity which enable these objects to gather and exchange data. Basically, IoT is divided into three layers: the sensor layer, network layer and application layer. Sensor layer is created from different sensors like temperature sensor, proximity sensor, and moisture sensor, soil moisture and dew sensor [4]

To forecast frost more accurately, several prior studies used microclimate data such as temperatures measured at lower altitude, grass minimum temperature, diurnal, average relative humidity, minimum relative humidity, mean wind speed, etc [5], [6]. The grass temperature is measured using thermometers just above the grass, about 10cm above ground.

III. Parameters and Hardware Components

A. Arduino ATmega328P

The Arduino UNO is an extensively used open-supply microcontroller board based totally on the ATmega328P microcontroller and advanced with the aid of Arduino. Cc. The board is geared up with sets of digital and analog input/output (I/O) pins that may be interfaced to diverse expansion boards (shields) and different circuits. The board features 14 Digital pins and 6 Analog pins. It is programmable with the Arduino IDE (Integrated Development Environment) via a type B USB cable. It is used as a low powered structure, easy to get began, with extraordinary on-line aid, rapid prototyping extraordinary smooth this can send data wirelessly to the server via personal computer or laptops.

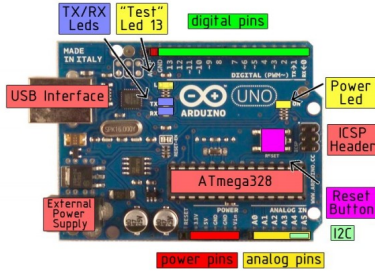


Figure 1. Arduino Microcontroller

B. GSM/GPS WiFi Module with Shield (SIM808)

This GPRS/GSM/GPS Shield primarily based at the SIM808 all-in-one cell smartphone module. Can upload vicinity-tracking, voice, text content, SMS and information for your venture. SIM808 fits proper over Arduino or Maduino, it is simple to use. This protect suits proper over Arduino or well suited. At the coronary heart is a powerful GSM cell module (we use the latest SIM808) with included GPS.

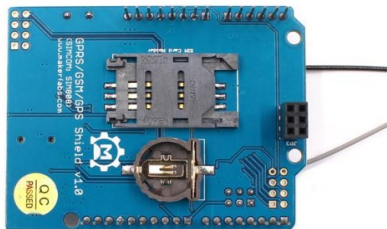


Figure 2. GSM/GPS WiFi Module with Shield

C. Humidity Sensor (DHT11)

Using the exclusive digital-signal-acquisition technique and humidity sensing technology, it ensures high reliability and excellent long-term stability. This sensor includes a resistive-type humidity measurement component and connects to a high performance 8-bit microcontroller, offering excellent quality, fast response, anti-interference ability and cost-effectiveness.

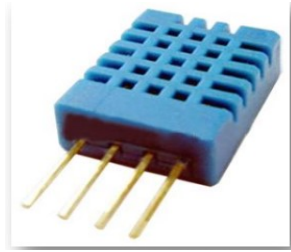


Figure 3. Humidity Sensor

D. Temperature Sensor (LM35)

The LM35 is one kind of commonly used temperature sensor that can be used to measure temperature with an electrical o/p comparative to the temperature (in °C). It can measure temperature more correctly compare with a thermistor. This sensor generates a high output voltage than thermocouples and may not need that the output voltage is amplified. The LM35 has an output voltage that is proportional to the Celsius temperature. The scale factor is $.01V/^{\circ}C$.

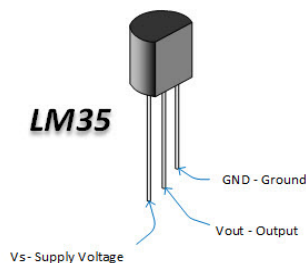


Figure 4. Temperature Sensor

E. IoT Module

The Internet of Things (IoT) is an environment in which gadgets, animals or humans are furnished with unique identifiers and the ability to switch facts over a network without requiring human-to human or human-to-computer interplay. IoT has developed from the convergence of wi-fi technologies and the Internet. Concept may also be called the Internet of Everything.

F. Power Supply

Solar Module for Arduino is a small board that can power your Arduino board, to get a totally autonomous outdoor board. It includes a 3W solar panel that, through the module, provides 5V to your Arduino board, and a 2300 mAh Li-Ion battery. Since the project is outdoor, the solar module is the most suitable power supply for the device.

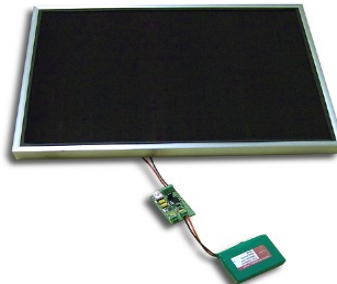


Figure 5. Solar Panel

IV. Preliminary Results

This deployed devices for monitoring frost occurrence in Benguet is based totally on measuring the humidity and temperature through sensor that positioned at strategical locations depends on the elevation of the towns in Benguet. Multiple devices were deployed per town and it will give data on the server depends on the monitored temperature. The monitoring and controlling are performed via Internet of Things. Since a microcontroller is used the heart of the system, it makes the set-up low- cost and effective, nevertheless. As the system also employs an GSM/ GPS module for continuously alerting the user about the condition in the vegetable field, the entire set-up becomes user friendly. When the temperature reaches its near critical level, which was set in 11°C a SMS alert will be send to the farmers that the temperature is on critical level and gradual SMS until it reaches critical level which is 9°C, the farmer can now automatically turn on the sprinkler through mobile application.

Figure 6 shows the Schematic Diagram of the prototype and the connections of the sensors in the microcontroller.

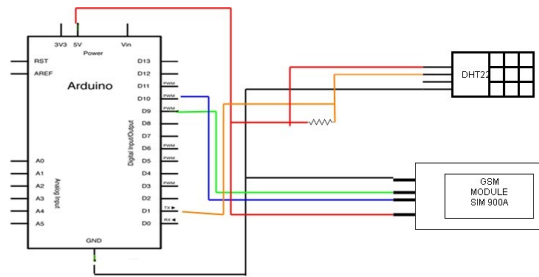


Figure 6. Schematic Diagram

In the hardware implementation, it has wired components sensor to microcontroller connected with the sensors and the GPS/GSM module. The board is inserted with a SIM card which is used to communicate with the farmers and the server.

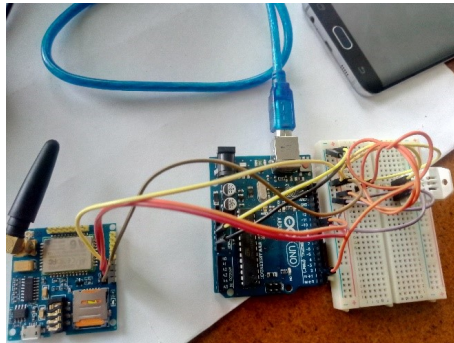


Figure 7. Device Prototype

Thus, after the sign conditioning method the value of humidity and the temperature of the environment is transmitted through the Wi-Fi module of the proposed frost alarming system and then it's far acquired to the consumer tool via the open source IoT server. Then the real time data of the environment and vegetables including temperature, humidity sensor is transmitted. Thus, the humidity and the temperature sign are viewed with the aid of the farmer in relative to the time.

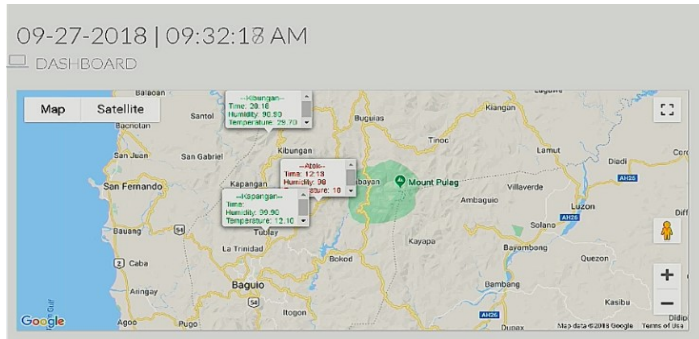


Figure 8. Web-Based Monitoring

Figure 9 shows the graphic of sensor working characteristic in this system (shown in gray) compared to ideal sensor characteristic (shown in blue), where the comparison between temperature and humidity is in normal range DHT 11 and LM35 sensors. In the gray bar, the tests are from 10°C until 12°C.



Figure 9. Graph Based on Collected Data

V. Conclusion

In the paper, the researchers propose a framework in view of IoT advances to approach the crop frost issue. This issue is extremely worrying among the farmers of the Province of Benguet as agricultural protection is increasingly limited and the financial loss is winding up more detectable. There are several techniques frameworks to battle frost, in any case, there is no financial and solid ready framework that warns or figures when there will be a frost with the goal that farmers can initiate the counter frost frameworks.

The proposed framework is made by three parts, the data acquisition network, the climate figure service which goes about as a complementary source of data and the data processing framework. For the data acquisition network, an initial prototype has been built, deployed and tested in a real plot. Moreover, utilizing alternate parts of the framework an underlying statistical analysis have been developed so as to contemplate possible prototype to estimate the real temperature knowing the climate forecast. The initial result show that it is necessary to have a reliable alert system as the differences between the forecast temperature and the actual temperature are large and therefore this lack of temperature accuracy could adversely affect the efficiency of the anti-frost systems

Acknowledgment

To my two angels (Angel Deanne and Anjel Dhane) and to the man who completed me, Paul John Pacis, thank you. Thank You to the 15 wonderful people who serves as my family during my DIT days, DIT-BATCH 2.

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**FACTORS AFFECTING THE ACADEMIC PERFORMANCE OF
SENIOR HIGH SCHOOL STUDENTS OF LORMA COLLEGES
IN SAN JUAN, LA UNION**

by:

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ABSTRACT

The study determined the: (1) Personal/Physical, Socio-economic, Nutritional Profile of student-respondents; (2) BMI categories of student-respondents; (3) level of academic performance of student-respondents; (4) significant difference on the level of academic performance of student-respondents and their profile; (5) level of significant relationship between the level of academic performance of student-respondents and their selected profile; (6) action plan to improve the level of academic performance of student-respondents.

The study employed descriptive correlation design with a researcher-made questionnaire to gather the data requirement. There were 240 Senior High School students of LORMA Colleges in San Juan, La Union who participated in the study. Data were analysed through frequency counts, percentages, analysis of variance (ANOVA), and Pearson product moment correlation coefficient with 0.05 level of significance.

Results of the study showed that (a) majority of the student-respondents are adolescents, most are females, and has a daily allowance of Php 101 to Php 200; (b) majority of the student-respondents has parents who are college graduates, has parents with blue and white collar jobs and has a relatively high monthly family income; (c) most of the student—respondents has general type of diet with no restrictions, are

sensual eaters, has sedentary lifestyle, and has seven hours of sleep per day (d) majority of student-respondents has BMI category of normal and is commendable; (e) majority of student-respondents has advanced level of academic performance and is commendable; (f) degree of difference on the level of academic performance of student-respondents if grouped according to BMI categories is insignificant; (g) level of relationship between the level of academic performance of the student-respondents and their selected profile is insignificant; (h) the selected profile and the level of academic performance of student-respondents should still be enhanced, therefore; an action plan was formulated.

ASSESSING THE NEED OF OPEN DATA IN TOURISM VIA INTEGRATING MOBILE AUGMENTED REALITY

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ABSTRACT

Tourist, sightseers or travelers usually don't want to utilize multiple applications, compare result and interconnect various information from different domains. From navigation tools for transport and travel, booking an accommodation and locating a specific tourist destination exist in separate applications. The problem in accessing multiple applications is time-consuming and oftentimes produce incomplete or irrelevant data. This study gives an overview of the needs and challenges of incorporating Mobile Augmented Reality in an open data environment to improve tourism experience. The use of open data in tourism and mobile augmented reality was presented to have an overview of its impact in tourism. Mobile Augmented Reality applications are one of the best suitable applications to boost tourism activities. However, the result of the study determined the needs and challenges in incorporating MAR to tourism open data environment, which are: a. technical requirement of the application, b. acceptability of users to utilize MAR, c. availability of data specifically on the tourism site.

