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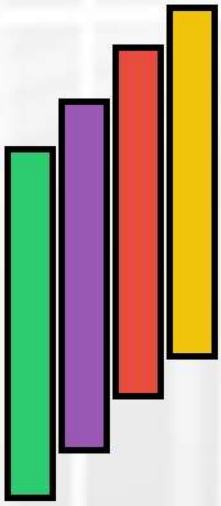

Ascendens Asia Journal of Multidisciplinary Research Abstracts

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2nd Multidisciplinary Research Festival Abstract Proceedings

Board of Reviewers

PAPERS PRESENTED **PAGE NO.**

BIOLOGICAL SCIENCES

The Potential of Aloe Vera (Aloe barbadensis) as a Natural Antioxidant

Shiahari Cortez & Rey Marquez

Abstract

The researchers searched for a plant that can be used as an antioxidant that is suitable for our lifestyle. It could help cleanse our body with a good replacement of natural vitamins and minerals that can help our body to be more efficient and healthy every day.

The study used the experimental method of research. The hypothesis that there is a significant difference between Aloe Vera (Aloe barbadensis) and the positive control as an antioxidant was rejected. In this experimental research, a variety of reagent and laboratory equipment were utilized to perform different laboratory tests such as the phytochemical screening of Aloe Vera leaves to test the presence of some active constituents of the plant and the antioxidant activity test for the Dipphenyl-1-Picrylhydrazil (DPPH) assay. After a series of phytochemical screening, it was found that the extract of plant Aloe Vera leaves had alkaloids, Flavonoids, Active Glycosides, tannin and phenolic compounds. These chemicals are proven to be useful as antioxidants. Hence, after the phytochemical screening was done, the Dipphenyl-1- Picrylhydrazil (DPPH) assay laboratory trial confirms the antioxidant activity of the Aloe Vera plant. The result was treated statistically using a weighted mean to determine what dosage of Aloe Vera (Aloe barbadensis) leaf extract exhibited antioxidant activity using the DPPH assay, based on the inverse relationship between the absorbance reading and antioxidant activity. It has been observed that 2,500 mcg has the greatest antioxidant activity with the mean absorbance reading of (0.020).

The laboratory tests were done at Virgin Milagrosa University Foundation, College of Pharmacy Laboratory, San Carlos City, Pangasinan. One way ANOVA is used to determine the significant difference between the Aloe Vera (Aloe barbadensis) and the control variable of ascorbic acid. The result shows that there is no significant difference between the antioxidant activity of Aloe Vera and the ascorbic acid as a positive control. Therefore, the researchers found that Aloe Vera has the same antioxidant effect as 500mg of ascorbic acid. The implication of this study is that the Aloe Vera (Aloe barbadensis) has natural chemical components that have an anti-oxidant effect as with the ascorbic acid.

Keywords: aloe vera, phytochemical analysis, antioxidant

The Potential Use of Coffea arabica Grounds as Aedes Aegypti Mosquito Larvicide

Jianne Lora Perez, Charles Francis Aguila, Chrysthel Klein Mendoza, Kaye Anne Pagcaliwagan, & Ken Shin Villena

Abstract

The Department of Health declared a national dengue epidemic in August 2019 due to a 98% increase in the cases of dengue from January to July 2019. The government pushed for mosquito control; while the WHO suggested the use of larvicides since it attacks mosquitos before they can even take flight. Beacause of these recommendations, the researchers investigated the potential use of coffee grounds as mosquito larvicide.

Used coffee grounds were utilized as it is free and around 6 million tons of it are thrown annually. Moreover, various researches reveal its main components to be phytochemicals or alkaloids (trigonelline and caffeine), terpenoids (diterpene), and phenolic (chlorogenic acid), which are proven to be larvicidal. To test its use as a larvicide, used coffee grounds were dried and steeped in organic ethanol which was stirred occasionally every 30 minutes for 8 hours. The mixture was filtered to separate the liquid that contains phytochemicals. To remove the alcohol, the liquid was boiled in a pot where the leftover was used in the experiment. Five larvae were put in containers of different extract concentrations where they were monitored 24/7. The initial concentrations used were 2mL/100mL, 3mL/100mL, and 4ml/100 mL, respectively. Two trials were done to ensure the integrity of results. It took 23 hours for trial 1 to take effect on the mosquito larvae in 3mL/100mL and 4ml/100 mL solutions, killing one larvae in each container. There was no larvicidal effect with the 2mL/100mL solution. After 35 hours, 3mL/100mL concentration contained five (5) dead larvae while 4mL/100mL concentration contained four (4) dead larvae. In the 2mL/100mL concentration, no effect on mosquito larvae was observed. In trial 2, there was no progress in the 2mL/100mL solution even after 23 hours. The 3mL/100mL solution resulted in one (1) dead larva. In the 27th hour, the 3mL/100mL and 4ml/100mL solutions both contained three (3) dead larvae. On the 28th hour, the 4mL/100mL solution contained four (4) dead larvae.

Findings show that longer exposure time in the extract at increasing concentration increase the larvicidal efficacy of used coffee grounds extract. Other researches of Satho, et. al. (2015), Dieng, et. al. (2018) and Aditama, et. al. (2018) revealed used coffee grounds have larvicidal properties regardless of the concentration. The brown color of the solution is useful in serving as ovitrap but is not suggested for use in waterways as it may be a pollutano. The extraction of pure phytochemicals without melanoidin, which is responsible for the browning of coffee, is highly suggested.

Keywords: larvicidal, used coffee grounds, mosquitos

The Effectiveness of Saba Banana (Musa Balbisiana L.) Peels as an Organic Fertilizer for Eggplant (Solanum Melongena L.)

Samantha Baradi & John Lloyd Barandoc

Abstract

In Batac, most of its production comes from agriculture. One of its produce, eggplants, is one of the most vulnerable crops to insects. Overproduction is also inevitable. As a result, it has become one of the cheapest. These and many other circumstances endanger the quantity and quality of the eggplants in the city.

In our research, we recognized the call for development to increase both the quantity and quality of the crops. We investigated the effectiveness of dried banana (Musa balbisiana L.) peels as an organic fertilizer for eggplants (Solanum melongena L.). Six treatments were used, namely: 1) Positive Control 1 (100% organic); 2) Positive Control 2 (100% inorganic); 3) Treatment 3 (70% organic and 30% inorganic); 4) Treatment 4 (50% organic and 50% inorganic); Treatment 5 (30% organic and 70% inorganic), and; 6) Negative Control (no fertilizer). The experiment was laid out in a Completely Randomized Design with four replications. The data were gathered and were analyzed using only three replications chosen by the researchers from each treatment. The evaluated parameters were: colour of leaves, number of leaves, plant height, and biomass. Results show no significant differences among the six treatments. However, the results consistently show that numerically, Positive Control 1 was the most effective, followed by Treatment 4. Positive Control 1 gave the greenest and greatest number of leaves, tallest plants in centimetres, and the highest biomass in grams. Treatment 4 was the most effective among the three treatments (Treatments 3, 4 and 5) that used both organic and inorganic fertilizers. The results indicate that using the dried banana peels as an organic fertilizer is effective. It has the properties to boost the chlorophyll production within the plant, to provide additional nutrients and microbes to the soil, and to increase the crop productivity. Indeed, it has the capability to improve the quantity and quality of eggplants.

Keywords: biomass, dried banana peels, plant height, inorganic fertilizer, organic fertilizer

The Physicochemical and Bio-chemical Properties of Water and Microbiological Properties of Oysters (Crassostrea iredalei) in Timalan, Naic, Cavite

Jon Greig Vincent Neri Galamay & Beatriz Nicolette Custodio

Abstract

One of the prime sources of livelihood in Timalan, Naic, Cavite is oyster farming. Oysters are the second most commercially imported marine organism. This study focuses on the physio-chemical and biochemical properties of water and microbiological properties of Oyster (Crassostrea iredalei) in Timalan, Naic, Cavite. The results of this study would be a great help to increase awareness and promote action to the concerned authorities after studying the level of water contamination and its effects on oysters that are in turn consumed by humans. The needed materials were gathered. The oyster and water samples that were taken in the oyster farm were carefully brought to the Food and Nutrition Research Institute, Department of Science and Technology in Taguig City, Manila. For the water samples, it was brought to the Cavite Water and Waste Water Testing Center, Department of Science and Technology in Trece Martires City, Cavite. Upon the receipt of the results, they were recorded, analyzed and interpreted. This was then repeated every first Tuesday of the months of March, April, and May 2017. The results were obtained and were computed to find its mean and standard deviation. For the Physico-chemical properties of water, the total dissolved solids (TDS) mean score was 6819 mg/L and the standard deviation was 4889.53 mg/L. The dissolved oxygen (DO) has a mean score of 5.3mg/L and the standard deviation was +/- 1.68 mg/L. The water pH mean score was at 7.13 mg/l at 25oC and the standard deviation was +/- .015 mg/L. The oil and Grease mean was at less than 2mg/L. For the microbiological properties of water, the total coliform count mean was at 11,733 MPN/100 g and the standard deviation was +/-10,869.38 MPN/100 g. The E.coli count mean was at 3,967 MPN/100 g and the standard deviation was +/- 3605. 83 MPN/100 g. For the microbiological properties of oysters, the total coliform count mean was 7,713 MPN/100 g and the standard deviation was at +/- 10,689.38 MPN/100 g. The E.coli count mean was 886.7 MPN/100 g and the standard deviation was +/- 3605.83 MPN/100 g. The water pH, Dissolve oxygen, and oil grease passed the acceptable value while the total coliform count, E. coli of the water and oyster of Timalan, Naic Cavite failed or wasn't able to meet the satisfactory level of the acceptable value. This study proved that the oysters founded in Timalan, Naic, Cavite were not safe for human consumption. Since the oysters failed to passed the acceptable value

Keywords: Physico-chemical, Total Dissolve Solids, Dissolve Oxygen, Oil and Grease, Total Coliform Count, Total E.coli Count

Project ACCESS: Adsorption of Coliforms Using Carbonized Husks in Treating E. coli Stream Sources

Nicole Grace Remot, Ma. Andrea Aruta, & Megan Rose Loyola

Abstract

In developing countries, good quality water is contaminated due to disposal of untreated municipal and industrial wastewater into natural water reservoirs. Most of the wastewater is not treated properly according to the International Standards, and usually disposed and/or utilized for irrigation without appropriate treatment. Meanwhile, E. coli (Escherichia coli) is one of the pollutants found in the said wastewater. Since corn husk is considered as the most plentiful and important agricultural waste that is mainly composed of lignocellulose that can adsorb water pollutant. This study deals with the low-cost filtration of wastewater with the use of activated carbon from corn (Zea mays) husks. Parallel-Group Design was used in the study to compare the two sample groups. In this design, the experimental groups are the filtrated wastewater that underwent to water potability testing using Eosin Methylene Blue Agar (EMBA), Brilliant Green Lactose Bile Broth (BGLBB) and Lauryl SulfateTryptase Broth (LSTB). The control group was the wastewater that did not receive any form of ministration but underwent to the power of hydrogen (pH), salinity and turbidity. The researcher compared the groups by means of comparing its water quality. This study used only water potability testing. The effectiveness of the process was manifested on the result of the water quality test after a week of comparing the presumptive and confirmatory results. Hypotheses which emphasize the efficiency of the activated carbon from corn husks as it adsorbs E. coli from stream sources were answered through the significance level manifested on the F-test result wherein F critical = F computed =. Experiments convey the rejection of the null hypothesis which refer to the failure analysis of E. coli detection. Findings were obtained with varying setups on two given trials. Specified amounts of the total coliform count were included with their corresponding Most Probable Number (MPN). It was proven that the activated carbon from corn husks can decrease the amount of total coliform count present in the wastewater. Project ACCESS (Adsorption of Coliforms using Carbonized husks treating E. coli Escherichia Coliform Stream Sources) is the new cost-efficient and environmentally friendly alternative method in reducing pollutants on wastewater. Increasing pollution in-stream sources should end with the use of activated carbon from corn husks because it could further harm human health.

Keywords: wastewater, adsorption, presumptive, confirmatory, total coliform count, most probable number (MPN)

The Phytodegradation Effect of Pincushion Moss (Leucobryum glaucum) in a Source of Wastewater

Kirsten Orlanda

Abstract

Nowadays, human activities are mostly dependent with water sources where people tend to neglect its value and cause the changes in physical, chemical, and biological properties of water which can make residents ill and damage the environment. It is known that much of the water supply ends up as wastewater which makes its treatment very important. An effective way in removing contaminants in wastewater is through phytodegradation, the breaking down of contaminants taken up by plants through metabolic processes and turning the absorbed pollutants into food. L. glaucum, from the family of Bryophyta has a physical structure that has been found to absorb metals. It is used as an effective filtering and adsorption agent for the COD and BOD treatment of wastewater. This study was conducted to perform the phytodegradation process using L. glaucum in lessening the COD and BOD of a wastewater source. Parallel – Group Design was used in the study to compare the two sample groups. In this design, the experimental groups are the wastewater that underwent phytodegradation using 75 grams, 95 grams, 115 grams, and 135 grams of L. glaucum. The control group was the wastewater that did not receive any form of ministration. The researcher compared the groups by means of comparing its water quality. This study used only one process-phytodegradation. The effectiveness of the process was manifested on the result of the water quality test after a month of incubation. T-test was used in testing the significance between the pre-test and post-test of BOD having 35 mg/L, decreasing up to 7 mg/L, and COD having 72 ppm depleting up to 21 mg/L. Salient findings from the COD, BOD and Water Quality tests such as TSS, TDS, Conductivity, pH & Salinity revealed that L. glaucum is effective in phytodegradating wastewater. The wastewater with the lowest chemical and biological oxygen demand was the one that underwent phytodegradation using the most number of L. glaucum. It was proven that L. glaucum can decrease the COD and BOD of wastewater. Absorption of pollutants with the phytodegradating ability of L. glaucum is a new efficient, environmental-friendly and cost-effective alternative method in reducing contaminants on wastewater. Escalating pollution on local canals and rivers should be stopped with the use of L. glaucum because plants and fishes harvested from such contaminated waters contain significant levels of the heavy metals that can impair human health.

Keywords: wastewater, phytodegradation, biological oxygen demand, chemical oxygen demand

Premium Lantusa: A Variety of Pellet, Liquid and Granule Larvicide Formulated against Aedes Aegypti Larvae

Austine Dave Pareja, Aaron Joshua Digal, & Jhulianne Mhaye Rombaoa

Abstract

Provincial Epidemiology Surveillance Unit (PESU) declared that Cavite is now a state of calamity due to the uprising number of dengue cases. The main objective of this study was to make pellet, liquid and granule larvicides out of the crude extracts of Lansium domesticum (Lanzones) peel and Carmona retusa (Wild Tea) leaves formulated against Aedes aegypti larvae. Two and a half kilo of wild tea leaves and lanzones peel was dried and ground. It underwent ethanolic extraction. Semi-solid isolates were liquefied using dimethyl sulfoxide (DMSO). Concentrations for the Wild Tea leaf extract ranges from 3,000-15,000ppm, the concentration of the Lanzones peel extract from 1,000-5,000 ppm and synergy from 2,000-10,000 ppm. Linear Probit Analysis was used to determine the LC50 and LC90 of the three groups. Results showed that either of the three groups, Wild Tea, Lanzones and Synergy, was eligible for the formulation of larvicides since it didn't manifest any significant difference with the Positive Control-Abate® 1SG Mosquito Larvicide. Results were verified using the Tukey-Kramer Post Hoc Analysis. The three mentioned groups were then formulated to liquid, pellet and granule larvicides. Larvicidal activity of 97% was shown using the liquid, granule and pellet larvicide after the 48-hours exposure period. Usage of these efficient larvicides: pellet, liquid and granule can be a great help to the locals of our communities. Additionally, people can choose which of the three variants of larvicides will be more convenient to use based on their perspective. Thus, increasing the possibility of lessening of dengue cases in our local community.

Keywords: mosquito, larvicide, organic

The Identification and Antibiotic Susceptibility Testing (AST) of Bacteria in Nile Tilapia (Oreochromis niloticus) from Maragondon, Cavite River

Praiseyah Manalo, Casey Clasara, & Kriezeth Mae Guardian

Abstract

Tilapia, especially the ones which are caught in the wild, are unsafe from a wide variety of bacterial pathogens that can cause the residents who eat these to be at high risk of infection or disease. This issue led this research study to classify human bacterial pathogens in the wild-collected fish. Tilapia fish were collected from the river of Maragondon, Cavite. The fish guts were removed and underwent serial dilution. The diluents were poured in Nutrient Agar. Colony counting was done after the plates were incubated. After several subculturing of the bacteria in differential and selective media, the isolated strains of bacteria were identified through morphology and different biochemical tests. These then underwent antibiotic susceptibility testing. Strains of Escherichia coli., Pseudomonas aeruginosa, Bacillus sp., and Enterobacter aerogenes were found in the fish gut samples. In addition, E. coli. and P. aeruginosa were identified resistant to Cefuroxime, and Bacillus sp. was resistant to Azithromycin and Ampicillin. The microorganisms found in the fish samples may pose a threat to the health of the residents who consume them as they can cause diseases in humans. Local health/agricultural units in Maragondon must be informed of the findings of this research as it may be of concern to them.

Keywords: bacteria, tilapia, Antibiotic Susceptibility Testing (AST), Oreochromis niloticus

The Antibacterial Activity of Bitter Ginger (Zingiber zerumbet) Rhizome Ethanolic Extract Against Escherichia coli ATCC MG1655

Leonoel Panganiban, Lovely May Angue, & Sean Justine Angue

Abstract

Antibiotic-resistance is rapidly becoming a major global threat to public health hospitals. In fact, the World Health Organization (WHO) that antibiotic-resistant pathogens infestations will pretence major patient care management issues in the future. Consequently, Escherichia coli causes kidney failure, pneumonia and other infections. This bacteria is becoming resistant in antibiotics. For that reason, this investigatory project aimed to evaluate the antibacterial activity of Zingiber zerumbet (Bitter Ginger). The ability and potential of the ethanolic extract of Z. zerumbet were tested to inhibit known- bacterial pathogen, e. coli. the bacteria were then plated on Trypticase Soy Agar (TSA). Five different concentrations were made consisting of 0:100, 25:75, 50:50, 75:25 and 100:0 ethanol and extract consisting of 9 trials. It was then subjected to standardized bacterial suspension and antibacterial susceptibility was tested. Dipped disk in doxycycline solution will serve as positive control while dipped disks in nystatin solution will serve as a negative control. Zone of inhibition was measured after 24 hours of subjecting. Based on the results gathered, no inhibition was found in different concentrations of ethanolic extract of Zingiber zerumbet (Bitter Ginger). The F-value, 1536.36, is greater than p-value, 4.70E-26. Hence, the null hypothesis was accepted. The research revealed that the ethanolic extract of Zingiber zerumbet (Bitter Ginger) has no ability to inhibit E. coli. One factor affecting the result is the process of making the extract. The rhizome that was bought was fresh which the secondary metabolites can be deteriorate in the process. Medicinal plants are an abundant source of antibacterial molecules. However, other factors affecting the activity needs particular attention. On the other hand, this study will still contribute towards disentanglement new knowledge and can help future researchers in creating natural medicine that can be used as a substitute in hospital-medicine without acquiring negative side effects.

Keywords: antibiotic-resistance, escherichia coli, the zone of inhibition, antibacterial, zingiber zerumbet (bitter ginger), extraction

Mahogany (Swietenia macrophylla) Leaf Extract as Pesticide Against Asian Corn Borer (Ostrinia furnicalis)

Freydalei Convento, Crystal Riego de Dios, & Lady Alyana Moreno

Abstract

The common livelihood here in the Philippines are farming and agriculture. Most of the farmers consider agriculture as their primary source of income. Corn is one of the major crops produced in the Philippines. The production rate of corn decreases mainly because of pest infestations. It causes severe damage and leads to yield decline and more frequent application of pesticides. Since mahogany has limonoid and antifeedant property, this study aims to prove the effectiveness of mahogany in killing Asian corn borers and to produce more good quality corn crops. The plant sample was first brought in the Bureau of Plant Industry (BPI) for authentication. Then leaves were extracted and were brought to UPLB to be mixed with the artificial food diet. The artificial food diet with different experimental concentrations (25%, 50%, 75%, 100%) was brought home from UPLB-IPB and was set-up. After, data were gathered and were recorded for seven days. Results showed that different concentration of mahogany leaves extract affect the mortality rate of Asian corn borers. 50% of mahogany leaves extract is the most effective in killing Asian corn borer. Therefore, the different concentrations of mahogany leaves extract affect the mortality rate of Asian corn borer and it can help people to have an easier and cheaper way of killing Asian corn borers. The use of Mahogany leaf extracts can help the people and the environment because it is not expensive, the process is easy to do, mahogany leaves are commonly found in many areas and it is 100% organic which means it is eco-friendly. It would be of great help especially to farmers to eliminate this kind of pest in their crops.

Keywords: antifeedant, Asian corn borer, limonoid

BUSINESS

The Financial Needs and Stability Assessment of Residents in a Certain Local Community

Herzie Ann Alea, Lee Andrea Simon, Anne Gwyneth Reyes, Arlen Reyes,
Nhafine Karla Dela Roca, & Ronce Emmanuel Villena

Abstract

This research was constructed in order to assess the financial needs and stability of residents in a certain local community. Furthermore, It seeks to identify the current financial needs in order to propose a project plan to be presented to the community leaders. The research designs used in this research is descriptive statistics. A total of 70 respondents were involved in the study. After the data has been gathered, the needed information was evaluated and computed to answer the objectives of this study. The results of this study show that food and water are the most needed by the residents. Seasonal work is the eminent job. There is low financial stability among the residents because of different financial problems and a strong reliance on loans and pawning. There is a grave problem in the community regarding financial needs and stability. Factors that explain this finding include instability due to being away from their root and lack of education which are the usual case among urban informal settlers.

Keywords: financial needs, financial stability, certain local community

The Marketing Strategies of Food Parks in Malabon and Navotas

Ezekiel Jacob Carinan

Abstract

The objective of the study aimed to assess the level of effectiveness of the 7Ps of food parks in Malabon and Navotas. Descriptive method was utilized to assess the respondents from the study that went to a total of 350 who dined and who have tried dining in any food park in Malabon and Navotas. Frequency and percentage, Weighted-mean, T-test, and Analysis of Variance (ANOVA) were accommodated for the statistical treatment of the data gathered, tallied, and tabulated. Even though in the survey, Females are marginally larger than the males in participating in the study, it may still be implied that the two sexes show active attitude in dining out and exploring food parks in Malabon and Navotas. The age group 15-25 years old is the largest market group in terms of Age that food parks in Malabon and Navotas need to target. Despite being the lowest income group, P10,000-P15,000, still, it was the group that ranked the highest in terms of frequency by holding 158 out of 350 sampled respondents which is 45.1% of it. From the study, it may be concluded that Private Employees are the most active consumers of food parks in Malabon and Navotas. Also, in terms of Civil Status, Single group of respondents from the study reigned as more dominating than the Married group of respondents by achieving frequency of 228 out of the total 350. The research concludes that not only the high cities may have popular or quality dining places, but Navotas and Malabon as well. Food parks may not be a new phenomenon in developing cities or provinces, but the introduction of food parks has changed the market place, bringing intense competition against Quick Service Restaurants, or Fine Dining Restaurants. From the survey, the only P that is described "effective" according to the results is the Product of food parks in Malabon and Navotas, Other Ps such as Place, Price, Promotion, Physical Evidence, People, and Process are only "somewhat effective." This finding suggests a huge area of improvement demanding to be tapped by the owners of food parks. And in Product itself, only three of the attributes are evaluated "effective" by the survey, which are Food Taste, Food Preparation Quality, and Food Ingredients. Statistical tables demonstrate that when the effectiveness of marketing strategies are evaluated according to Occupation and Residence, their evaluation is not based on chance as their results imply a significant difference between them.

Keywords: marketing, MBA, business, College of Business, masteral

A Gap Analysis Between the Academe and the Metalcasting Industry Requirements for Technical Education Graduates: A Basis for Intervention Measures

Nina Apusaga, Erlee Angel Reyes, & Aurea Reyes

Abstract

Skills mismatch is the primary cause of unemployment in the Philippines. Many have graduated from different courses but end up not being hired due to this factor. The study aimed to examine the skills provided by the schools and those needed by the Metalcasting industry to bridge the gap between the academe and the industry requirements for technical and vocational graduates of State universities and colleges in Metro Manila and to propose intervention measures. The main respondents of the study are workers and management of selected metal casting companies or foundries located in the National Capital Region. Furthermore, the study involved three hundred twelve (312) workers and thirty-four (34) managers. The researcher employed Descriptive-survey Design. The main instrument in the study was the questionnaire. It was adapted and designed specifically to gather the perceptions of the employed graduates and manager of metal casting companies. For the Statistical treatment of data, percentage, weighted mean, ranking and *z*-test's statistical were used to test the sign indicates whether or not the difference between two groups' averages most likely reflects a "real" difference in the population from which the groups were sampled. The status of the metal casting industry is there are one hundred eight metal casting companies nationwide wherein, twenty-seven metal casting companies are located in the National Capital Region. But there are only limited schools that offer Foundry Technology or metal casting technology. In this current age, Hard Skills but also Soft skills in the metal casting industry are considered as highly required. Soft skills are evident while the Hard skills are Least Evident for the graduates of Technical Vocational graduates. Therefore intervention measures are needed to bridge the gap. The Industry, Academe, government agencies and other NGOs need to take a role in the intervention measures. Academe and Industry requirement need to be in sync. A gap analysis on the academe and to the different industries' requirement should also be done in order to address the mismatch and solve the unemployability of our graduates.

Keywords: metalcasting, foundry, gap analysis

Bleisure: A Quantitative Study on Destination as a Factor in Attending MICE Events

Isabel Beatriz Tagle, Anael Amores, Hazel Francisco, Myrrel Winter, & Cynthia Bernabe

Abstract

With the growing number of MICE events being conducted and the increasing competition for attendees, it is crucial to understand the shifting needs and wants of these MICE attendees. It is also significant to consider the growing trends and their effects on the travel decision of these business event attendees. One of these trends is 'bleisure". Bleisure is the act of mixing business travel with leisure or vacation time. With the rise of bleisure, this research aimed to study if a destination is a significant consideration for attendance to a MICE event. Moreover, this research answered the question of what are the other factors that would most affect the attendee's decision to come to the event. The study employed the quantitative research method and conducted an online survey with business people who have attended MICE events as respondents. The 67 respondents were from the Shang Properties, BDO, Pru Life UK, Cathay Pacific, Yusen Logistics, Philippine Nurses Association, Globe Telecom, and the Philippine Dental Association among others. The positions of the respondents range from CEOs to presidents, vice-presidents, directors, associates, and association members. The study revealed that 95% of the respondents agree that a destination affects their desire to attend an event. Results also showed that 100% of the respondents would search the internet about the features of the host destination and the possible activities while 85% of them would extend their stay for leisure activities. The results also showed that the primary factor that affects an attendee's decision to come to an event is the Speaker, followed by the destination, the cost/budget, and their schedule. The data collected from this study suggests that a destination is a significant factor in attending MICE or business events but it is only secondary to the Speakers of the event. Perhaps if given a longer time frame and additional resources, the researchers can conduct another survey when there are actual conferences, conventions or expos ongoing so that the acquired data covers a larger scale and the survey reaches the targeted respondents from actual MICE events which would make the results more relevant. We also recommend that further research be conducted to ascertain what are the factors that make a destination attractive to the MICE market. Based on this current study, we recommend to MICE organizers to plan events that would align with the desires of bleisure travellers and to the factors that influence their decision-making to come to an event. It is highly recommended that event organizers also arrange tours in the host destination as an added incentive to attend the event for them to gain more attendees and to stay competitive in the market.

Keywords: bleisure, MICE

CASE LAW

The Fabrication and Testing of Motorized Shredder for Biodegradable Materials

Giovanni Pedrablanca & Edmel John Callanga

Abstract

The public market in the City of Batac has an average of 40 trips to the city's sanitary landfill for biowastes alone. Burying organic waste in landfill is a big problem. In all the cities and places, organic waste is dumped or disposed of in a landfill or discarded, which causes public health hazards and diseases like malaria, cholera, typhoid. Inadequate management of wastes like unlimited dumping bears several adverse consequences. It is not only polluting groundwater and surface through leachate but also promotes the breeding of flies, mosquitoes, rats and other disease-bearing vectors (SEPO, 2017). This inspired the researchers to fabricate and test the motorized shredding machine. It also aimed to determine the maximum speed in shredding selected biodegradable wastes. Thus, solving the problem of the City of Batac. The study employed qualitative analysis that focused on the performance of the fabricated machine. The fabricated motorized shredding machine is composed of base (angle bar, flat bar, knot and bolts, switch, and AC motor) frame (shafts, blades, belt, and pulley, galvanized steels, bearings) chute (galvanized steel) hopper (square bar, and angle bar, and galvanized steel). The motorized shredding machine was designed to run by electricity as its main source of power. The selected biodegradable waste for testing was tomatoes, kangkong, eggplant, cornhusk, dried mahogany leaves, and fresh mahogany leaves. Each biowaste weighed 2 kilograms. Results showed that tomatoes were shredded the fastest (18 s) followed by kangkong (21 s), then dried mahogany leaves (27 s), fresh mahogany leaves (29 s), eggplants (52 s), and lastly cornhusk (3 mins 37 s). In terms of cut size, the dried mahogany leaves were shredded the finest (0.2 cm) followed by fresh mahogany leaves (0.4 cm), then kangkong (1 cm), tomatoes (2.4 cm), cornhusk (4.2 cm), and lastly eggplants (6.3 cm). Thus, the fabricated shredding machine is effective. It is therefore recommended that bigger electric motor be used for greater yield. The distance between blades should be shorter for finer yield, and wheels must be attached to the legs for portability.

Keywords: fabrication, motorized shredder, speed, kilograms, biodegradable wastes, shredder, machine

CHEMISTRY

Rice Hull Ash as Metal Polish

Jzel Adrei Bacal, Anton Emmanuel Barrion, Len Aubrey Cantos, Marion Anne Madlangbayan, & Nicole Yzobelle Perez

Abstract

In rice-producing countries, one of the byproducts of rice is its hull which is obtained from the rice milling process. Its agricultural use ranges from being cattle and swine feed component, fertilizer and gardening medium. Moreover, it is used as an energy source for small applications and as steel and concrete additive. However, it is also regarded as waste and when not properly utilized, may impose threat to the environment. The end product of rice hull used in energy applications is rice hull ash which has no commercial value and whose disposal may cause environmental pollution and health problems. This research investigated the potential use of rice hull as metal polish. The rice hulls were washed with water to eliminate dust and dried at room temperature for one day. The hulls were then put under uncontrolled combustion at low temperature for an hour and was further heated to a higher temperature for an hour. The rice hulls combusted in an open area yielded black carbonized ash while the hulls that were subjected to higher temperature resulted in white ash. Part of the resulting ashes of both conditions was ground finely while the rest remained coarse. All setups of ash were tested on different metals such as aluminium, copper, and stainless steel. It was observed that the rust and tarnish in all setups were removed through rubbing after which a shining or polishing effect on the metals was observed. The findings indicate that rice hull has the greatest amount of silica among all plant materials. Its silica ranges from 15-20%. Silica in rice hull ash is a common material in metal polish due to its hardness and abrasive properties (Mohs 6).

Keywords: metal polish, rice hull, ash

COMPUTER SCIENCE & ENGINEERING

The Development of an Arduino-based Decibel Meter for Mufflers

Philip Geneta, Sam David Amada, Ronald Mendoza, & Georgie Andrea Sastrillo

Abstract

The Arduino-based Decibel Meter for Mufflers was developed to mobilize the roadside operations of the Land Transportation Office and Local Government Units in controlling the noise pollution emitted by motor vehicles with modified and defective mufflers. It was also developed to strengthen the capacity of LTO and LGUs in implementing the Muffler Act of 2016, an act prohibiting the use of motor vehicles without mufflers or those that are defective or have been modified which increase the sound emitted by motor vehicles, penalizing owners and drivers that contribute to noise pollution in the environment. The researchers used the developmental type of research which employed thorough planning and analysis to achieve the objectives of the studies. The prototype has a mobile application that enables the prototype to sense the sound level of the motor vehicle being tested, capture the plate number, and locate the whereabouts of the vehicle in real-time and send the report via SMS (Short Message Service). Thus, locally available materials were used in the fabrication of the prototype such as Arduino Nano microcontroller, sound sensor, serial camera, SD card module and HC-05 Bluetooth module. The mobile application was developed using Basic4Andriod software. The developed prototype was tested for its accuracy and functionality. The result of the accuracy test showed that the reading of the sound level of the prototype was 98% accurate as compared to the reading of the sound level meter used by an authorized government agency. Moreover, the functionality test of the device showed that the serial camera, SD card, and Bluetooth were operational. Its performance was evaluated by ten (10) IT experts and programmers, and ten (10) possible end-users which composed of police officers, LTO officers, and other law enforcement agency. The evaluation conducted was based according to its economy, functionality, quality, safety and user interface design. As a result, the prototype gained an overall mean score of 4.35 with a descriptive rating of "Excellent" which signified that the prototype met its objectives and the evaluators were satisfied to the outcome and capabilities of the Adruino-based Decibel Meter for Mufflers.

Keywords: Arduino, decibel meter, muffler, Muffler Act of 2016, noise pollution

A LPG Leak Alert with Shut-off Device

Blancaflor Arada, Albert Steven Arias, Francis Dina, & Ronabel Escala

Abstract

The general objective of the project development study was to develop an LPG Leak alert with Shut-off Device. It was mainly developed to help prevent fire accident and explosion. Through using the Arduino technology, the device, which was constructed from locally available materials, can automatically shut off the flow of the methane gas from LPG and notify the users when gas leakages are detected through sending an SMS. Equipped with sensors and solenoid valves, the gas leak detector with automatic shut off process became possible. Moreover, it has LCD to display the value of gas in the air, and when the valve shuts off, it sends an SMS message to the users and the status of the device. The device can be battery-operated which makes it eco-friendlier, effective, usable, and efficient. LPG Leak Alert with Shut-off Device was designed for house owners, industries, factories, and vehicles. It underwent different stages of development including planning, data gathering, designing, constructing, testing and improvement, and evaluation. The developed prototype was tested in terms of functionality, usability, and reliability to ensure the effectiveness and preciseness of the device. It was evaluated by the experts and appropriate evaluators through the five criteria namely accuracy, effectiveness, efficiency, functionality, and safety. The results of the evaluation from the experts and end-users showed that the project performs its functions and purpose. The project obtained an overall mean of 4.47 and was evaluated as "Very Good" based on the findings of the evaluation conducted which signifies that the project met the objectives of the study.

Keywords: Arduino, sensor, shut-off valve, GSM module, LCD, LPG

The Use of Photomath in the Senior High School Curriculum

Gabriel Ignacio, Uno Red Ramos, & Rhodnie Dino

Abstract

Nowadays, technology has become a major part of the life of students in terms of learning through cellphones, tablets, laptops, computer and such. Filipinos tend to follow the natural way of teaching, through blackboards and whiteboards. At present, there is some school who embraced technology, using PowerPoint presentations in TV screens, learning tablets and other techs. With this in mind, the question still stands on whether the students are using technology in the way they study. This study will focus on the application "Photomath" and its reliability towards solving mathematical equations in Senior High Level. This Qualitative study aims to analyze the student's perception of the Photomath's reliability. Eight (8) students in Saint Augustine School Senior High School were randomly selected and was interviewed to know their opinions and perceptions towards Photomath and its reliability. The participants were asked several questions about Photomath, and if they agree on its reliability, and if they recommend the application on other students. The findings on the study revealed that Photomath is relying solely on non-complex mathematical equations, but is not reliable on complex mathematical equations. Students prefer being taught by teachers rather than being taught by technology. They prefer to use scientific calculator rather than Photomath because of the calculators being a hands-on experience. It is recommended that the procedures stated herein be tested on other schools that prefer to use the medium of technology, as the results of the study is a basis for further studies on the application Photomath.

Keywords: technology, photomath, reliability

The Perceptions of Senior High School Students on the Use of Photomath

Eduard Vincent Javiniar & Raffy Sinangote

Abstract

Education shapes the world's future leaders. Being mentally strong will indirectly improve one's skills in dealing with real-world professional and personal challenges (Gou, 2010). In this modern period, technology is a huge help in education. It solves almost everything including problems in academics. With the help of technology, studying is now more enjoyable and fun. Students tend to be afraid of facing subjects about Mathematics where they develop an emotional problem called Math anxiety where it is characterized by intense nervousness in the subject. This interferes with a person's ability to optimally do and solve mathematical problems, thus morphing into an intellectual problem. This mixed-method research aims to establish the significant perspectives of senior high school students on the use of Photomath in today's generation. The student-participants are randomly chosen and were interviewed based on how they perceive the aforesaid application and its effectiveness. The result fosters the idea that modern-day technological apps are considered as an integral part of today's educational system. 10 of the participants even highlighted that they learn better through it since the application can show a number of ways on how to solve a specific problem. Through thematic analysis, it can be seen that there is a positive impact on their grades ever since they used the application for answering and learning more about the complex questions at hand. With the help of Photomath, students will be able to boost their self-confidence and overcome their Math anxiety. However, relying on technology too much may cause laziness that may lead to being dependent on technology. This paper will explain the perspective of Senior High School Students in the use of Photomath in their study and help to overcome the anxiety in solving a mathematical equation

Keywords: photomath, math anxiety, technology

MyGrammarBuddy: A Mobile Application-based English Grammar Quiz Game

Mariel Duzon, Edison Malvez, & Kristofer Sison

Abstract

Technology is undoubtedly an ever-changing field. With the rise on the use of mobile applications in education, the researchers considered this as an opportune time to develop and design a mobile app with the aim of improving the English language skills of the second language learners. The researchers developed an English grammar quiz game prototype that can be used in mobile phones, in which the application contains quizzes about English grammar. Furthermore, the study aims to formulate and present an affective student-friendly English grammar mobile quiz game. The students of Saint Augustine School – Senior High School were chosen as the respondents in order to gather data. Twenty-two (22) randomly selected respondents were given the User Experience Survey of the proposed mobile game. The survey contains close-ended questions and was sent to the respondents once they have finished watching the demonstrational video to gather their feedback on the mobile app. Results show that the proposed English Grammar quiz game is accepted by the respondents, and the responses collected were mostly positive. The researchers believe that the students who answered No in certain questions are due to factors that can still be change and developed by the researchers. It was reflected from the thematic analysis of the interview transcripts of the student-participants that educational apps like this are more engaging to the students. From its simple game interface, it can be noted that the users of the app will enjoy playing and at the same time learn complex grammar structures intended for the level of senior high school students.

Keywords: mobile application, prototype making, english grammar

A Perspective on Online Gaming Addiction of Grade 12 Students in Saint Augustine School Senior High School

Mary Rose Danza, Francis Arguson, & Dan Isaac Sarreal

Abstract

Video games trace its roots back the late 1970's but the first research about being addicted to video games was only initiated in the year of 1996 by Kimberly S. Young, making the study exist for two decades. Through the years, video game addiction is a hot topic across the world, spawning misconceptions and different perceptions about the issue. In the context of the Philippines, people tend to believe misconceptions about video game addiction. To solve this tendency, information drive campaigns must be implemented to help solve misconceptions and change the perception of the subject matter. Consequently, this qualitative study aims to understand the perceptions of Senior Highschool students about Video game addiction. Five students from St. Augustine School Senior High-Tanza were randomly selected for interviews. Over the course of 5 days, the participants were asked questions about their own perception on the subject matter through an interview. The findings of the study revealed that the participants deem addiction as a disorder which is constantly plaguing the younger generation. Based on the thematic analysis, it was discovered that people perceive video game addict as someone who has significant impairment in personal and social relationships. Also, the students firmly believe that these people are the ones who use games to evade problems despite knowing its negative consequences. The World Health Organization is recognizing the disease called "gaming disorder" which is brought about by the active and extended playing of video games. One of the symptoms that the addicts usually feel is the withdrawal syndrome. This syndrome is very evident when the gaming app or tool is taken away from the addict. The addict will then become more anxious and depressed.

Keywords: video games, perceptions, addiction

The Role of Social Media Technology in English Language Learning and Change

Micaella Abad, Liam De Joya, & Luis Philip Cruz

Abstract

Technology, nowadays, has the capacity to be the source of knowledge in learning the English language. It is not just about communicating and interacting toward others but it also helps every individual to enhance their capacity in terms of learning the English language. In the context of each and everyone, there are many ways of how people may learn English language and vocabularies. It can be through reading, listening, communicating as well as in social media wherein the medium of the language is usually in English. To prove this trend, the researcher raises a study wherein the paper explains how does social media helps the individual to learn and to enhance their language in English and vocabularies. This qualitative study aims to understand in what ways does social media helps the individuals to gain knowledge and vocabularies through using it. Fifteen Grade 12 students of Saint Augustine School-Senior High School- Tanza was given a survey to answer that will help the researcher to gather information. The findings of the paper revealed that social media can be use to be the medium of learning the English language because of the random words that the users may encounter. The result shows that in social media it is not just interacting with others, sharing what we feel but it also helps the individual to enhance their vocabularies through reading while scrolling in their feeds. It is recommended that users may use social media in a good way for in one way or another they can help others to learn and sometimes Technology is a field that is continuously developing and improving. It has been used in various facets of society, most importantly, in education. The senior high school curriculum is inviting students and teachers to make use of the modern-day application in teaching learning pedagogy.

Keywords: technology, social media, language acquisition

A Usability Analysis of WolframAlpha for the Students of Saint Augustine School - Senior High School in Tanza, Cavite

Alexa Ruth De Ocampo, Kimwel Gloton, & Ernest Palomo

Abstract

Technology is a necessity in the lives of people. It has been an integral part of the academic performance of students since it is widely used as a scaffolding device for understanding complex lessons. It has been integrated into classrooms all around the world and will continuously be used in the future. Thus, the use of alternative learning solution like the implementation of technology in classrooms is now more common. In addition, the implementation of the internet in education gives new opportunities for students to learn at their own pace. Hence, this qualitative research study aims to show the usability of a computational knowledge engine entitled 'WolframAlpha' to help Senior High School students easily cope with their studies. 56 from 400+ students of Saint Augustine School- Senior High School- Tanza, Cavite were systematically and conveniently selected to answer the survey questionnaire for this study. The results shed light on the idea that most of the students (97%) used this kind of engine to help them in coping with subjects like Math and Science. Due to this, the student participants deem that it is important for struggling students to make use of Wolfram Alpha to get a step by step procedure on how one can understand how to solve a specific problem. Technology integration in the curriculum is deemed to be one of the most important priorities in 21st-century learning. It has undoubtedly played a major role in the way students learn. The respondents of the study shed light on the fact that most of the students on their age group rely heavily on the existence of online platforms for understanding complex questions especially in subjects like Math, English, and Science.

Keywords: WolframAlpha, computational knowledge, technology integration, scaffolding device

Facebook Disclosure: A Social Technology and Society Analysis

Hannah Perlas, Raven Arbis, Justine Cailao, & Mark Dolientas

Abstract

As Facebook use continues to be an integral part of people's everyday life, enriching one's understanding of the impact of Facebook on its users will better inform researchers as well as the public, about the psychological impact of using Facebook. From the student's perception, Facebook has played a big role in terms of communicating and sharing to their peers to the point that they are spending most of the time glued on the screen. In fact, there are also negative impacts on social media which affects an individual's mental health. To solve this problem, application of proper time management and discipline must be observed by students especially mental health awareness. Consequently, this qualitative study aims to analyze the certain effects of Facebook on the psychological being of grade 11 & 12 senior high school students. 30 students from St. Augustine School Tanza were randomly selected and was divided into the following: 25 survey participants and 5 interviewees. The scores that will be derived from the questionnaires will serve as the basis of the researchers to assess and address their research problem. The findings of the study shed light to the idea that there is a majority of students that are in favour of Facebook while only a few (16%) looks at Facebook as a source of insecurities, anxieties and depression. The result also fosters the idea that mental health problems can possibly arise from excessive use of Facebook. In fact, the student-participants noted that there is a big possibility for the younger generation to feel depressed online especially with the rampant cyberbullying in the form of harsh and uncalled for remarks as well as edited memes. In one article from Science Today (2016), it was stated that Facebook can turn normal people into depressed ones because of these two common factors: envying over posts and spending a huge number of time surfing on Facebook. The present research aimed to uncover the realities of Facebook in the eyes of the students. More importantly, based on the results of the study, it can be assumed that the abnormal use of Facebook may indeed lead to lower life satisfaction and depression.

Keywords: psychological, Facebook for youth, mental health, social media

Auditory Edge: Improvement in Player Performance in a Multiplayer Online Battle Arena Game

John Bryan Casiano, Czarina Joy Cardenas, & Albert Guevarra

Abstract

A player's performance in Multiplayer Online Battle Arena (MOBA) game hinge on a variety of factors, some of which are visual and auditory features of a game. In the context of the of MOBA game, gaming experts or researchers can attest to the negligence of the use of audio that can hinder the improvement of the player's performance. To solve this trend, furnishing additional knowledge must be performed to promote enlightenment and enhancement to maximize the capabilities of the player. Consequently, this qualitative study aims to understand the connection of the improvement of player's performance in the multiplayer online battle arena game to audio. Ten students from St. Augustine Senior High School –Tanza were purposively selected. The respondents underwent an observation while playing Mobile Legends. Subsequently, the participants were then asked to an interview with questions aiming to evaluate the experiences of the players while playing. The findings of the study revealed that the use of audio while playing Mobile Legends had a significant effect in the overall experience and immersion of the player thus enhancing the skills and improving the performance of the players. The result fosters the idea that players of MOBA games should consider more profoundly how great the edge of auditory features in improving the performance of players. It recommends that the results serve as a basis for further research with the parallel field of study. Technology is rampantly changing and constantly evolving in order to cater to the needs of the generation. At present, the younger generation is using technology as a form of way to remove stress through mobile gaming. In the context of the Philippines, the most popular mobile game at present is the Mobile Legends produced by Moontoon. The student-participants shed light on the idea that in order to savour the game one must use the whole interface and that includes the sounds. The sound effects and the voice of the characters seem to be a motivating factor for the part of the players as stated by the participants.

Keywords: auditory, mobile legends, MOBA

ECOLOGY & ENVIRONMENTAL SCIENCE

The Impact of Black Light in a Solar-Powered Aquaponics System Controlled by Arduino Mega (I.B.L.A.S.P.A.S.C.A.M.)

Nina Ricci Gutierrez & Rose Allisson Untiveros

Abstract

The traditional farming method involves the use of soil to grow plants. Because of growing demands, fertilizers and pesticides are applied to increase the production rate. Unfortunately, these artificial products have a high chance of causing problems concerning human health like cancer. This is where Aquaponics is introduced, a system in farming that uses no soil and with the use of less water consumption. On the other hand, there were people who are using a black light to activate the plants' natural defence mechanism. Carotenoids make the plant more nutritious and can be enriched using the spectrum and wavelength of UV light where it is exposed to. This investigatory project aimed to create an aquaponics system utilizing black light in growing tomato plants. Forty-five seeds were first germinated within thirteen days (13). After the germination, fifteen seedlings were transferred to the device with black light, fifteen without blacklight and fifteen in soil. The plants were observed for thirty-two (32) days, then, the mean height was measured using One-Way ANOVA. Results showed that the Tomato plants grown in the device with blacklight have grown an average height of 33.17 cm after germination. The plant grown in the device without blacklight has grown an average height of 20.48 cm after being transferred to soil. Meanwhile, the plant grown in a traditional farming method has grown an average height of 18.69 cm after germination. The statistical analysis showed that in terms of height, the plants grown in the device with black light was the highest among the three setups. The lowest was the plant grown in a traditional method. The device was effective to be used by the local farmers based on the results gathered from the conducted experiment. This device can change the traditional method of farming that can be more economical for farmers.

Keywords: aquaponics, blacklight, robotics

EDUCATION

The Effectiveness of Classroom Environmental Assessment Program (CEAP) on the Academic and Behavioral Performance of SHS Students: A Basis for Adaptation and Implementation S.Y. 2019-2020

Realinda Kalaw, Rachelle Laurio, & Rachelle Ann Mercado

Abstract

The main purpose of the study is to evaluate the effectiveness of CEAP on the academic and behavioural performance of the SHS students for the implementation and adaptation in Unisan Integrated High School. The researchers used descriptive research design because it is important to describe the characteristics of the sample population, it explained and validated the research findings wherein the researchers can identify the accurate findings and conclusion for a certain variable. The sampling technique that researchers used was random sampling technique because the respondents are randomly selected in order to determine 30% of the total population of Senior High School Students. The results and discussion implied that performing CEAP in terms of the environment has a weighted mean of 4.5 with a verbal interpretation of the high level of effectiveness. This showed that CEAP is promoting a classroom free from hazards and risks and classroom-friendly environment that can assure the safety of the students. Students behaviour has a weighted mean of 4.3 with a verbal interpretation of the high level of effectiveness. This implied that CEAP can boost the student's behavioural performance in socializing enhanceshers. In terms of academic performance, it has a weighted mean of 3.8 with a verbal interpretation of moderate level of effectiveness. This proved that academic performance can be improved through CEAP and it enhance the students learning capability. To sum it up, CEAP is highly effective to the students environment, behavioral performance and moderate level of effectiveness on the academic execution of the learners. Therefore, the result of the study implied that the administrators, teachers and students should work together to strengthen the implementation and practices of CEAP. However, it elevates the mission and vision, the objectives and the core values that would be favorable to the administrators, teachers and even the students to adopt the best practices to have a clean environment that is conducive for learning.

Keywords: Assessment, Effectiveness, Academic, Behavior and Environment

The Writing Proficiency of Selected Grade VI Pupils in Lores Elementary School in Antipolo City During the School Year 2018-2019.

Jumilyn De Los Reyes & Mary Jane Halili

Abstract

This descriptive study aims to determine and assess the writing proficiency of the selected Grade VI pupils in Lores Elementary School through a survey. The data gathering came primarily from the 50 respondents through survey test, patterned in their English exams. Findings from the study revealed that problems in writing proficiency of selected Grade VI pupils of Lores Elementary School in terms of content and grammar in the beginning while in spelling the respondents' level of performance is approaching proficient. In general, students' performance is low. These findings imply a better strategy in improving the levels of writing proficiency for the Grade VI pupils of Lores Elementary School Antipolo City. The study concludes that the Grade VI pupils of Lores Elementary School is a lack of mastery in content and grammar showing the need for further improvement in organizing of sentences and in grammar usage. However, the respondents showed strength in spelling which was measured and evaluated in this study. This present study thereby recommends additional tutorial services and writing-related programs for the Grade VI pupils to practice their writing skills and for the teachers to facilitate writing opportunities in the form of tutorials and writing programs for better result of writing proficiency. The proposed instructional programs should be utilized particularly by the English teachers in the Elementary Department. The competency-based must be administered at the beginning of every quarter to determine the writing skills of the students. Future researchers who will conduct similar studies may adopt and modify the competency-based test of writing proficiency to the needed improvement for the performance of the students.

Keywords: writing, proficiency, writing proficiency, writing errors

The Utilization of 2C–2I–1R Pedagogical Approaches and Strategies in Teaching Science Research II in the Governor Ferrer Memorial National High School–Main

Christopher Luna & Jane Crystal Bayas

Abstract

In support to Regional Memorandum No. 11, s. 2015, entitled The 2C-2I-1R Pedagogical Approaches and as mandated by RA 10533, the DepEd officials reiterate the use of the 2C-2I-1R approachesnstructivist, Collaborative, Inquiry-Based, Integrative, and Reflective) cum suggested strategies and underlying principles behind each pedagogical theory to better implement the Enhanced Basic Education Curriculum in all grade levels. The primary purpose of this research was to determine the extent of utilization of the five pedagogical approaches and strategies to enhance the academic performance of Grade 8 Science Class students at GFMNHS-Main. The participants of the study comprised of 80 Grade 8 students of GFMNHS-Main. The study used the experimental method of research employing the quasi-experiment design. Specifically, it used a pre-test and post-test equivalent groups design. There were two study groups involved, the control group that was taught using the conventional method and the experimental group that was taught using the 2C-2I-1R Pedagogical Approaches and Strategies. The t-test to compare two independent sample means was used to statistically test the hypotheses. Results showed that the mean Post-test of Grade 8 - Adelfa, the control group, was 22.10 while the mean Post-test of Grade 8 – Sampaguita, the experimental group, was 32.45 with a mean difference of 10.35. The statistical t-test value is 13.5791 which is higher than the critical t-value of 2.000 at 0.05 level of significance, two-tailed test. Since the t- value is higher than the critical value, the mean Post-test of the two groups has a significant difference after the study. Based on the statistical test, it can be said that the use of 2C-2I-1R Pedagogical Approaches and Strategies in teaching Science Research II affected the academic performance of the Grade 8 students. The salient findings of the study revealed that the students' performance in Science Research II during the post-test is significantly higher than their performance during the pre-test. The use of 2C-2I-1R Pedagogical Approaches and Strategies is effective. It is recommended that the said approach and strategies in pre-service research teacher instruction will be used to enhance the research achievement and conduct an experimental study to find out the effectiveness of using specific pedagogical approach and strategy as compared to other strategic teaching methods in different topics in science research and other disciplines.

Keywords: pedadogical approach, strategies, teaching methods

Special Teaching: The Pedagogy and Perception of Special Education Teachers

Elisha Fajardo, Aliyah Arguson, & Dhane Dionisio

Abstract

Education is deemed as an integral part of human formation. It is the process of facilitating knowing, learning and developing the skills and behaviour of the students. In the context of education, special education (SPED) is occupying a niche that is beyond the complexities of regular basic education., Due to this, several teachers are finding it hard to craft teaching techniques that will best fit the children with special needs. To solve this, we should be aware of the experiences that the teachers of SPED and how they are dealing with difficult experiences. Consequently, this qualitative research aims to know how teachers handle the attitude or behaviour of students with disability. The researchers interviewed seasoned SPED teachers to know their experiences and perceptions regarding teaching students with disabilities. Teachers who specialize in teaching special education from Holy Nazarene Christian School were interviewed. Through thematic analysis of interview transcripts, the findings of the study revealed that the teachers experience minimum difficulty in handling students with disabilities since the teacher in SPED is really their passion. The reasons on why they teach SPED was because it is in line with their chosen course and they chose to teach students with disabilities than normal students. The teachers believe that through proper and constant observation with the child they are handling, certain pedagogy must be tailored fit to their needs. In addition, the participants noted that teaching students with special needs is not that different from normal students, thus, it is important that aspiring teachers should see to it that the students will not feel any special treatment is being given to them or the concept of inclusion. Being part of the special education calls for teachers who specialize in children and have had training on encouraging youth with special needs to achieve their highest potential and strive for unparalleled academic progress. With this in mind, teachers encouraged their students to participate in academic contests, mind games, and sports events along with normal students so that they will be able to develop emotionally and physically. The teachers also shared that at times, the special needs students are given a chance to sit in regular classes in order to feel accustomed to the reality of a classroom.

Keywords: inclusion, special education teaching, pedagogy, SPED

E-Modules in Home Economics for Edukasyong Pantahanan at Pangkabuhayan (E. P. P.) 4

Melodie Hilario

Abstract

Education made easy by means of technology. Teachers were also enthused to muddle through with the new generation. This research made to benefit educators to edify 21st-century learners opened to the technology and also help teachers to alleviate their work and burden in checking quizzes with the help of the E-Module. A descriptive method of research was used in this study. No sampling technique was used since the whole population of sixteen public elementary schools that comprise of twenty-four EPP Teachers and sixteen ICT Experts were reinvested to participate as respondents. Questionnaires were used as the main tool to gather necessary data about the developed E-modules and its components and characteristics. The components and characteristics of E-modules were rated by the respondents as "extremely acceptable" since the results were greater than the alpha of 0.05 level of significance and were interpreted as "not significant". This indicated that the E-module components had no significant effect on the characteristics of E-modules and it was inversely proportional because of its negative values. Therefore this E-modules was acceptable as a supplementary learning material in teaching Edukasyong Pantahanan at Pangkabuhayan (EPP) 4. The results implied as "extremely acceptable" to the components of E-modules in terms of objectives, contents, activities, and assessment as "extremely acceptable based on the results gathered. The E-module was a constant factor to simplify education.

Keywords: e-module, ICT experts, descriptive method

The Learning Competencies of Grade 9 Students in Mathematics of Selected Secondary Schools in the First Congressional District of Quezon

Aivie Rabe

Abstract

Students' progress by demonstrating their competence, which means they prove that they have mastered the knowledge and skills (competencies) required for a particular course, regardless of how long it takes. Mathematics from K-10 is a skills subject. By itself, it is all about quantities, shapes and figures, functions, logic, and reasoning. In the K to 12 BEC Guide (2012), Mathematics is also a tool of science and a language complete with its own notations and symbols and "grammar" rules, with which concepts and ideas are effectively expressed. The study assessed the learning competencies of grade 9 student in the mathematics of selected secondary schools in the First Congressional a District of Quezon. It appeared to employ a descriptive type of research where it describes the phenomena as they exist. It made use of statistical measures such as percentage and weighted mean to analyze the data gathered. The 13 municipalities of the first congressional district of Quezon have forty-three (43) public secondary schools with a total of seven thousand seventy-three (7,573) Grade 9 students. The researcher had taken a sample from the entire population. The respondents were chosen through stratified random sampling. 1. The demographic profile was mostly females and Proficient (P) in Math 8. 2.The Students' Knowledge of Content in Math 8 registered a fairly often response. These were affected by the top rater of demonstrating an understanding of key concepts of factors of polynomials while on the least was demonstrating an understanding of the axiomatic structure of geometry. 3. The students' level of performance achieved in Math 8 denoted in terms of Ra eal-Life Problems a Fairly Often response. These were affected by the ability to formulate and solve accurately real-life problems using a variety of strategies involving products and factors of polynomials. On the least was the ability to formulate and solve accurately real-life problems using variety of strategies involving systems of linear inequalities in two variables. 4.The students' learning competencies in Math 8 reflected that most were Approaching Proficiency (AP). While the least of them were Advanced (A) in the subject. 1. Upgrade the instructional materials used in teaching Math 8 as aligned with the K to 12 curriculum. 2. Hold more workshops/seminars for the teachers for continuous professional development. 3. Conduct a parallel study with larger and different scope and area of sustained interest.

Keywords: education, Mathematics, grade 9, grade 8

Buklet Pampagtuturo sa Filipino Grado 7 sa Dibisyon ng Lungsod ng Batangas

Diona Gualter

Abstract

Sa pagtatamo ng magandang kinabukasan,mahalaga ang edukasyon. Kaugnay nito, maraming programa ang pamahalaang nasyonal na tutugon sa pangangailangan ng mga mag-aaral. Isa na rito ay paglikha ng mga kurikulum na angkop sa pagbabago ng antas ng pamumuhay. Ngunit sa kasalukuyan, marami pa ring mag-aaral ang may kakulangan sa pag-unawa at kaalaman sa Filipino. Patunay nito ay ang resulta ng pagganap sa Filipino Grado 7 sa dibisyon ng Lungsod ng Batangas batay sa isinagawang 2018 National Achievement Test. Pumukaw sa interes ng mananaliksik ang pagdebelop ng mga kagamitang panturo o buklet sa Filipino na tutugon sa bagong kurikulum na K to 12. Gumamit ng deskripstiv- ebaluwatib upang makakuha ng impormasyon tungkol sa kasanayan sa Filipino Grado 7.Kabilang sa pag-aaral na ito ang 30 gurong nagtuturo ng Filipino sa Grado 7 sa 18 pampublikong paaralang Sekundarya sa Dibisyon ng Lungsod ng Batangas. Ang nabuong buklet ng pagsasanay ay inihanda ng mananaliksik upang mapataas ang kalidad ng edukayon sa bagong kurikulum na K to 12. Ginawang batayan sa paghahanda ng buklet ang Dibisyon ng Batangas City Memorandum Blg. 07-84 na naglalayong makalikha ng mga kagamitang pampagtuturo para sa asignaturang Filipino na magpapatibay ng kurikulum sa ilalim ng konseptong lokalisasyon at indiginisasyon. Ito ay bilang pagsasakatuparan sa mga itinalaga ng DepEd Order No.73 s.2012 na pinamagatang Standard- Based Assessment and Rating System.Magsilbing karagdagang gawain sa tahanan sa mga hindi inaasahang pagkakataong pagliban sa klase ng mga mag-aaral o ang tinatawag na Home Study Program at Remedial Classes. Dahil dito, naniniwala ang mananaliksik na ang mahusay at kalidad na edukasyon ay makakamtan ng bawat isang Pilipinong mag-aaral mula ngayon at sa susunod pang henerasyon. Ang mga pagsasanay na nabuo sa buklet ay nakaugnay sa mga layuning nais ipatuto ng guro sa bagong kurikulum. Ang mga kaalamang kanilang matatamo sa paggamit ng buklet na ito ay inaasahang magiging instrumento sa lalo pang pagpapataas ng kalidad ng edukasyon na siyang pangunahing layunin ng K to 12 kurikulum. Bawat aralin ay naglalaman ng mga pagsasanay na lilinang sa mga kompetensi na itinakda ng bagong kurikulum K to 12. Angkop na gamitin sa pag-aaral ang buklet pampagtuturo dahil malaki ang tulong nito sa pagtuturo ng Filipino sa Grado 7. Ang mga aralin ay naipresenta ng mananaliksik ay angkop sa mga makabagong mag aaral sa kasalukuyan.

Keywords: buklet pampagtuturo, mean percentage score, paglinang ng kakayahan, dibisyon ng Lungsod Batangas, deskripstiv- ebaluwatib

The Effectiveness of E-Tests in Uplifting the Test Scores of Grade 12, TVL-Home Economic Students of the Unisan Integrated High School: A Basis for Adaption and Institutionalization

Albert Mercado

Abstract

This study is conducted to determine the effectiveness and implement the Electronic Test (E-Test) proposed by the researcher in his School, Unisan Integrated High School District of Unisan, Quezon. It employed a two-phase method of research first, the descriptive survey method will be chosen as a means of gathering information from the considerable number of students, this method of research will also be used by the researcher in order to test the hypothesis and systematically analyze the collected data about the effectiveness of E-Test on uplifting students test score cookery. Second, the experimental design will be used to determine if there is a significant difference between the results of two types of test paper and pencil test and Electronic-test. The effectiveness of using E-test was of a very high level of effectiveness in the school settings. This was evident on the top indicator that examination result fulfils students excitement and boost their dedication and commitment to maintaining study habit with a weighted mean of 4.89, followed by the statement that E-test result provides meaningful experience and discover new ways for learning with a weighted mean of 4.64. This showed that the E-test met the diverse learning needs of the students. E-test supplied new learning experiences for the students and met the diverse learning needs of the students. This was evident on the top indicator that students excitement boost students commitment and dedication to maintain study habit. Therefore, E-test uplift test score and elevate quality education as well. The effectiveness for E-test usability was of very high level of effectiveness in the school setting. The top indicator was appropriateness with a weighted mean of 4.80, followed by usefulness with a weighted mean of 4.72 and last was cost with a weighted mean of 4.54. Along with the appropriateness, the highest rater indicated that the E-test "met the diverse learning needs of target users in uplifting students test score" with a weighted mean of 4.94. The paired t-test on students' performance using E-test and paper and pencil test results showed that the means were 33.09 and 22.00, respectively with a difference of 11.09. The t-computed value was 0.87. Thus the null hypothesis was rejected. There was a significant difference in students' performance based on their E-test and paper and pencil test results.

Keywords: assessment, program, effectiveness, academic, behaviour

Research Dispersal and Uplifting Teachers and Students Acquirthe ement: A Basis for Motivational Research Intervention Program (MRIP)

Rose Dela Cruz

Abstract

This study aims to evaluate the importance of research and introduced the Motivational Restudent'sntervention Program (MRIP) that would be essential to the teachers and students of Unisan Integrated High School (UIHS). The sampling technique used by the researchers was the random sampling technique by using fishbowl method. The researchers used the descriptive method, as it could evaluate the importance of research to teachers and students performance. The findings revealed that most of the students respondents are male, with the age of 17-19 and most of them are grade 11, and for the teachers, most of them are female, with the age of 21-25 years old, teacher I and had served 1-5 years, teaching science and most of them are single. Therefore, the demographic profile of the teachers and students was not a factor in performing well in conducting a research study if they were dedicated and fully motivated. The findings revealed that the importance of research was of significance for the students and was of strongly significant for the teachers in the school setting. This showed that teachers and students should be emboldened and fully motivated to excel and improve their acquirement. This was evident on the top indicator for the students was the Quality of Life while the least was the Students and Teachers Achievement. Also for the teachers, this was evident on the top indicator Students and Teachers Needs while the least was Work. This implied that the importance of research can ensure and sustain the benefits and necessities needed by people in all aspects. Teachers and students should be obliged to carry out a research study since the school is the heart of the educative process in uplifting the students progress. Regardless of their differences in demographic profile specifically in terms of civil status, age and gender, it will not be a factor for them to conduct a research study and produce a good output that will be significant to their institution but also to their society and country. Therefore, the MRIP should be recognized and implemented by the school administrators as it will become useful and beneficial for the students and teachers professional development and skills improvement in conducting a research study.

Keywords: research, acquirement, dispersal, teachers and students

Parenting Styles: Their Impact on the Mathematics Achievement of the Grade 11 Students in School Year 2019 - 2020

Mara Lorena Estacion & Maricel Oropilla

Abstract

The study was undertaken to examine the academic achievement of senior secondary school students and its impact on their perceived parenting style. If we can identify the relation of parenting style with students' academic performance and which parenting style is effective in high academic performance, it will be possible to inspire parents in that kind of parenting style. Quantitative Methods in the form of a survey design technique and mixed-method were employed for this study. An estimated sample size of 100 (10%) students was drawn from the target population of 1090. From 20 sections, five students were randomly selected. The instrument used was adapted to the study of Tangalin (2015). For the statistical treatment, Cross-tabulation, Chi-square and One-Way ANOVA design were used. Most of the respondents were female with 58% and 42% for male. In terms of home-type, there were 83 students with the complete family and their academic achievement 32% of them were VS. In terms of parenting style, 88% of the student's parent was considered as authoritative. Findings also revealed no significant relationship between gender and parenting style. Authoritarian parenting style and gender exhibited significant effects on the academic achievement of senior secondary school students. No significant interaction effect of parenting style and home-type and gender were found on the academic achievement of the students. The results suggested that apart from parenting styles there seemed to be other factors affecting academic performance. It was expected that this study will be helpful to all of the students, as part of the family. So, parenting style has an important role in student's academic activities.

Keywords: gender, parenting style and home-type

A Content Analysis of Elementary School Life Science Investigatory Projects in the Division of Cavite Province: A Basis for Technical Assistance

Evelyn Dulino & Riza Soberano

Abstract

The main purpose of the study was to ascertain the strengths and weaknesses of Elementary School Life Science Investigatory Projects within the Province of Cavite thru a systematic content analysis. This mixed-method study used the 49 item researcher-made checklist based on the INTEL ISEF 2019-2020. The compliance of the 10 submitted life science investigatory projects of the elementary level as entries during the Division Festival of Talents in Science with 2019-2020 was determined. Based on the consolidated result, 40 percent of the submitted SIPs complied with the INTEL ISEF Guidelines in writing the research ethics. This is followed by research forms, abstract and statement of the problem (30%). On the other hand, scope and limitations, review of related studies, summary and literature cited had the least number of compliance among the SIPs (100%), followed by the title (90%). The result also showed that 100% of the submitted SIPs did not completely satisfy the INTEL ISEF Guidelines. Content analysis of the research paper using the tool focused only on whether the research satisfied the guidelines for each research-paper component. The extent of how the research satisfied these guidelines is not part of this study. The current study is a pioneering one in the Division of Cavite. The empirical results of the study could be used as the basis for training capability both on the SIP students and coaches in the Division.

Keywords: elementary school science investigatory project, content analysis, life science

TIPS: An Aid in Reducing Math Anxiety among Grade 11 Students During the School Year 2019-2020 (Teacher Intervention, Pedagogical Approach with Stress-O-Meter Tool)

Mariz Lansak & Maricel Oropilla

Abstract

This action research aimed to reduce the math anxiety level with the aid of TIPS, Teacher Intervention, Pedagogical Approach with Stress-O Meter Tool among Grade 11- BPP/Cookery students. The personal experiences of the researchers, how classroom strongly contributes to the student's attitudes towards mathematics and the curriculum requirement teachers need to meet today, being skilled at using a variety of effective pedagogical strategies and possessed a positive disposition towards teaching mathematics led the researchers to conduct this study. From the 21 sections of grade 11, one section with the lowest score in diagnostic test and highest math anxiety level measured by Mathematics anxiety Rating Scale (MARS) was chosen as the respondents of this study. A 20-item pre-test and post-test covering learning competencies of Rational Functions was administered. In the duration of the study, researchers utilized khan academy videos and interactive PowerPoint presentations as an intervention coupled with pedagogical approaches- collaborative, differentiated instruction, reflective and inquiry-based learning and stress-o meter tool, measuring students' feeling, response and reaction towards intervention. The researchers found a mean score of 6.00 in pre-test and a mean score of 12.71 in post-test, showing a mean gain of 6.71 with a percentage increase of 111. 83, a double increase in the scores, also a significant difference between the pre-test and the post-test that indicates an improvement in the scores of the students. A significant difference was also found in the stress level of the students before and after the conduct of the study. The results have shown that teachers may produce, increased, or reduced mathematics anxiety among students at all levels of schooling through their attitude, behaviour, teaching methods and instructional strategies. Teaching Mathematics with appropriate pedagogical approaches with the help of technology might change their outlook about the subject.

Keywords: math anxiety, teacher intervention, pedagogical approach, stress-o meter tool

The Feeling is Mutual: The Perception of Senior High Students in Taytay Senior High School in SY 2019-2020 of a Child-friendly and Secure Environment School

Ma Elena Serrano & Andy Melgar

Abstract

Schools are institutions established to help the children to be useful to themselves and the nation as a whole (Oluremi, 2012). Thus, a child-friendly school ensures every child an environment that is physically safe, emotionally secure and psychologically enabling (Orkodashvili, 2013). Taytay Senior High School being transferred to its very own home at B. Pag-asa St., just this school year, advocates a child-friendly school to its learners. Hence, researchers would like to know the perception and feeling of the students, also it intends to recognize the significant correlation of a child-friendly school and level of security measure in the school. The researchers used a descriptive correlational research method. The respondents consist of 100 students in ABM Strand, stratified random sampling was used. A rating scale type of survey questionnaire with a checklist for the profile of the respondents was adapted from the Child-Friendly School checklist of DepEd with minimal modification for easier understanding of the respondents. Respondents were divided into two groups, which is gender for stratified random sampling, 50 per cent male and 50 per cent female. After data were collected, both male and female gave the highest average on categories such as protectiveness, followed by safety, cleanliness and healthiness as the lowest average rated. Significantly, male and female both answered that there is a moderate positive correlation between the Level of Child-Friendly School and Level of Security Measure in Taytay Senior High School. It means, that school with a high level of security are considered as a child-friendly school. In other words, one of the characteristics of child-friendly school is having a high level of security. The higher the level of security is, the greater the level of child-friendly school is. In summary, answers of male and female respondents revealed a mutual response, TSHS is a child-friendly school that being in school made them feel being in a secured environment. To make it sustainable, the school should continually review and update changes in personnel, local conditions, advocacy and emergency plans that extend towards the community to gain further support and foster community participation and involvement. One important suggestion that will make them feel more sethe cure is, a school might construct a gate and fences around the school. Having a gate in the school prevent and control the entry or exit of individuals.

Keywords: child-friendly school, secured environment, school, student, security, mutual

The Duties and Responsibilities of Master Teachers: A Basis for a Teachers' Development Program

Dave Gallardo, Edmer Constantino, & Marites Odon

Abstract

Based on DepEd Order No. 42 Series of 2017 named as the "National Adoption and Implementation of the Philippine Professional Standards for Teachers" it aims to: 1. Set out clear expectations of teachers along well – defined career stages of professional development from beginning to distinguished practice, 2.) Engage teachers to actively embrace a continuing effort in attaining proficiency; and 3.) apply a uniform measure to asses teacher performance, identify needs and provide support for professional development.

The San Jose – Litex Senior High School in Rodriguez Rizal has currently 21 Master Teachers and this research objectively assessed the level of performance of the respondents on their duties and responsibilities indicated in the PPST – RPMS Manual and to identify the relationship between their performance level and other assigned functions. The respondents were selected by using the total population sampling and a questionnaire was used as the main data gathering tool. The respondents were composed of Master Teachers (I and II) and at the same time has an ancillary (coordinator, head and adviser) assigned to them. Correlational research was employed to measure the relationship between the level of performance and they are assigned ancillary. From the result of the survey, it was found out that from the identified duties and responsibilities only 3 among the 20 were highly performed. The "takes active participation in the planning and implementation of a training program in school, district and division level" has the highest mean of 4.55 with an interpretation of "Highly Performed" and only "Participates actively in the school strategic planning process involving internal and external stakeholders" with the second highest mean of 4.20 and a verbal interpretation of "Performed" together with "leads in the preparation of instructional programs" with a mean of 3.75 and verbal interpretation of "Performed". From the ANOVA computation, it was proved that there is a significant relationship between the level of performance of the respondents when grouped according to their ancillary. This means that having ancillary work affects the respondents required performance. Based on the findings of the study, a faculty – development program can be developed to continuously perform the required duties and responsibilities of Master Teachers most especially from those rated moderately, somewhat and never performed.

Keywords: master teacher, duties and responsibilities

The Relationship of Demographic Profile and Resilience

Leandro Matocinos, Diego Froilan Paril, & Godfrey Dulla

Abstract

Resilience is a learned ability to rebound in spite of difficulties in life. People who are highly resilient are more optimistic, exhibit a high level of internal calmness, high life energy levels, curiosity, flexibility, and self-confidence. With the challenging curriculum and world of work, there is a need to determine students' level of resilience in order to be used as the basis for interventions for them to have a greater probability of success in life. Many studies have dealt with resilience but very few focused on senior high school students. Moreover, none has been found focusing on senior high school students in the Philippines. There are also conflicting results on the relationship of resilience to some demographic profiles such as age, income, gender, religion, and academic achievement in terms of grade point average. All of these variables are within the framework of the Ecological Model of Resilience by Gamerzy which states that the self, the family, and the social environment influence resilience. Cochran's formula was used to determine the sample size (n=304). Stratified random sampling was used to select respondents from each section and gender (n=304, N=1460, p=0.5) with 258 questionnaires returned. The demographic profile was determined and the resilience was measured using the Resilience Scale by Wagnild and Young with the lowest score of 25 and the highest of 175. The higher the score, the better is the resilience. Very high internal consistency (α=.95) of the Resilience Scale was found with Grade 11 senior high school students as respondents. Grade 11 students at San Jose-Litex Senior High School have resilience "On the Low End" (M=123.67, SD=27.07), which should be a focus of concern not just of the school but of the families as well especially that the students are in their adolescent stage and may have difficulties in facing challenges in their everyday lives. Gender (χ2 (5,258)=12.539, p=.028) with females being more resilient and monthly family income (χ2(30,258)=45.858, p=.032) vary significantly with resiliency. However, strand (χ2(15,258)=19.966, p=.173), age (χ2(5,258)=1.430, p=.92), religion (χ2(30,258)=24.924, p=.729), type of junior high school completed from (χ2(5,258)=8.060, p=.153), grade weighted average in Grade 10 (χ2 (15,258)=7.700, p=.279), and type of residence (χ2 (15,258)=13.815, p=.540) do not have a significant relationship with resiliency. Results imply the need for inclusion of resilience assessment for incoming Grade 11 students. There is also a need to study other variables that may relate to resilience.

Keywords: resilience, demographic profile, senior high school

No Child Should be Left Behind: An Evaluation of the TNTS SHS YACAP Intervention Program

June Tuonan & April Balmaceda

Abstract

The purpose of the study is to evaluate the YACAP Remediation program of SHS Department of Tanza National Trade School. Its main goal is to identify the strength and weaknesses of the program for further improvements. This is a qualitative kind of research. Five students were chosen for interview who undergo YACAP Remediation program last school year 2018-2019. Five teachers and master teachers were also interviewed and the two subject group heads and the principal. The result showed that: 1) The design of the program is not a research base. 2) Students awareness of the program is very weak, 3) teachers are lack of training to conduct remediation and remedial classes, 4) teachers awareness on who will conduct the remediation and/or remedial classes needs to strengthen and, 5) lacks teaching materials. According to understood.com (2019) A solid remedial program must 1) a research-based, using proven teaching methods, 2) teach step by step without skipping over content, 3) conducted at the student's pace, 4) offer regular reviews and practice exercises to reinforce learning and practise applying new knowledge, 5)include a way to assess what the students have learned and whether he's ready to move ahead, 5)offer small group instruction to provide for more individual attention.

Keywords: YACAP remediation, remediation program, intervention

The Utilization of Business Plans in Enhancing the Entrepreneurial Competencies of the Alangilan Senior High School

Arnold Diona, Niña Katherina Blanca, & Jaydeen Legaspi

Abstract

Given the current economic challenges facing many countries across the globe, greater entrepreneurial activity has become a prominent goal. The standard of choosing an entrepreneur in today's generation has been tightened up wherein the skills of an individual are evaluated and measured. That is why educators recognize the importance of entrepreneurship as a promoter of economic development and hence, support instruments like entrepreneurial activities, business plan and livelihood programs. These allow them to maneuver through the rocky landscape of the business world, and onto the right path of success. This study made use of descriptive - quantitative research design to determine the utilization of business plan in enhancing the entrepreneurial competencies of Alangilan Senior High School. The use of researchers-constructed questionnaire was the main data-gathering instrument. The respondents were the 266 Accountancy, Business and Management students SY 2018-2019. Statistical tools used were frequency, weighted and ANOVA. After careful analysis and interpretation of data gathered, the researchers found out that majority of respondents had high weighted mean on marketing skills as one of the features of the business plan. This also further revealed that the effectiveness of utilizing business plan in enhancing the entrepreneurial competencies gave the respondents an idea for starting a business with a weighted mean of 3.70. In addition, financial management skills were developed through ABM Caravan. It was also revealed that marketing and financial obtained a significant difference in the effects of utilizing business plan in enhancing the entrepreneurial competencies when grouped according to the features of the business plan. This implies that marketing skills enable entrepreneurs to analyze the competition, the market place and industry trends. Meanwhile, financial skills help entrepreneurs run the business profitability, protect financial investment and effectively manage finances. Thus, the business plan was proposed to enhance the entrepreneurial competencies of Alangilan Senior High School. The result of this study served as baseline information in the provision of school programs and activities involving the utilization of business plans through ABM Caravan in developing the entrepreneurial competencies of the students of Alangilan Senior High School. Thus, future researchers may conduct a parallel study to test the validity and reliability of the study.

Keywords: business plan, ABM Caravan, entrepreneurial competencies

Warmth: A 2D Simulator for Heat and Temperature Physics 8

Marianne Joyce Felismino, Ea Marien Bernal, & Julyline Ybanez

Abstract

The technology was being innovated continuously in the past years. It became beneficial for humans and they used it for different purposes such as school, work, entertainment, etc. As time passed, technology especially gadgets became a distraction for students. This study aimed to develop a simulation that can help Grade 8 students understand heat and temperature in its different molecular level in a way that they like most, which is using gadgets or an application. A survey was conducted to the grade 8 students S.Y. 2017-2018 asking on which subject are they having a hard time the most. The sprites and contents of the application were made and three teachers were asked to validate the contents. After everything was ready, a game was developed using game developer software with the help of a consultant. A pretest was conducted to the grade 8 students S.Y. 2019-2020. Using a cluster sampling technique and random sampling technique, the controlled and experimental group was chosen. When they were already divided into two groups, the researchers distributed the application to the experimental group. After a specific duration of time, the same questionnaires were distributed as a posttest to the same batch and a survey asking about the application's performance was given to the experimental group. After gathering all the data needed, the data was analyzed using z-test. Results showed that the experimental group's scores in the pretest (7.29) and the posttest (10.07) has a difference. It is observable that their score in the posttest is higher than the score in the pretest. Comparing the mean score of the controlled group (7.97) and the experimental group's (10.07) posttest, it is observable that the mean score of the experimental group is higher. The application was able to get an average rate of 2.83 for its overall performance. There is also a significant difference between the experimental group and the controlled group's posttest. After the experimentation and data analysis were conducted, the results showed that the application was able to help the students in understanding the topic Heat and Temperature of Physics 8. The participants in the experimental group were able to perform better on their posttest and had a higher mean score than the controlled group.

Keywords: application, simulation

DEAR Vocabulary Strategy: Strengthening the Science Conceptual Literacy

Odesa Pel

Abstract

This study used a conceptualized graphic organizer, DEAR (Description, Etymology, Annotation, and Representations) vocabulary strategy which address the student's vocabulary difficulty and understanding science concept literacy. Cluster sampling was used in the selection of the participants. Pretest and post-test were administered wherein the mean score and the standard deviation was used to determine the achievement level of the participants. The paired t-test was used to determine the significant relationship between the pretest and the post-test. There is an increase in the level of achievement of the participants based on the mean scores 7.25 to 9.41 respectively. The result revealed that there is a significant relationship between the pretest and the post-test results at .05 level of significance (t-test _ 0.000). This implied that the conceptualized DEAR vocabulary strategy is an effective approach to strengthening science vocabulary and science conceptual literacy. Analysis of the study using the statistical tools focused only on whether the conceptualized DEAR vocabulary strategy can strengthen science vocabulary and science conceptual literacy, specifically, in Earth and Life Science.

Keywords: DEAR vocabulary strategy, achievement level, conceptual literacy

Blended Learning Effectiveness: An Approach in Teaching and Learning

Lerma Furio

Abstract

Nowadays, the potential for learning is immense. As computer take this place in the classroom, an innovative pedagogical approach in teaching and learning environment such as blended learning has been embraced rapidly. Blended learning is defined as learning using different means such as computers, networks, internet portals, a combination of face-to-face and online teaching and learning. The descriptive correlational type of research was used in this study that will help find out the correlations between the perceived description of audio-visual, mobile applications and ICT materials to the effectiveness of Blended Learning Approach. A survey questionnaire was the main data gathering the instrument of this study which involves a total of forty-two teachers in Bagbag National High School. The data were consolidated, treated and analyzed using appropriate statistical tools. Based on the findings, audio-visual, mobile apps and ICT materials were rated and described as highly relevant, highly appropriate, highly attractive, highly functional and highly available. The assessment of the blended learning was all rated highly effective as described by each criterion. The study further revealed that significant relationships between the profile of the respondents, audio-visual, mobile apps, ICT materials and the effectiveness of blended learning approach. It is recommended that other variables which are not included in the study can be used to determine other parameters that may help improve the use of Blended Learning Approach in teaching and learning.

Keywords: blended learning, teaching and learning, audio-visual, mobile applications

The Pre-Calculus Performance of Grade 11 Stem Students: A Basis for Performance-Based Assessment

Arnold Diona

Abstract

Performance-based learning is when students participate in performing tasks or activities that are meaningful and engaging. The purpose of this kind of learning is to help students acquire and apply knowledge, practice skills, and develop independent and collaborative work habits. The culminating activity or product for performance-based learning is one that lets a student demonstrate evidence of understanding through a transfer of skills. The researcher came up to this study to determine the performance of Grade 11 STEM Students in Pre-Calculus as the basis for Performance-Based Assessment. This study determined the individual and grouping scheme as a basis in performance in Pre-Calculus of Grade 11 STEM students as the basis for Performance-Based Assessment using the quantitative method and descriptive research. Descriptive research and quantitative method were used to address its concerns. The questionnaire was designed to investigate the Performance Based-Assessment of Grade 11 students. This exists to undergo with the validation process to check its validity and reliability. The study used weighted mean as the main statistical tool. After careful analysis and interpretation of data gathered, the researchers found out that the majority of respondents stated that the main importance of performance-based assessment was to evaluate complex concepts across a range of types and disciplines. Students' ability to evaluate complex concepts across a range of types and disciplines, adapt to communication in relation to audience, task, purpose, discipline and describe the different types of conic sections were the main importance of performance-based assessment activities. The frequent challenges encountered by the students in performance-based activities were determining the importance of alignment of theories of learning and assessment, the strong influence on how teachers teach and how students learn while the least challenges encountered was the inability to provide an accurate assessment and too time-consuming. Thus, analytic and logistic kinds of rubrics were proposed to manage the challenges of performance-based activities. This study may serve as a guide or basis for other students in addressing the competencies on Pre-Calculus by assessing ways that they could also utilize in learning. This also served as baseline information in the provision of school programs involving performance-based activities for students as a means of analyzing Pre-Calculus.

Keywords: performance-based activities, performance-based assessment, Pre-Calculus

Kolb's Learning Style and the Academic Performance of Grade 12 HUMSS Students of the Taytay Senior High School in S. Y. 2019-2020

Anjie Lopez

Abstract

In recent years, researchers have shown an increased interest in learner styles as one of the key factors influencing the learners' academic performance. During the last decade, the researchers also noticed that there are more types of learning style rather than the usual. The principal objective of this research is to find out if there is a relationship between learning style and academic performance in Taytay Senior High School Descriptive and Regression analysis were engaged to identify the impact of the independent variable on the dependent variable. In the present study, the random sampling technique was adopted to select a sample of 45 students of grade 12 HUMSS in TSHS, and a standardized tool was used to collect data. The research study shows that learning style has no significant relationship with the academic performance of the Grade 12 HUMSS Students of Taytay Senior High School. This finding has been verified by the obtained Correlation Coefficient under Crude Estimates or the interpreting strengths of correlation, which most of the Computed results are negligible or have a weak negative relationship. Large scale studies are recommended to further investigate the influence of the learning styles on the teaching-learning progression. Also, to change the participants to other strand or track, to study further the relationship between the two variables. The researchers, therefore, conclude that the academic performance of the HUMSS students does not vary on their preferred learning styles. No significant association observed between the learning style and the academic performance for both subjects. There could be another possible predictor of academic performance. It may be attributable to the study strategy (surface or deep), which has been proven to have a significant relationship between the two constructs by (Cano, 2005; Fenollar et al., in press; Phan, 2006; Simons et al., 2004). as cited by Phan (2008). As such, it is recommended that future research may study the association between the learning styles, combined with the study strategy, with academic performance. The study strategy coupled with the learning style may be a booster for the relationship with academic performance.

Keywords: learning style, academic performance, diverging

Teachers' Level of Awareness on Competency-Based Assessment and Tools Used in the Division of Quezon: A Basis for Developing an Action Plan

Maela Margaritte Millar

Abstract

Learners' mastery of the content to skill is likely to be attained through the approaches used by the teachers and is measured through various classroom assessment techniques. Assessment is a sine qua non or an absolutely necessary thing in teaching. Without assessment, the teaching cycle will not be completed. The K-12 Program in the Philippines offers a 12-year program which has the primary goal to give ample time for the learners to master skills and acquire basic competencies to make them competitive on a global extent. Competency-based assessment does not only measure the gaining of knowledge but more of the mastery of this knowledge and acquiring skills in an authentic context. Descriptive method was used in this study or also known as statistical research that describes data and characteristics about the population or phenomenon being studied designed to provide answers to the questions of who, what, when, where, and how associated with a particular research problem. Majority of the teacher respondents belong to the age bracket of 31-35 years old, female, took up Bachelor's Degree in Education with, and have been teaching for 4-8 years, are extremely aware that competency-based assessment requires carefully crafted instructional objectives, and most commonly use directed assignments, oral questioning, and simulation and role-plays as classroom assessment tools and the least commonly used strategies are games. In terms of advantages, the majority of the teacher respondents perceived to a much extent that competency-based assessment allows the learners to be creative thinkers through enhancing their imagination and in terms of disadvantages, most of them perceived to a much extent that competency-based assessment takes an objectivist approach to learning. Majority of the teacher respondents assert the problem that competency-based assessment requires conclusions and inferences to be reliable. D. Fisher and N. Frey (2011) stated that teachers are sometimes teachers merely visualize that all children will learn everything that they teach without knowing that having a clearer "end" in mind is more important. Establishing a clear purpose of a lesson can make the children learn more effectively. Linking instructional objectives to competencies, in contrast with traditional assessment, competency-based assessment ensures that learners can apply what they have learned (S. K. Kearns, T. J. Mavin, S. Hodge, 2016).

Keywords: teachers' level of awareness, competency-based assessment and tools, action plan

The Study Buddy Approach: Improving Metacognition Awareness and Conceptual Understanding of Grade 11 Students in Earth And Life Science

Mildred Capina

Abstract

Based on the result of achievement rate SY 2018-2019 38 out of 998 students failed in Grade 11. Hence, in an attempt to enhance students' interests in science lessons, this study used the study buddy support scheme as an intervention strategy to address the identified needs of ABM A students concerning their science academic skills. This is a pioneering study in the Senior High School of Tanza National Trade School. Purposive sampling selection was used wherein fast learners and average learners worked as a team. To determine the metacognition awareness mean and percentage were used and the conceptual understanding was measured using paired sample t-test from pre-test and post-test results, while Pearson r was used to determine the significant relationship between the metacognitive awareness and the conceptual understanding. Analysis of the study using the statistical tools focused only on whether the study buddy approach can improve the metacognitive understanding and conceptual understanding in Earth and Life Science. The result showed that there is an increase in the level of metacognitive awareness (declarative, procedural, conditional and planning) from 66.85% to 75.50%. In the level of conceptual understanding, there is a significant difference between the pretest and post-test results. However, there is no significant relationship between metacognitive awareness and conceptual understanding. The study buddy approach increased the metacognitive awareness and conceptual understanding of ABM A students. Identifying the metacognitive awareness is an important part of helping learners become more effective and, importantly, according to Hammed and Sabna (2016) developing metacognitive awareness, learners will become more autonomous. Jayaprabha and Kanmani (2013) noted that cooperative learning could be adopted regularly in the classroom to enhance metacognitive awareness of higher secondary students. This study agrees with several works where peer tutoring has been used across academic subjects, were found to result in improvement in academic achievement for a diversity of learners within a wide range of content areas (Addedeji, 2013; Ndirika & Ubani, 2017, Ullah et al., 2018). Coutinho (2007) mentioned that metacognition is related to academic success and students with good metacognition have good GPAs. Studies have shown that metacognition and intelligence were associated.

Keywords: study buddy approach, metacognitive awareness, conceptual understanding

Teachers' Perception of the Status and Challenges of Using Active Learning Approaches in San Jose Litex Senior High School

Gerico Sabado

Abstract

With the implementation of the K to 12 Curriculum, teachers have been experiencing challenges in order to upgrade their teaching strategies to approaches that are appropriate for the 21st-century learner and classroom. The approaches that have been emphasized in the K to 12 Curriculum implementation are the Active Learning Approaches, like the Collaborative Learning, Inquiry-Based Learning, Explicit Teaching, Problem-Based Learning, Project-Based Learning, and Blended Learning. This study was an attempt to explore the Teachers' Perception of the Status and Challenges of Using Active Learning Approaches in San Jose Litex Senior High School. Furthermore, the study attempted to find out what of the 6 Active Learning Approaches do the respondents use; how many times in a month do the respondents use the 6 Active Learning Approaches; what are the challenges encountered by the teachers on the use of the 6 Active Learning Approaches; and what are the perceptions of the teachers on using the 6 Active Learning Approaches based on the students' competence, demand in preparation, teachers' training, time, equipment, and management of large classes. Using a researcher-constructed questionnaire, the researcher purposefully selected 40 teachers (covering all subject groups) of San Jose Litex Senior High School. Using the mixed quantitative-qualitative method, data were interpreted using the mean. Respondents were asked to share their status on using the 6 Active Learning Approaches, their challenges, and their perceptions on the said approaches. All data gathered were analyzed through coding and by computing for the mean. Based on the results of the study, Collaborative Learning is used by the most number of teachers while Blended Learning is used by the least number of teachers. Moreover, teachers use the 6 learning approaches from once a month to almost every day. They encounter problems especially in time constraints, preparation, implementation and assessment using the approaches. Generally, the teachers all agree that there is great potential in their experience with the use of the 6 learning approaches. Due to this, the school administrators need to come up with innovations and interventions to help their teachers to effectively use and optimize the 6 approaches in their classrooms.

Keywords: teaching approaches

Child-Friendly School Administration in Quezon Province: Procedural Barriers and Observed Benefits

Lianne Mariz Veluz

Abstract

This study aimed to create an operational manual based on the procedural barriers and observed benefits in the implementation of child-friendly school system in Quezon Province. In the research process, the researcher used a modified questionnaire by Valdeavilla (2015) to correlate the procedural barriers and observed benefits in the implementation of CFSS. The study used a concurrent triangulation mixed method of research to obtain extensive information from the 332 respondents from three schools division offices in Quezon Province. The procedural barriers revealed in the study to be observed in a moderate extent in all six dimension while the benefits of implementing CFSS is observed to the greatest extent. It is also found out that there is no significant relationship between the procedural barriers and observed benefits in the implementation of CFSS in all six dimensions. The proposed operational manual for child-friendly school system conforms to the standards necessary for successful implementation of CFSS. This research was an emerging attempt to investigate empirically the implementation of the Department of Education on establishing a child-friendly school system among public secondary schools in Quezon excluding annexes or extension schools. The manual consists of different sections starting with the vision, mission, and core values of the Department of Education. Moreover, it gave an overview of the structure of CFSS including its dimensions, standards, and indicators. Furthermore, the operational manual entails a monitoring and evaluation tool to measure the level of success and effectiveness of CFSS implementation.

Keywords: barriers, benefits, child-friendly

ENGINEERING

Mussel and Clam Shells as a Concrete Aggregate

Kherl Vinzent Bagon, Bien Joseph Alvarez, Rhayme Simon Dotig, Andrich John Matthew Dimaculangan, Joseph Ralph Gool, & Calvin Franco Reyes

Abstract

The extraction of sand and aggregates cause depletion of resources and destruction to the environment. Seashells, as source of calcium carbonate, may be used as concrete aggregate. The use of seashell, as aggregate, can strengthen the performance of concrete. The study evaluated the efficiency of mussel and clamshells as concrete aggregate. Marine shell wastes may be recycled for use in construction materials when substituted or amalgamated with hydraulic cement for concrete works. Mussel and clam shells were collected, cleaned, dried and pounded. Then 50% pounded mussel shells and 50% pounded clamshells were mixed to cement and sand proportions. The mixture proportions varied from 1:2:2, 1:2:3 and 1:3:3 cement, sand and aggregate, respectively. Then drop test, heat test and strength/durability test was conducted. The cement with the ratio of 1:2:2 withstood all the tests and managed the highest load capacity with 90kN to 100kN. The cement with a ratio of 1:2:3 held up to 50kN of force before breakage, but failed the drop test of 5 feet. The cement with a ratio of 1:3:3 held a load capacity of 75kN but cracked during the drop test. The control samples resisted a load capacity of 65kN and did not crack on the drop test. All of the samples bore up against an hour of steady heat test of 210°c heat. The results suggest that seashell as aggregate provide strength and durability to concrete. It could hold up to its purpose of providing support for concrete when the right ratio of the mixture is considered. With certain ratios and proportions, seashells as aggregate could pave way for stronger buildings and other constructions. Seashells contain 95% calcium carbonate as well as organic matter and compounds. The varying curing days may affect the cement, the reason why the researchers propose following the proper cement curing days suggested by the professional engineers who may serve as technical consultants.

Keywords: mussel and clamshells, aggregate, concrete

Flood Level Oriented Warning System (FLOWS): An Advanced Hydrological Flood Monitoring and Early Warning Detection System

Beatrice Colleen Navasca

Abstract

Floods have large social consequences for communities and individuals. Through the use of flood monitoring and early warning system, further damage caused by flood would be prevented. Because of their ability to drastically reduce property losses and loss of life, flood warning services may be seen as a cost-effective means of mitigating flood hazards. Hence, the the researcher created a flood detection system to monitor the rising water level in residential areas. This study presented a design of a flood monitoring system which consists of a flood detector, LCD monitoring display, and Short Messaging Services (SMS). The Arduino IDE software was used to program the system. This system targeted to be implemented as a flood warning tool by respective local authorities and officials in the City of General Trias, Cavite. Completely Randomized Design (CRD) was used by the researcher wherein five groups- Brgy. Vibora, San Francisco, Pasong Kawayan I, San Juan I and Sta. Clara (with randomized proponents) were subjected to different treatments using the system to compare data and infer results. The researcher used a systematic data collection approach which was the testing method where she tested the effect of the application of the treatment in the experimental group compared with the control group. This method was also used in testing the system's accuracy in sending messages via SMS in alerting the officials and the public. To test the efficiency of the product, the researcher distributed the data on tables that showed To test the efficiency of the product, the researcher distributed the data on tables that showed the speed, distance and accuracy of the product. The data were analyzed using the t-test ($\alpha = 0.05$, $N = 5$, d.f.=4). Since computed $t = 12.823$ is higher than tcritical= ± 2.776, it is within the rejection region. Therefore, there is a significant difference between the energy consumption before and after using the device. As the study was prepared, conducted, tested and analyzed, the researcher, therefore, found out that the Arduino-based monitoring system was proven to be effective and reliable in monitoring the status of water level, detecting the level of water and alerting the respondents, and can send alert messages accurately and quickly based on the signal connection. The FLOWS can be used by different barangays and government officials to monitor the current status of rivers, lakes, dam, etc.

Keywords: flood monitoring system, alert detection, Arduino IDE software

PIONIC: Pioneered Neoteric Bag

Marlothe Jewel Celis & Ma. Janella Benilde Borromeo

Abstract

For the past few years, a lot of people have experienced having stolen or forgotten belongings especially their bags. It's much worse when the bag of the user even contains important documents or things with great value like jewellery. The aim of this study is to create a high-tech backpack that can protect and secure the important belongings of the user as well as locating the bag using GPRS technology. This bag was designed as a backpack for the convenience of the user. The Arduino Uno, together with the Fingerprint Sensor and Sim808 Shield, were installed in the bag as well as an additional layer for it to be slashed-proof. The sensors were calibrated and tested for 25 trials and the results were recorded to analyse its overall functionality. It was shown in the results that the Fingerprint Scanner, in terms of scanning the correct fingerprint of the user, has 100% functionality and the Sim808 Shield, in terms of locating the bag and sending the location of the bag to the user whenever someone tries to have an access on the bag, also has a 100% functionality. After conducting the tests in this anti-theft bag, it was therefore concluded that it could avoid the bag from being stolen or forgotten and would also locate the bag by the use of GPRS technology. This Anti-Theft Bag can be manufactured by companies who want to produce a bag that has a self-locating feature and exclusive access for the user.

Keywords: robotics, bag, sensor, anti-theft

Project L.O.W.K.E.Y. (Litter Obviation: Waste Keeper And Eco-Rewards Yielder)

Alexa Louisse Espineli, Annfernie Giron, & Yeddah Mariz Gloriani

Abstract

Solid waste management is still a problem in the Philippines in spite of the implementation of Republic Act 9003 or simply the Ecological Solid Waste Management Act of 2000. One of the reasons is due to the attitude of the people including the local government units who refuse to segregate wastes properly. Project L.O.W.K.E.Y., a reverse vending machine, was constructed to segregate solid wastes, specifically bottles and cans, and encourage people to segregate such materials by giving rewards. The device was programmed using an Arduino software. With the use of various sensors and actuators controlled by Arduino Mega 2560 R3, the device was able to detect and segregate bottles and cans and was able to give reward to the user which could be either a phone charge or coin. A series of functionality tests were conducted using different parameters with thirty trials allotted for each parameter. The results of the tests were analyzed using percentage to determine the overall functionality. The device was able to detect and segregate bottles and cans with 97% accuracy. 7 alternative hypotheses were accepted while 1 was rejected. It was also found out that there was no significant difference between the satisfaction rate of the users in receiving coins or phone charge as merit as evidenced by the p-value of 0.12 with $\alpha = 0.05$, which indicates that the users were satisfied in receiving any of the rewards. Project L.O.W.K.E.Y. is a device that paves a way for an innovative and modern way of segregating wastes, especially plastic bottles and cans. With the use of this device, it shows how crucial proper segregation of wastes is in the community. Since these mentioned wastes are some of the major reasons why most disasters turn out to be more terrible than it should be, it should serve as a signal that proper segregation of wastes should now be performed.

Keywords: Republic Act 9003, reverse vending machine, solid wastes, Arduino Mega 2560 R3, sensors, actuators, rewards

HEALTH & SCIENCE

The Potent Hypoglycemic Effect of Bitter Gourd (Momordica charantia L.) Extract Fused with Milk Chocolate, Induced in a Diabetic Rat

Rhianne Sarate & John Roldan Dimaano

Abstract

Diabetes is a chronic disease that is relatively common throughout the world and defined as a group of metabolic diseases. Bitter Gourd has a significant antidiabetic as well as hypolipidemic activity so that it can be used as an adjuvant along with the allopathic treatment of medicine to treat diabetes as well as to delay the late complications of diabetes. While milk chocolate contains natural antioxidants which are flavonoids and flavonols known as the healing power of chocolate, which means it can lower bad cholesterol, lower blood glucose level and improve insulin function. Through the milk chocolate that is mixed to the bitter gourd, the product is not that bitter and may help those who are not into bitter medications and have an easy consumption. This experimental research underwent five phases namely: Preparation, Extraction, Production, Ingestion and Evaluation. First, the Preparation of materials such as Albino rats, bitter gourd leaves, milk chocolate, cages and glucometer to determine the blood glucose level of the experimental rats. Second, the extraction of bitter gourd which uses 6 tablespoons of chopped leaves mixed into 250mL of water. Third, Production of Bitter Gourd Chocolate wherein 500 grams of milk chocolate was melted and the butter heavy mixture is added and mixed until it solidifies. Fourth, Ingestion of milk chocolate, the rats consumed 10 grams of milk chocolate in the morning and afternoon. The rats were given approximately 30mL of water. However, Group A, which is the control group did not receive any treatment while Groups B, C and D were the treatment groups consumed bitter gourd chocolate with a ratio of (75:25), (50:50) and (25:75), respectively. Last, Evaluation of the Blood Glucose Level of each albino rats includes the lancet or lancing device for the preparation of the test, the test strip for the blood getting of the rats and the glucometer to show the result of the blood glucose levels. Ingestion of milk chocolate increases the blood glucose level of the albino rats, however, after the consumption of bitter gourd chocolate, the blood glucose level of groups B, C and D decreases. This experimentation shows that there is a significant difference in the blood glucose of level of albino rats upon the ingestion of milk chocolate and after the consumption of bitter gourd chocolate. The importance of the bitter gourd fused in milk chocolate is to lower the blood glucose level of the diabetic rats after the ingestion of milk chocolate. The statistical analysis and the blood glucose level results of each albino rats showed the amount of the bitter gourd in the milk chocolate is inversely proportional to the blood glucose of the rats. Therefore, it can be concluded that the bitter gourd chocolate can help lower down the blood glucose level of diabetic rats and possibly control diabetes.

Keywords: diabetes, bitter gourd and milk chocolate

In the Aftermath of Battle: The Lived Experiences of Cancer Survivors

Jonna Marie Ibuna

Abstract

This study was conducted to look into the lived experiences of the adolescent cancer survivors in the Cancer Warriors Foundation Inc. – Batangas Chapter. The co-researchers of the study were nine (9) adolescent cancer survivors. Using the guide questions, the researcher conducted her focus group discussion using audio-record type. The themes that emerged from the co-researchers in the study were the varied inherited and acquired cancers, different challenges encountered, different strategies for coping like extending emotional support in different ways, attending various physical activities and varied social and spiritual ways for better health, and different forms of support. Similarly, the summarized findings from the responses in the interviews were discussed in relation to theories and other research findings from the gathered literature. The significance of acknowledging these findings is that the co-researchers would introspect, understand and reflect deeper how they see themselves in their present situation of being cancer survivors. Lastly, a proposed psychological program named "CanServe" was recommended to the Cancer Warriors Foundation, Inc. Batangas Chapter that aims to help the adolescent cancer survivors in facing the challenges of their present situation.

Keywords: cancer survivors, cancer, psychology

LANGUAGE & LINGUISTICS

Pedagogy First: Vocabulary Acquisition Through Quizlet

Genine Torres

Abstract

Learning a second language involves the acquisition, review, and constant use of words suited to the students' learning proficiency. In the context of the Philippines, language teachers can attest to the vocabulary difficulties that the Filipino youth are experiencing in terms of retaining, using, and learning new words. To solve this trend, application of modern approaches and strategies must be implemented to promote individual learning of vocabulary outside of the classroom. Consequently, this quantitative study aims to analyze the effects on the use of Quizlet application in vocabulary teaching to Grade 11 senior high school students. Fifty students from St. Augustine School-Tanza were randomly selected and was divided into the following: 25 students as a control group and 25 as an experimental group. The scores of the groups in the pre-test and post-test were used to assess vocabulary retention and usage. The participants were invited for a focus group discussion in order to gather their perceptions on Quizlet as a tool for learning. The findings of the study revealed that the use of Quizlet significantly improved vocabulary retention and usage and is deemed by the experimental group as a practical and motivating substitute for teaching vocabulary before the actual class starts. The result fosters the idea that language teachers should consider more profoundly how Quizlet may be applied in teaching other significant areas in English. It is recommended that the procedures stated herein be tested in other written exercises and the results serve as a basis for further diagnosis with Quizlet.

Keywords: vocabulary teaching, Quizlet, individual learning

MARKETING

Technology Savvy or Naivety? The Level of Awareness in Marketing Applications and Academic Performance in Media and Information Literacy

Janssene Arambulo

Abstract

Recent years have seen a decline in the effectiveness of traditional mass media marketing communications with consumers, who are bombarded with thousands of marketing messages. The incline of mass media effectiveness is reflective of the great underlying change in the culture toward a more interactive dialogue (Clark & Melanco, 2013). The study primarily aimed to determine the Awareness Level on Marketing Application and if it has correlation with Academic Performance in MIL of 100 Grade 12 ABM students in TSHS. The researchers used Descriptive survey using Correlational Research Design, used Pearson R Coefficient as a Statistical tool, and provided a survey specifically checklist with considering the privacy and anonymity of the students. Based on the data gathered, the results found out (1) even most of the respondents have an enough knowledge or totally aware on Marketing Applications, but it is conditional if it is Pass/Failed based on grading system in the Philippines and (2) that there is a mostly weak correlation between the dependent variable and independent variables. Hence, this study aim is to raise awareness with regards to Marketing Applications to students especially to those that are linked to business courses. On those premises, the researchers recommend that school should pay attention and at least provide time in terms of enhancing the knowledge of the students with regards to marketing applications by spreading awareness through symposium and seminars.

Keywords: marketing application, social media marketing, media and information literacy, awareness level, correlation

MATERIAL SCIENCE

Utilizing the Cotton Candy Mechanism to Produce Low-Density Polyethylene (LDPE) Wool

Francesca Juliene Mariano, Beatrice Rheezette Abelieto, & Maria Kristina Talagtag

Abstract

Plastics are commonly used for everyday use, examples are for groceries and garbage disposal. The rising problem on plastics are still a problem as only 7% of plastics are being recycled, the rest are going to the landfills. The main objective of this study is to produce synthetic wool from plastic bags for an easier way to recycle low-density polyethylene (LDPE) plastic bags and lessen the waste by using the cotton candy machine with ethylene-vinyl acetate (EVA) as additives. LDPE plastics and EVA additives were weighed according to its ratio. Each ratio was put in the heating plate of the cotton candy machine. The product was collected using a stick and weighed again for the comparison of its previous mass. The product was rated according to its appearance. The pure LDPE didn't produce any product. The use of EVA added flexibility of the plastic. Results showed a flaky product rather than wool which was far from the expected outcome. It pattered to stringy flakes. The more EVA, the more similarity to wool the product was. The results were then analyzed using one-way ANOVA and post hoc analysis. Although the product wasn't the expected outcome, the continuation of this study is advisable with the use of different plastic with a similar molecular structure as sugar. The product can be used to turn into powder for the production of plastic pellets to be a raw material.

Keywords: low-density polyethylene, cotton candy machine, ethylene-vinyl acetate

MATHEMATICS & STATISTICS

Mathematical Anxiety: The Perceptions of Senior High School Students

Mark Neil Jasper Kent Geroleo & Dustin Diego Morales

Abstract

Due to the skill needed in subjects related to Mathematics such as accuracy of thought and statement, a definite mental concept, connected thinking, fair memory, quickness to recognize the relation between forms and numbers, and power of generalization, Mathematics become harder to the students compared to the other subject. In the context of the Philippines, establishing the willingness and the eagerness of the student will be helpful in learning in this subject efficiently. Finding the factors that make the student fail in math will definitely prove to be of worth to the schools, administrators, and teachers. This qualitative research study aimed to distinguish the common reasons for the mathematical anxiety that the students of Saint Augustine School are experiencing. 17 student-participants were purposively selected based on the following criteria: (1) must be a grade 12 student, (2) must have a great lower than 85, (3) must consider himself/herself to be experiencing anxiety. The study made use of validated interview questions which aimed to gather the perceptions of the selected participants. The finding of the study showss that the average interest of the students is not too much high. They are more comfortable in providing example as well as the traditional formal of teaching, but as data say, providing example is already done by most of their teachers. Since the average interest of the respondent is not too much high, it may be the reason of failing of the student because interest builds the eagerness of the student in obtaining their goal and advancing academically. Improving their interest may improve also their on this subject. On the other hand the data also show that at some point there is nothing wrong on the approach of the teacher on them before because the data shows that the approach of the teacher is the comfortable zone of students. Interest indeed necessitates passion to learn and aspiration to achieve the highest potential. In line with this, it can be noted that if the teachers will not do anything to arouse the interest of the students then the possibility of not learning is not far fetched. The result of the study is in line with what Krashen (1982) also stated that with high affective filter, acquisition of concepts will not be possible. With this in mind, the school, teachers, and administration should consider crafting ways on how Math can become engaging and encouraging to students.

Keywords: mathematics, senior high school, mathematical anxiety

A Shortcut Formula in Finding the Area between an Even-Sided Regular Polygon (Hexagon to Dodecagon) and an Inscribed and Circumscribed Circle

John Kenneth Sanchez, Princess Darlyn Dimapilis, & Terence Angeles

Abstract

Geometry is a branch of mathematics and considered one of the oldest sciences. It is referred to as the third toughest branch of mathematics. For every 100 students, 88 of them hate mathematics and 12% of them considered geometry as the hardest branch. One topic in geometry is getting the area of the region between a polygon inscribing and/or circumscribing a circle. It takes a lot of time to compute it if this formula is used. This study aimed to derive a shortcut formula for the area of the region. Illustrations were drawn to indicate the region that was being used to compute for its area. Derivation of the formula was conducted by computing for the constant relationship between the measure of the side of the polygon and the radius of the circle. The constructed formulas were in the form A=cs^2, wherein c is the constant while s is the measure of the side of the polygon. Two tests were conducted including equivalence and duration test for the original and derived formulas. The results were analyzed using the Two One-Sided Test (TOST) and t-test. The results of the TOST analysis showed that the values produced by the derived formula and the original formula showed equivalence. For the duration test, the average time (in seconds) for the computation using the original formula and the derived formula were 43.13 and 3.32 respectively. For the results of t-test, it showed that there was a significant difference between the time of computing the area of the region using the derived and original formula. The derived formulas were accurate to solve the mathematical problems about getting the area between an even-sided regular polygon and an inscribed and circumscribed circle. It was also proven that they were able to compute for the answer in a shorter period. This study also showed that there were constant relationships between a circle and a hexagon, octagon, decagon, or dodecagon. These values could be used to generate a constant value which is applicable for all kinds of polygons.

Keywords: inscribed circle, circumscribed circle, constant relationship

A Figure Analysis of the Three-pole Amida-kuji with Non-consecutive, Alternating Bridge Patterns: A Summary of the Relationships within its Variables in Mathematical Models

Aira Gayle Pugeda, Ma. Mica Falsado, & Jen Kyla De Guzman

Abstract

Amida-kuji is a Japanese lottery game perceived as a matter of chance or probability. It consists of vertical lines that serve as the poles, and horizontal lines as the bridges. This game can be simply explained as a token entering a maze that ends to one specific outlet. The token always moves down unless it will encounter a horizontal line or bridge. As books, journals and researches are reviewed, there is no available material that describes thoroughly the scientific concepts involved within the system. Hence, this study is made with the humble attempt of undermining principles and theories that can be explained and defined by mathematical philosophies and properties. Specific figure conditions were made according to the number of its bridges. Each figure was labelled using the ratio of addends of the bridge, representing the number of bridges per pair-pole. Bridges were placed alternating from one pole-pair to the other. This means that no two consecutive bridges can connect the same pair of poles. After classifying figures with similarities and patterns, formulas were derived based on constants and relationships observed. It shows that there are some sequential patterns in the number of bridges and path-turns in an Amida-kuji figure with alternating bridges. Thus, the formula for the arithmetic sequence was applied. There are three classifications formed namely Green, Blue, and Yellow-type figures and each has derived formulas to get the number of path-turns (〖PT〗_n), nth term of the bridge (b_n), and Difference in Arithmetic Sequence (d_ASn). Green-type Amida-kuji figure has a uniform a number of path-turns, Blue-type Amida-kuji figure has 2 similar numbers of path-turns that are 2 less than the other and Yellow-type Amida-kuji figure has 2 similar numbers of path-turns that are two greater than the other. The derived formula will have a great contribution to engineering and architecture. One probable area in this study can tap is mapping and route management concepts. It's noticeable that a map is a diagrammatic representation of the physical features of an area which can perform to the linear features of Amida-kuji. Overall, patterns and sequences can be an essential foundation for building new ideas and innovations.

Keywords: Amida-kuji, patterns, sequence

The Visualizing and Modelling Strategy Using a Graphing Board in Teaching Word Problems in Elementary Mathematics V

Maria Eden Gatan

Abstract

To determine the effectiveness of visualizing and modelling strategy using the graphing board in teaching word problems to enhance the academic performance of Grade V pupils from the identified least learned skills second quarter and selected topics third quarter in Mathematics 5 at Guitnangbayan Elementary School, San Mateo, Rizal, Philippines during School Year 2017-2018. This study used the experimental method of research where two groups of respondents – the control group which utilized the traditional teaching and experimental group utilizing graphing board in teaching Mathematics' problem solving were identified. The graphing board designed by the researcher was easy to use, designed according to the body built of pupils, opportunities for learners to work independently. The performance of both groups falls under very low performance. After administering both strategies, the performance improved. The significant difference in the performance of two groups of respondents from mean gain scores of posttest revealed that computed t value of 9.53 is greater than the tabular t value of 2.00 at 58 degrees of freedom which led to the rejection of the null hypothesis. Therefore, at 0.05 level of significance, there is a significant the difference in the mean gain scores of two groups of respondents from the result of pretest and posttest. It was found out that the experimental group obtain a mean gain score of 25.33 which is greater than 15.87 mean gain score of the control group. The performance from very low level was improved to a very satisfactory level. The study includes pupils of Grade V-Laurel and V-Aguinaldo of Guitnangbayan Elementary School for the experimental and control groups. There were 30 pupils for each group. The data gathered were the result of pretest and posttest of selected sections. The graphing board designed by the the researcher used as a tool to teach concepts about visualizing and modelling strategy in teaching word problems in Elementary Mathematics 5. The research study improved learner's study habit, pupils become more participative in class. The use of graphing board in teaching Mathematics 5 is very effective as revealed in the mean gains over the traditional method of teaching.

Keywords: graphing board

MEDICAL EDUCATION

Aloe Vera: A Systematic Review of its Perceived Effectiveness

Shereen Moster, Jay Marilla, & Sean Cabuhat

Abstract

Common hair problems such as frizz, dryness, and brittleness are usually due to hygienic conditions, hormonal changes, medical conditions, stressful events, and harmful hair treatments. In the context of adult women, making appointments in salons, clinics and hospitals have not just been an option but a necessity because of such predicaments, yet there have been issues in terms of pricing and convenience. As a solution, herbal treatments have emerged and are being referred to as alternatives to promote the safety, efficacy, and affordability of natural products. There are studies presented about the treatment of severe hair and scalp diseases of adult women like Seborrheic disease but few about common hair problems mentioned in the beginning. Accordingly, this paper intends to evaluate the short-term effectiveness of aloe vera based leave-on conditioner concerning the perceptions of adult women. Fifteen women ages thirty to forty years old who live in Daang Amaya II, Tanza, Cavite were purposively selected and were asked to participate in the experiment. For about ten minutes, the participants have used the product presented. After that, the researchers interviewed to gather their insights on the product as an effective substitute in terms of short-term hair treatment. The findings of the study revealed that natural products such as Aloe Vera based leave-on conditioner are reliable, effective and safe to be used in certain types of hair. The respondents of the study shed light on the fact that herbal treatments such as this are more commonly pursued by the younger generation because of its eco-friendliness. It is a common belief among the participants that homemade herbal treatments like the use of the aforesaid product are more concentrated, thus, making it an effective substitute to the processed over the counter products. It more rested that the methods stated in this paper be examined on other written works and the outcome serves as a basis for further investigation with Aloe Vera. With the dawn of environment-conscious acts, herbal products such as this are more commonly used environment-conscious acts as it is deemed to be more potent, cheap, and effective. The result of the study shows that the proposed leave-on conditioner made of Aloe Vera is a safe and effective product to manage common hair problems within a certain amount of time.

Keywords: hair treatment, herbal treatment, aloe vera treatment

MEDICINE

CoaSan: The Utilization of Chitosan Isolated from Bracket Fungi (Trametes sp.) as a Potential Blood Coagulation Agent

Jhon Axcel Beltran & John Vincent De Leon

Abstract

Crustaceous shells are one of the broadly perceived origins of chitosan; in any case, chitosan can also be found on mushrooms and fungi. This study intended to determine the blood coagulation activity of chitosan extracted from Bracket Fungi (Trametes sp.). The chitosan was extracted from Bracket Fungi using Wiley Mill and was placed in a rotary evaporator at 60 degrees Celsius for two hours. Concentrated extract underwent evaporation using a water bath to be in a semi-solid state. Each level (0.5 g/mL, 1.0 g/mL, and 1.5 g/mL) of chitosan were dissolved on 100 ml of distilled water and 0.2 mL of distilled water (negative control) then were placed on each vial. 0.2 mL of blood from male albino mice was introduced on each vial, one after another. There were two replicates made for each set-up. Each set up was observed until the blood already coagulated. The data were recorded and analyzed using Duncan Multiple Range Test. The 1.50% of chitosan solution had the fastest coagulation time with an average time of 4.73 seconds, while negative control had the slowest coagulation time with 23.63 seconds. Among the blood coagulation time for the chitosan solutions, 1.00% and 1.50% were significantly faster than the 0.50% chitosan solution. Likewise, 1.00% and 1.50% chitosan solutions were significantly faster than the negative control. All the chitosan solution exhibited faster coagulation time compared to the negative control, thus, the results of this research study showed that chitosan extracted from Bracket Fungi mushrooms can induce blood coagulation activity.

Keywords: chitosan, bracket fungi, coagulation, extracted

The School Clinic of Tanza National Trade School as a Source of Health Care

Dalia Mae Tubil, Jayvee Buenviaje, Mark Lawrence Laconsay, & Xyrelle Antholye Pulido

Abstract

The school clinic is the main facility that can provide basic health care to teachers, staffs and students. In the context of the Philippines, Filipino students use their school clinic to help them in a way of offering first aid whenever they have illness and injuries. Though the school clinic only offers "Katinko" as first aid and before healing the patient, the nurse and the teacher tend to get angry first. To solve this problem, asking the perspective of the students might get awareness to the school clinic's stuff and can be the way to know the efficacy of the school clinic as a source of health care. As a result, this quantitative study aims to describe the effectiveness of the school clinic of Tanza National Trade School. One section of grade nine students, consists of 76 students, of Tanza National Trade School was selected due to their availability. Their answers in the interview were used to know how they describe their school clinic as a source of health care. The students were interviewed for an approximate time of 1 to 2 minutes each. Follow-up questions were asked during the interview in order for the researchers to deeply understand every important detail that the respondent may speak. The findings of the study revealed that the school clinic of Tanza National Trade School provides a good quality of healthcare for the students. It was reflected through thematic analysis that the student-participants deem the school clinic of the school as complete and ready for emergency use. As a result, providing a good service and proper dealing can fill up the satisfaction of every student that will be brought into the school clinic. The results of the study hence recommend that the nurses of Tanza National Trade School should be good in dealing with their patients.

Keywords: school clinic, services perception, health care

PHYSICS

Wall-PIER: A Wall Clock with Procedural Instructions for Earthquake Resilience

Gio Lontoc, Jeram Evered Colendres, & Ren Jaidnarie Hernandez

Abstract

The Philippines, located in the Pacific Ring of Fire, is known for its countless seismic activities. The possibility of earthquakes happening is unpredictable so the government holds earthquake drills in schools for students to be aware of what to do. Still, there are some people who tend to panic and forget what to do during an earthquake. The WALL-PIER, however, extends help to people. An Arduino Nano and a Raspberry Pi 3B act as the minds of the whole system powered by a 5V2A power bank. For its capability to sense tremors caused by earthquakes, an accelerometer was connected to its main system which allows the device to give procedural instructions. Afterwards, tests with 30 trials were run on the device depending on its time response produced with 3 levels of intensities (Weak, Moderate, and Strong). Its parts' functionality percentages were also tested. Results show that the device has 100% functionality rate. It efficiently gave out procedures and actual time. Tests that measure the response time of each level of intensity proved that the stronger the tremor, the less the time of response is. With One-Way ANOVA Analysis, it leads that there is no significant difference between the time response and level of intensity as the P-Value (0.92) > the level of significance (0.05) and the Fcalc (0.08) < the Fcrit (3.3451). This implies that each response time of the device is almost constant and is comparable to each other. The device's response time is almost constant and is 100% functioning. The Wall-PIER could be used in schools and other high rises since it gives out instructions on what to do during an earthquake. It could also be used in commercial buildings wherein it's internet and sound system be connected to the device for wider dissemination.

Keywords: accelerometer, alarm, disaster, earthquake, functionality, time response, voice prompt

POLITICAL SCIENCE

The Relationship of Likeability, Believability, and Deceptiveness: A Study on the Cognitive Foundation of Voters' Choice

Lester Ian Mendenilla & John Lester Cruz

Abstract

Every Citizen has the right and privilege to vote regardless of their economic status. Elections are crucial in developing countries because the selection of leaders entails a lot of consequences. A leader who is Likeable, Believable and who holds a great deal of integrity is elusive. This study was done by the researchers to examine the relationship of Likeability, Believability and Deceptiveness as the voters' cognitive foundation in voting. This study used the Generalized Belief Measure (GBM; McCroskey and Richmond,1989) to collect the necessary data. The GBM was used to measure perceptions of both Likeability and Believability. GBM was also used to assess the participant's perception of the political figure's Deceptiveness. The Instrument used was Bipolar Scales, one of the oldest methods of measurements, to establish the concept that is opposite of one another, with degrees or steps between extreme poles. Base on our Gathered Data, The Most Likeable among the 5 Political Figure is Pia Cayetano while Grace Poe is the most Believable and the most Deceiving. Also, after computing for the Correlation of the Three Variables, we discovered that the Three has no significant relationship with each other. 1. There is no significant relationship between likeability, believability and deceptiveness in the voters' perception about voting. 2. The pairing result of Likeability, Believability and Deceptiveness do not show any significant changes. 3. Each variable does not relate anything at all. 4. The result shows that the selection of political figure does not pend on his/her Likeability, Believability and Deceptiveness. 5. Believability does not predict Likeability and Deceptiveness. Likeability does not predict Believability and Deceptiveness. Deceptiveness does not predict Likeability and Believability.

Keywords: voters, election, Filipino, politics, political communication

PSYCHOLOGY

The Parasocial Relationships of Korean Pop Personalities and Students in Senior High School

Victory Emanuelle Lualhati, Nathanael Monte, Aliah Marie Makalintal, Christine Danielle Perez, John Francis Javier, & Mika Isabelle Comia

Abstract

This study determined the parasocial relationships to Korean pop personalities of students in the senior high school level. Also, it aimed to identify the levels of parasocial relationships of the students. A quantitative method of research was employed using a standardized test as instrument in gathering data involving 212 students. The results showed that students' parasocial is used only for social interaction and personal need satisfaction. Their levels of parasocial relationship reveal entertainment and social, with mild borderline pathological levels and intense personal levels. The findings of the study suggest that the respondents are able to keep their parasocial relationships with Korean idols within the normal limit because they are going with the trend parallel age level and interest along with their peers.

Keywords: Parasocial relationships, Korean pop personalities, Senior high school

How Psychological Well-Being Correlates to Organizational Commitment: A Basis for an Enriched Wellness Program

Mary Kahtleen Lagan

Abstract

The study was conducted to examine the correlation of psychological well-being and organizational commitment as the basis for enriched wellness programs among 100 Social Health Workers specifically Case Workers and Family Welfare Assistants in the Department of Social Welfare and Development in National Capital Region. It is based on the notion that the success of an organization comes with the contributed effort of every employee that have given their best to work hard, committed in their jobs, have a clear vision of their mandates, and functioning well in their working environment. To sustain this kind of employees there is a need to have an established and reliable Human Resources (HR) Management that will ensure to address properly the work-related concerns of employees and implement a relevant wellness program to enhance their psychological well-being that will lead to quality work output and excellent services. This research used descriptive, correlative, and quantitative design. There are two standardized tests used for gathering information from the participants such as; Ryff's Scales of Psychological Well-Being (PWB)-42 item version formatted scales using a six-point Likert scale format in measuring the respondent's psychological well-being and the Three-Component Model (TCM) of Employee Commitment Survey that measures three forms of employee commitment to an organization. The Statistical Package for Social Sciences (SPSS) was used for statistical analysis, including mean, standard deviation, and Spearman Correlation Test. Based on the mean scores of the components of psychological well-being, the positive relations with others got the highest mean score followed by personal growth and self-acceptance. However, the three components which are in bottom-ranked are the purpose in life, autonomy, and environmental mastery. The results of the mean scores of organizational commitment to its components that got the highest mean score were the normative commitment followed by affective commitment while the continuance commitment got the lowest mean score. The study shows that management should prioritize the employment status of the staff under the Pantawid Pamilyang Pilipino Program. This pertains to the regularization and security of tenure of the employees to uplift their morals and motivate them to perform better with the utmost commitment to their job.

Keywords: psychological well-being, organizational commitment, wellness program

SCIENCE

The Potential of Jackfruit (Artocarpus Heterophyllus Lam) as an Anti-Oxidant

Rei Ann Kristine De Vera, Kevin Buya, & Angelica Cruz

Abstract

This research study is conducted by the researchers in order to look or fined an alternative antioxidant that everyone can use because in this busy world lots of process foods that contain preservatives that affects our cells more susceptible to different diseases. As researchers, we choose Jack fruit as the main subject of this research study. The study used the experimental method of research, it includes a hypothesis, a variable that is manipulated by the researcher, and variables that can be measured, calculated and compared. In this experimental research, a variety of reagent and laboratory equipment were utilized to perform different laboratory test such as phytochemical screening of Jack fruit (Artocarpus heterophyllus Lam) leaves in order to test the presence of some active constituents of the plant, and for the antioxidant activity test, the Dipphenyl-1-Picrylhydrazil (DPPH) assay was applied. Jackfruit leaves have active chemical constituents like Alkaloids, presence of an unsaturated ring, and presence of tannins based on the phytochemical analysis of the leaves. Based on the Dipphenyl-1-Picrylhydrazil (DPPH) assay, the ethanolic extract of Jackfruit leaves extract possess antioxidant property as manifested in the lower absorbance reading and doses of 1250 mcg, 2500 mcg, and 5000 mcg, 7500 mcg, and 10000 mcg doses of Jack fruit (Artocarpus heterophyllus Lam) are comparable with the positive control which is Vitamin C in terms of their antioxidant property. The laboratory result was obtain and tested at Virgin Milagrosa University Foundation, College of Pharmacy Laboratory, San Carlos City, Pangasinan. A statistical treatment was applied, the one way ANOVA is used to determine the significance difference between the Jack fruit (Artocarpus heterophyllus Lam) and the positive control which is the ascorbic acid and the result shows that (0.790) is higher than the set alpha level (0.05) of significance difference as to antioxidant activity of Jack fruit (Artocarpus heterophyllus Lam) and the positive control, the researchers found out that the Jack fruit (Artocarpus heterophyllus Lam) and the positive control has the same antioxidant effect like the positive control which is the ascorbic acid 500mg. Therefore, the implication of this study is that the Jack fruit (Artocarpus heterophyllus Lam) is a potential source of antioxidant that helps our body boosting the immune system and to avoid pre-radicals that prevents certain diseases.

Keywords: jack fruit, antioxidant, pre-radicals

Chicken Eggshells (Gallus domesticus) as Potential Chalk

Sasha Ann Marie Trinidad

Abstract

Over the past few years, chalk has been a very significant tool in learning used by the teachers and even students. The researcher tends to study an alternative ingredient that can be used in making chalk not just to provide a new and redefined structure of chalk, but to solve the expanding problems of teachers in chalk financially. The study used an experimental method of research to identify the two variables: the chicken eggshell chalk and the commercial chalk. The chicken eggshell consists of 97% calcium carbonate, magnesium carbonate, calcium phosphate and calcium organic matter which is prefect ingredient for making chalk. The researcher used materials like mortar and pestle to pound the chicken eggshells; a mixing bowl to mix all the ingredients including the fine powder of chicken eggshells, a sheet of paper to mould the mixture; weighing scale to measure the number of materials needed; flour; water; a beaker; and teaspoon. The researcher tested and presented two different chalks: one labelled as Chalk X (Chicken Eggshell Chalk), and other labelled as Chalk Y (Commercial Chalk). The researcher used T-test to prove if the null hypothesis is accepted or not a two-sample assuming equal variance to compute for the descriptive statistics such as mean and variance together with the p-values. The mode of testing was per indicator. The effectiveness of chicken eggshell chalk will be determined by comparing the data collected through survey and testing with the used of different properties. Based on the findings, the variance of chicken eggshell chalk is more feasible than the commercial chalk. It is also clear by the results that the p-values of the indicators are higher than the alpha, which is 0.05. Nonetheless, there is no significant difference as to the commercial one and met the requirements to be called effective. There are some properties that made the chicken eggshell chalk an alternative ingredient like erasability, less scratchy sound it produces, its capacity to be sturdy and firm. Hence, the chicken eggshell is closely similar to the commercial chalk in different terms since it can be used as an alternative when the demand of commercial chalk decreased or if the price increased. However, that needs to be improved like the clearness of the chalk when written and its texture. A room for adjustment is needed to be able to withstand the standards of the commercial chalk.

Keywords: Chicken eggshell, potential, calcium carbonate

SOCIAL RESEARCH & POLICY

Bureaus in Action: How Can Drug Policy Makers Access Research Evidence

Creszen Bello

Abstract

The inevitable increase in the volume of drug-related cases demands a very serious way of providing concrete plans and program to probably lessen if not totally stop the problems about prohibited drugs and other related cases. As such, this demand requires a more aggressive implementation of the law and/or a better policy. A more strategic intelligence report and data gathering of evidence are needed to at least minimize if not totally eradicate the problem. The aforementioned possible solutions may also include a thorough investigation of the gathered research evidence which can be a good factor for a better policy-making process. For whatever reasons and situations, a good policy should not be biased. It should technically consider both sides of the circle and is presumed to be a solid evidence-base. The ways in which research can provide such solid evidence are contested, both in terms of the types of evidence that are valued and in terms of the ways in which evidence is taken up in the policymaking process. It utilized a mixed-method design using multiple data sources such as interviews and survey with the narcotics personnel. The researchers, surveyed Taguig SDEU (n=10) respondents, TADAC (n=10) respondents, BADAC respondents, and CBRP (n=10) respondents with a (n=40) total number of respondents. Drug policymakers across police government portfolios were interviewed then asked to report on the sources of research evidence in their most recent decision-making. From the participant's focus group interviews, five (5) sources were reported, the most frequent of which were seeking advice from an expert and consulting technical reports. Accessing the internet, using statistical data was also used in about half cases and the least frequently used sources were consolidation of reports. Interview conducted also revealed that majority of the policymakers do not have automatic access to information relating to the implementation of illegal drug campaign in Taguig City much less in other cities which could be used as a comparative reference for policymaking. The use of research evidence within the policy process is potentially constrained by this time pressure. Considering the importance of vital information from the implementer of drug policy, drug policymakers should have access to that information. There should, therefore, be a mechanism of recording and submitting this information directly to the policymakers which presently is not being done.

Keywords: policymaking, solid-evidence base, sources of research

SOCIAL SCIENCES

The Adaptive Coping Strategies of Overseas Filipino Workers' Children Studying in the Senior High School Level

Hannah Emmanuelle Ibon, Danielle Louise Ambida, Kylene Zaira Mae Faral,
Wendhyl Manalo, & Angela Casao

Abstract

This study is conducted in order to explore and investigate the adaptive coping strategies of the students whose parents are working abroad in a certain Senior High School in Batangas City. Also, it aimed to assess the influences regarding their coping strategies towards difficult opportunities. Quantitative descriptive data was employed to 130 student-respondents. A standardized questionnaire with 9 sub-scales was used in the gathering of data. The results showed that children of OFW use the coping strategy by looking for special types of support, such as different hobbies and interests. In addition, cognitive appraisals are also the most common coping strategy applied by the students. Likewise, using alcohols and sedatives are the least used strategy. Thus, students resort to healthy coping strategies and use these to influence and lessen the difficulties they encounter to cope up with every problem. The presence of guardians and family relatives in addition to the support system extended by their OFW parents compensate for the physical non-contact with their absentee parents.

Keywords: adaptive coping strategies, students, senior high school level

DLP Concept Notes Vis-Á-Vis Traditional Method of Teaching: A Basis for Instructional Materials Resource Package in Social Studies

Melissa Joy Unson

Abstract

The study was conducted to determine the relative effectiveness of Dynamic Learning Program Concept Notes and the traditional method in teaching a lesson in Social Studies 6. The control group and experimental group were taught under the traditional method of teaching and Dynamic Learning Program Concept Notes, respectively. To assess the effectiveness of the teaching strategies, a 50-item test was given to the students before instruction and the same test was given after the instruction. The respondents are students from two sections of Grade Six Pupils in St. Joseph Academy of Sariaya, Quezon classified as heterogeneous by the school's guidance department. The pretest and posttest scores were compared to determine which of the two teaching strategies was more effective in teaching a lesson in Social Studies 6. Both groups taught by traditional approach and dynamic learning program (DLP) Concept Notes had a relatively low performance as revealed by their pretest learning scores because pupils do not know yet the lesson; Mean score of the experimental group is higher than the control group in the post-test; Mean score of the post-test is higher than pre-test in both control and experimental groups. There is a significant increase in the learning scores of the two groups from pre-test to post-test. Moreover, the performance of the group taught using the Dynamic Learning Program-Concept Notes gained significantly more knowledge than the group taught using the Traditional Method of teaching Dynamic Learning Program Concept Notes vis-a-vis Traditional Method can improve their academic performance especially when we combine the two teaching approaches in a proposed instructional materials resource package in Social Studies that includes DLP Concept Notes and Traditional Method by making a Concept Note. Same experimental research may be done on pupils who are in lower grade level; The teaching strategies used in this study, especially the DLP Concept Notes may be tried out on other subject areas like English, Science etc., to see whether similar results can be found; Teachers may develop DLP Concept Notes materials in other subjects to provide mastery of learning; and Further evaluation of the teacher made-test for the refinement of the research instruments should be made, to obtain a high degree of reliability.

Keywords: dynamic learning program, DLP, concept notes, traditional, experimental, instructional materials, instructional material, resource package, social sciences

Call for Papers

On behalf of the SIMP-AAG JOINT MULTIDISCIPLINARY RESEARCH CONFERENCES' (JMRCs) organizers - the Singapore Institute of Multidisciplinary Professions and the Ascendens Asia Group, the JMRC Research Review Committee is sponsoring a call for papers across multiple disciplines. JMRCs are open-to-all research conferences to celebrate researchers who continue to strive for excellence in pursuit of knowledge enhancement for world and human development.

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