



# Asian Virtual Conference on Multidisciplinary Research (AVCMR)

@EAC-Cavite: Enhancing and Sustaining Quality Research Outputs

## Conference Proceedings

Emilio Aguinaldo College - Cavite

July 24-25, 2020



In Partnership with:



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# PROGRAM OF ACTIVITIES

## Asian Virtual Conference on Multidisciplinary Research Conference (AVMCR)

July 24, 2020

10:00-12:00 (Live Stream)

9:00 –10:30

Online Attendance and Registration

Sponsors' Advertisement

Opening Ceremonies (EAC-C Chorale)

Invocation

National Anthem

EAC Hymn

INTERMISSION NUMBERS

Overview of the Program

**Dr. Ethel Reyes-Chua**  
*CPD Manager*

**Opening Remarks and  
Inspirational Messages**

**Dr. Jose Paulo E. Campos**  
**President, EAC**

**Dr. Georgina B. Palmario**  
**Vice President for Academic Affairs**

**Dr. Rebecca D. Miranda**  
**Asst. Vice President for Academic Affairs**

Introduction of the Keynote Speaker:  
**Dr. Ethel Reyes-Chua**  
*CPD Manager*

10:30-11:30

**Guest Speakers**

**Mr. Michael Jay O. Jaboneta**  
*Managing Director, Nexus Innovation  
Labs, De La Salle, Lipa*  
"How to Thrive in the Age of Pandemic"

11:30-12:00

**Mr. Abraham S. Chongo**  
**Director of International Student Affairs**  
What Does it take to inspire and empower  
young people/students? "Random Thoughts  
on Voices from the Field/Ground"



# Message from the President of Emilio Aguinaldo College

Dr. Jose Paulo E. Campos, Jr.

Greetings from Emilio Aguinaldo College! The EAC Professional Development Center is one of the most successful achievements of Emilio Aguinaldo College – Cavite under the leadership of Dr. Georgina C. Palmario, Dr. Rebecca M. Miranda, CPD Manager and Conference Chair of this event, Dr. Ethel Reyes-Chua, and Conference co-chairmen, Dr. Supachai Basit, Dr. Jeanneath D. Velarde, Dr. Amelia Natividad, and Mr. Arnel Pantoja. This organization is officially approved by the Professional Regulation Commission (PRC-CPD) on January 18, 2019 and it will expire on January 18, 2022.

For almost a year, the EAC Professional Development Center has accomplished four (4) seminar-workshops and one (1) International Research Conference. The first activity was held on May 16-18, 2019 titled, “Virtue, Excellence, and Service in the Teaching Profession.” The second workshop was conducted on June 8, 2019 and it was about the “Best Practices in the Teaching and Learning Process: A Paradigm Shift in Education.” The next two activities were about the “Quality Assurance and Quality Enhancement in Higher Education” which was held on October 17-19, 2019 and January 9-11, 2020 respectively. These four seminar-workshops had been provided with 15 CPD units for a 3-day activity and 6 CPD units for a one-day workshop which were all attended by professional teachers, administrators, and academicians from Metro Manila to Calabarzon areas. The CPD team has successfully conducted all these professional activities that targeted the Professional Qualification Framework Levels 6, 7, and 8. The competencies in professional work or research in a specialized field or discipline could be applied including those areas of learning related to leadership and management in a multidisciplinary work for research and for further study.

Finally, this on-going “Asian Virtual Conference on Multidisciplinary Research (AVCMR) is conducted by the EAC-Cavite, and is a non-CPD activity but it will enhance and sustain quality research outputs of faculty and students in pursuit of knowledge enhancement and research development in multidisciplinary research area in their respective institutions. This activity is conducted via synchronous and asynchronous strategies. It is expected that all research papers accepted in this conference will be published in SCOPUS-indexed journal or the Peer-Reviewed online Journal of this organization.

I wish you all the best in this first-ever Virtual Conference!

DR. JOSE PAULO E. CAMPOS  
President





# Welcome to EAC-Cavite

**Dr. Georgina B. Palmario**

On behalf of the management of Emilio Aguinaldo College, I would like to welcome the delegates of various institutions of the country in this Asian Virtual Conference on Multidisciplinary Research (AVCMR). This virtual training opens an avenue for collaboration and linkage among schools, colleges, and universities in the Philippines and abroad.

We, at the Cavite campus, makes sure that we provide the professionals with seminar-workshops or conferences that will be useful in your respective profession. We try to connect to all our EAC partners and make all the programs accessible to all. There are so many challenges along the way, but we have survived the four (4) activities with pride and honor. We have delivered the content of our programs successfully with the assistance of the Quality Management System (QMS) Team, the committee chairmen, members, and student leaders. I am happy that at EACC, people work together for a common goal.

It is my hope that these professional activities would be more prosperous to bring positive change to all types of professions.

May we have a fruitful virtual conference.

**DR. GEORGINA B. PALMARIO**

**Vice President for Academic Affairs**



# A Message from the AVPAA

Dr. Rebecca D. Miranda

It is with much felicitation that Emilio Aguinaldo College Cavite holds the Asian Virtual Conference on Multidisciplinary Research (AVCMR) with the theme “Enhancing and Sustaining Quality Research Outputs.

As “gatekeepers” of higher education institutions, we are poised to be in the first line of defense in ensuring quality instruction, research and community extension.

With our students and teachers in mind, I enjoin you to firm up our acts together as we learn, unlearn and relearn perspectives on how we can be catalysts of change especially through research.

Moreover, I would like to take this opportunity to count our blessings and express our sincerest gratitude to our sponsors, benefactors, resource speakers, guests and all stakeholders who have contributed to the success of this conference.

I share with all of you the fruits of this momentous event.

Congratulations to the EAC Professional Development Center.

DR. REBECCA D. MIRANDA

Assistant Vice President for Academic Affairs



# Guest Speaker



Jay Michael O. Jaboneta is the Managing Director of Nexus Innovation Labs of De La Salle Lipa. Jay is also the Co-Founder of the Yellow Boat of Hope Foundation and Chief Panda of I Am VR Panda, and several other technology startups. He sits on the boards of various organizations in the country, and consults on Disruptive Technologies, Resource Mobilization, and Social Innovation.

Jay loves to help people, companies, nonprofits and brands breathe life into their brand story. Jay is a hungry man. He eats at least a hundred books a year, loves chocolate and sometimes can't live without coffee. He has worked in sales, marketing, and management roles for organizations as diverse as the Office of the President of the Philippines, Procter & Gamble Philippines, Australia & New Zealand Banking Group Ltd. (including Metrobank Card Corporation), Acumen (a nonprofit social impact fund in New York) and Philippine Business for Social Progress (PBSP).

**MR. JAY MICHAEL ORTUOSTE JABONETA**



**MR. ABRAHAM S. CHONGO**

## **Plenary Speaker**



Mr. Chongo is from Zambia who has more than 25 years of training and work experience in various sectors of society from grassroots communities (with active involvement in community-social development, Social and Youth Organizations for the most part of Student, College and Missionary Life. He spearheaded academic and formation programs that include Program design, project planning and management, monitoring and evaluation for the Institute of formation Fondacio Asia (IFF-Asia).

He has 8 years of teaching in college and in graduate school of Theology and Philosophy courses that include: Life Faith Theology, Ethics/Morality, Christian Anthropology, and other Social Pastoral Skills training. Three years of teaching in Junior and Senior High School and now the Director of International Students in EAC-Cavite.



# Abstract Guidelines

## INTRODUCTION AND IMPORTANCE

What is the problem why you research and why this research is necessary? Convince the readers that your research is significant and worthwhile to read. State a problem or explain why your present research is time and effective solution to the gap.



## METHODS



What did you do to conduct your study? Explain what you did. Your intervention and how you did it!

## RESULTS

The essence of your paper. How did you arrive at your results (methods) and their significance (introduction)? Explain and interpret your findings. Assess or evaluate the outcomes.



## DISCUSSION



Summarize the main findings of the study. Connect these findings to other results findings. They discuss the flaws in the current study and use these flaws as reason to suggest additional information, future research make recommendations, etc.

## ORAL PRESENTATION GUIDELINES

Self-introduction and Topic

Methodology

Conclusion and Recommendation

1

1

1

6

1

5

Introduction:

Problem Area/Need of Research

Results and Discussion

Question and Answer  
(if necessary)

ABSTRACTS

CLUSTER 1

Education

E-001

### **The 4E of Knowledge Management Model for Philippine Higher Education Institutions**

University of the Philippines, Diliman  
Lyceum of the Philippines University - Batangas

[xzbitera@lpubatangas.edu.ph](mailto:xzbitera@lpubatangas.edu.ph)

[xeniabitera@gmail.com](mailto:xeniabitera@gmail.com)

09998892578

Universities are the main enablers of knowledge capital to respond to the challenges of knowledge economy. Leading companies and institutions have been innovatively adopting Knowledge Management but not among universities. This qualitative, multiple-case research design study aimed to develop a knowledge management model for the adoption of Philippine higher educational institutions. Five universities were purposively selected as participants. The findings revealed that the knowledge management's operationalization were inadequate and not clearly delineated because of lack of framework to guide. Interestingly, the outcomes of knowledge management support the achievement of higher education's mission. The basic management functions and diffusion of innovation were utilized in the adoption of Knowledge Management. The four major emerging themes drawn were empowering, enabling, enacting, and engaging which were used as rudiments in the 4E of Knowledge Management model development. In conclusion, although Knowledge Management in Philippine higher education institutions are still in the infancy stage, with the utilizations of its processes, management functions and diffusion of innovation, a model was developed. This study intends to fill the dearth in literature and the absence of a model in higher educational institutions. This model can provide innovations among universities in the performance of their functions in instruction, research, extension, and productivity.

E-002

### **Students' Mathematical Competencies: Basis for an Instructional Module On Selected Topics in Pre-Calculus**

*Evelyn Roque-Camara*

*Bulacan State University*

*evelyn\_camara@dlsu.edu.ph — 092623532778*

*Minie Rose C. Lapinid*

*De La Salle University—Manila*

*minie.lapinid@dlsu.edu.ph*

In the field of Education, the need for a continuous search for methods, techniques and approaches that could best provide the needed appropriate instruction in the most effective and conservative way is limitless. Learning mathematics is a complicated and meaningful process. When students do not comprehend mathematics, they may lose their desire to learn the lessons on that subject thus, affecting their performance. It is therefore the role of the teachers to proactively design meaningful and valuable instructional materials to help students learn more efficiently and effectively. As part of the efforts of the Department of Education in the Philippines to respond to the perceived needs of the education sector, the government had pushed through for the implementation of the K-12 Enhanced Basic Education Program on May 2013. This initiative aims to produce more productive, mature and globally competitive citizens equipped with the essential competencies and skills necessary for life-long learning and employment. As a result of this major overhaul, the Department is in need of effective and beneficial teaching materials that can respond to the needs of the students undergoing the new program in the education system. Thus, this study aimed to design, validate and introduce instructional modules for Grade 11 students of the Enhanced Education Program. Some students who were done taking up the Pre-Calculus subject were asked to evaluate the modules to determine its language suitability, difficulty of the exercises and ease of understanding the concepts presented in the modules. Students from the Laboratory Senior High School were given a pre-test and were then introduced to the modules. The modules were used covering selected topics stipulated in the K to 12 Basic Education Curriculum. The post-test results of the students revealed that they obtained a significantly higher achievement in the subject. This implies that the students benefitted from the use of the instructional modules given to them. It is therefore recommended that the constructed modules be utilized in Pre-Calculus classes to help students be guided in their learning. Furthermore, teachers are encouraged to develop useful learning materials for students to improve their knowledge and skills.

**Keywords:** *K-12 Program, Pre-Calculus, Instructional Modules*

E-003

**Tracer Study of Bachelor of Science in Information Technology Graduates of one Private Academic Institution in the Philippines**

*Joselito A. Dolot*

*Lyceum of the Philippines University, Batangas City*

*jadolot@lpubatangas.edu.ph—09258030380*

This tracer study determined the employment status of BS Information Technology Graduates from one private academic institution in the Philippines from 2011 to 2012. It also assessed the relevance of the curriculum, knowledge and skills acquired from the university; identified personal and professional characteristics and job placement of the graduates and school related factors associated with their employment. Quantitative descriptive type of research was utilized in the study. There are 96.22 percent employed of Information Technology graduates where most of them are enjoying regular or permanent status which are related to IT. Aside from IT skills, they also find useful the communication skills learned from the university while love for God, honesty and love for truth as useful work related values. The findings of the study served as the bases of the IT department to improve, update or enhance the curriculum of BSIT program to make it more responsive to the needs of fast changing technology and employment demands.

*Keywords: employability, tracer study, skills, competency, job placement, school related factors*

E-004

**STATUS AND IMPLEMENTATION OF DISASTER RISK REDUCTION MANAGEMENT IN FLOOD-PRONE SCHOOLS IN THE DIVISION OF LAGUNA**

*Marc Sylvester P. Garcia*

*Elena M. Manaig*

*Laguna State Polytechnic University*

*marcsylvester.garcia@gmail.com— 09368345582*

A study on DRRM program was conducted covering 18 flood-prone Schools in the Division of Laguna, from September 2015 to January 2016. This study was conducted using descriptive research and survey method.

Results showed that the involved schools are exposed to flooding due to location which is along the shoreline of Laguna Lake and nearness to river tributaries and dams.

For implementation of DRRM Program, most of the activities under the three areas were reported as “implemented” by principals and DRRM coordinators.

The status of performance of principal-respondents’ functions and responsibilities as reported by them was at a level of “always” done. The same status was found for DRRM coordinators. Teachers and student respondents agreed that they have a capacity building for teachers and students and DRRM annual teacher/student-led risk assessment.

The practices of principals were equally distributed to measures applicable “before” the disaster (preparedness) and those applicable “during and after” the disaster (response). The practices of DRRM coordinator were more on preparedness or “before” disaster condition especially on planning and capacity building, and only a few on “response.” The practices of teachers were more on “response” and less on preparedness and mitigation. Student practices are more on preparedness and mitigation.

The problems encountered by respondents were on damage to properties; lack of personnel, funds supplies, and equipment; spread of garbage, clogged drainage and others. The measures applied to solve the problems were to keep calm, be prepared and ready at all times, seek assistance from LGU’s, coordinate with NGO, have a cleaning operation, rehabilitation, seek donations/relief, procure DRRM equipment, shift classes and class schedule in available area, plant new plants/trees, buy animals for replacement and wearing of protective gears.

In general, the flood-prone schools have overall DRRM programs, resources for preparedness up to rehabilitation, partners that extend services in different forms and DRRM point persons with defined functions. Preparedness drills and other forms of capacity building were done but the awareness of three groups of respondents; namely, principals, teachers and students were more on “response” than “prevention, mitigation, and preparedness”. It was only the DRM coordinators who are more concerned about the “before” conditions than the “during” and after situations.

From the result of the study, it is therefore recommended that The DepEd determine and cope the needs of each school and anticipated calamities (flood) that could help in ensuring that each school and member of the communities will be able to cope and survive. The SDRRM specifically for flood should be specific to the school depending on their exposure, proneness, and resources including human resources, partners and other factors that differ from school to school.

The areas that are relevant to be further studied are the other variables in the status and implementation of SDRRMC and preparedness of the teacher and students in a natural disaster and calamities are recommended.



E-005

**Sense of Nationalism Among Special Program in the Arts (SPA) Students of Bulihan National High School**

*Princess G. Lira*

*Bulihan National High School*

*lira.pg@pnu.edu.ph —09279658550*

The study attempts to provide a deeper understanding of nationalism as experienced by selected Special Program in the Arts (SPA) students in Bulihan National High School (BNHS), Silang, Cavite.

The study will utilize descriptive research design. The findings gathered from each SPA student field of specialization comprised of 93.33% or 42 participation rate out of 45 students.

The study highlighted that the sense of nationalism among SPA students are evident and developed by joining various extracurricular activities like representing the Philippine Contingent in the 2017 ASEAN Scout Jamboree where they were able to spread Philippine Arts and Culture. The impact of nationalism changed the way of life of students between home and school setting. The respondents showed their sense of nationalism through valuing the local commodities, strict obedience of the law and understanding ethnography. The respondents all agreed that enrolling in the SPA curriculum enhance their understanding of nationalism and they will apply it in their day to day scenario. Lastly, it was recommended that there should be additional activities that could further tackle nationalism in the classroom.

The proponent, in behalf of the respondents, recommended reexamining the activities used in daily instruction that could enhance the student's sense of nationalism.

*Keywords: Nationalism, Special Program in the Arts, Culture and Arts*

E-006

**Effectiveness of the Training of Trainers (TOT) on Community Seed Banking in Region VIII**

*Anna Martha C. Monsato*

*Visayas State University*

*acmonsanto@up.edu.ph*

Seed is the most valuable input in farming. It has gained the unique status as a natural resource that evolved with human civilization. If any portion of it is lost by one or other means, it is going to be lost forever. To restore further loss of traditional crops and varietal diversity, global concern is gaining much importance in the form of preservation, conservation, and enhancing the local agrobiodiversity for sustainable food and nutritional security.

The study employed the descriptive method in the analysis of gathered data. Six provinces were identified because of their potentials to handle community seed banks given the right technology to farmers and training to extension workers who had attended the TOT. Data revealed that respondents had none to low level of knowledge on the concept, guidelines and technologies inherent to CSB training. After the training, the level of knowledge gained by the participants increased from medium to high. The extension support made available to the program includes technical, financial and material. The technical support was mostly extended by the DA-LGU on the other hand material support by the DA-RFO. Educational attainment was the only socio economic variable which is significantly associated to the utilization of knowledge on CSB. Moreover, the utilization of knowledge is significantly associated with the technical support from the LGU. There is also a significant relationship between the levels of knowledge inherent from the training to the utilization of knowledge on CSB.

The ultimate aim of this development effort on the training of trainers' evaluation is to provide the necessary information on the effectiveness of the TOT on community seed banking with regard to the nature and extent of involvement of individuals and agencies as program implementers with the improvement of the latter's performance and effectiveness. Thus it was recommended that the LGU shall allocate budget to sustain the project and further studies must be conducted to determine the impact of community seed banking program in the community or farmer level.

*Keywords: Seeds, Community Seed Banking, effectiveness of the TOT, utilization of knowledge*

E-007

### **IMPLEMENTATION OF SCHOOL IMPROVEMENT PLAN IN THE DISTRICT OF UNISAN, QUEZON**

*Sara Jane Elaine P. Pelaez*  
*Caigdal National High School*  
09283150090

This study was conducted to determine the implementation of School Improvement Plan: Basis for Proposed Enhancement Program Among Public Secondary Schools in the Unisan, District of Quezon. It employed a descriptive type of research with researcher-made questionnaire as the main tool in gathering data. Two groups of respondents were involved in the study composed of 3 school principals and 94 teachers. Data gathered from the 97 respondents were analyzed and interpreted with the use of mean, frequency and percentage, while the reliability of the questionnaire was measured by Cronbach's Alpha. Typically, the demographic profile of the respondents comprised mainly of female who belong to the young and adult generations, with 26 as the youngest and 35 as the oldest. Majority of the respondents were married, obtained Bachelor's Degree are pursuing their Masteral Degree within their professional development and have been teaching for 5 years. Findings of the study were revealed for the three phases of school improvement plan, the respondents' assessment in terms of plan phase, prefer that all members of the school improvement plan were actively involved in self-enquiry process to use data to drive decision making. When it comes to act phase, respondents consider to employ follow-up and supervision on school improvement plan as a big success of the team. Interestingly enough to evaluate assess phase wherein, most of the respondents prefer the school to provide adequate orientation to stakeholders regarding school improvement plan. Followed by developing culture of collaborative planning among school community and organize the allocated necessary resources for the implementation. Lastly, for the school leaders to make the school conducive and participatory environment for the effective implementation of school improvement plan were rated as Strongly Agree among the three secondary schools in the Unisan, District of Quezon. It further showed that there is no significant difference on the respondents' assessment on SIP implementation when grouped according to their profile. Considering the duration of the plan, the study recommended to give attention to planning and should initiate commitments in developing strategic plan that involves the participation of the stakeholders to achieve effective implementation process.

*Keywords: Implementation of School Improvement Plan, Plan, Assess, Act*

E-008

### **KNOWLEDGE, ATTITUDES AND PRACTICES OF THE CAREGIVERS OF DIFFERENTLY-ABLED CHILDREN IN METRO DUMAGUETE**

*Cyflor E. Putong, PTRP, MPH*  
*Silliman University*  
*cyflorepotong@su.edu.ph—09568836210*

This paper investigates if the caregivers of differently-abled children with variable participation in intervention—categorized as regular, irregular, drop-out and without—significantly differ in terms of their knowledge, attitudes and practices in the care of the said children. Moreover, this paper seeks to measure if significant relationships exist among these three variables. A total of 119 respondents were interviewed which included mothers, fathers, grandmothers, and aunts who admitted to be caregivers of differently-abled children. Analysis of variance (ANOVA) was used to test if there were significant difference exists in the level of knowledge, attitude, and extent of practices among caregivers across categories of intervention participation. While the Pearson Product Moment Correlation test was employed to determine if there are significant relationships among the knowledge, attitude and practices. The results showed that the caregivers across categories of intervention participation significantly differ in knowledge in the care of differently-abled children ( $p=0.0001$ ). Whereas, no significant differences were seen among attitudes ( $p=0.4799$ ) and practices ( $p=0.1276$ ) of the caregivers. Meanwhile, there is a significant relationship among caregiver's knowledge, attitudes, and practices in the care of differently-abled children (knowledge vs attitude,  $p=0.000044$ ; knowledge vs practice,  $p=0.000000$ ; attitude vs practice,  $p=0.000007$ ). For the caregivers to be competent in the practice of caring the differently-abled children, it is recommended that they should acquire adequate knowledge and positive attitude towards the condition of said children so that the latter will not be denied of their rights as humans.

*Keywords: Attitudes, differently-abled children, knowledge, practices, caregivers.*

E-009

### **BRIGADA ESKWELA IMPLEMENTATION IN THE DISTRICT OF UNISAN, QUEZON**

*Rafael C. Ramos Jr*

*Caigdal National High School*

*rafael.ramos@deped.gov.ph—09284037498*

This study aimed to determine the Brigada Eskwela Implementation among public secondary schools in the District of Unisan, Quezon. It employed a descriptive type of research with researcher-made questionnaire as the main tool in gathering data. Three groups of respondents were involved in the study composed of 3 school administrators, 90 teachers and 90 parents. Data gathered from the 183 respondents were analysed and interpreted through simple percentage for the demographic profile; weighted mean for the assessment on the pre-implementation, implementation and post-implementation stages and challenges encountered in the Implementation of Brigada Eskwela. The respondents are, generally, in the early middle ages who are married, majority of whom are female, teaching in the medium and large schools. Findings of the study revealed that the extent of involvement in the Implementation of Brigada Eskwela through pre-implementation, implementation and post-implementation stages obtained a verbal interpretation of strongly agree; whereas implementation stage has the highest percentage of 4.65, followed by post-implementation stage with 4.61 and pre-implementation stage with a percentage of 4.57. It further showed that - respondents' assessment in Brigada Eskwela Implementation when they are grouped according to their profile. Based on the assembled data, the respondents' assessment on the challenges encountered in Brigada Eskwela Implementation poised a grand mean of 4.39 and verbally interpreted as not at all a problem which means that this met the standard requirements and have completed items of the established goals.

*Keywords: Brigada Eskwela, Bayanihan, Best Practices, Implementation, Stakeholders*

E-010

### **EXPLORATORY FACTOR ANALYTIC APPROACH TO NEEDS ASSESSMENT FOR BEGINNING TEACHERS**

*Sarmiento, Arvina S.*

*Mabalacat City College*

*inadavid@rocketmail.com—09276093139*

In an effort to help beginning teachers succeed, a propose Induction Module was created to fight unforeseen problems. The main difficulties are environmental in nature: (1) management and organization when dealing with students; (2) teaching strategy; (3) rights of teacher and (4) well-being of a teacher. IM is a formal, systematic effort to provide ongoing assistance to the new teacher during the induction period. The program relies on the use of mentors and direct needs assessments. Many types of assistance may include providing helpful information about specific responsibilities, the college, the community, policies and procedures and the curriculum Celebrating the beginner's arrival, establishing rapport and providing an orientation are also very helpful. The program also provides for ongoing assistance, ranging from providing moral support to conducting seminars. To assess the overall value of the program and to make necessary changes, an evaluation is suggested.

*Keywords: induction module, teaching strategy, rights of a teacher, well – being of a teacher*

**DYNAMICS AND DETERMINING FACTORS OF TEACHING COMPETENCIES AS CAPTURED FROM THE ACADEMIC LENS OF GENERATION Z STUDENTS  
OF HIGHER EDUCATION INSTITUTION IN IMUS CITY**

*Alfe M. Solina and Baby Kharen A. Cristal*

*Cavite State University Imus*

*amsolina@cvsu.edu.ph - 09178360166 / babykharencristal@gmail.com — 09362738375*

Today's landscape of the demands of the teaching profession is becoming competitive and complex. Students as the first hand clients of the teaching force of an academic institution have upgraded their level of expectation as to the manner by which teachers should deliver the learning process on a day to day basis. Teaching competencies and effectiveness of academic personnel is one of the most critical areas that has been given importance. The progress of the students will depend to a great extent, upon how well the teachers have delivered and performed their academic duties in and out of the classroom.

This study, in its extent and content, has covered the areas of assessment which were subjected under the lens of generation Z students. Gen Z students who are by this time have members of as old as 23 years of age in their sub-group, served as the respondents of the study. They are described to have carefully tuned radar for being sold to and a limited amount of time and energy spend assessing whether something's worth their time (Brannan, 2019).

A total of 49 academic personnel of a higher education institution in the City of Imus were evaluated vis-à-vis their relevant background such as: (a) the individual professional board examination like the licensure examination for teachers or certified public accountant board examination, engineering board examinations, among other fields of expertise; (b) the professional certification and accreditation which the academic personnel have obtained from professional organizations like the accrediting associations, marketing educators associations, among others; (c) civil service eligibility awarded by the country's Civil Service Commission; (d) national competency certificate which are granted by the Technical Education and Skills Development Authority for regulation and standard-based specific skills like bookkeeping, housekeeping, event management service, barista, cookery, and a hundred more of skills; (e) highest educational attainment; and (f) and length of teaching experience of the academic personnel. All these were subjected for statistical tests and treatment as each of the four major variables are put under the academic lens of students for evaluation such as the teachers' commitment to the teaching profession; knowledge of the subject matter; the manner by which they manage the entire teaching process. Results were captured from the academic lens of 1,435 generation Z students across different programs for the period of two years consisting of four consecutive semesters.

Overall, the study revealed that the academic personnel are perceived to be "Very Satisfactory" in areas being assessed as far as the dynamics and determining factors for teaching effectiveness are concerned. Using Pearson Correlation test, it shows that there is a significant relationship between the qualification of the academic personnel to the level of perception of the generation Z students on the dynamics and determining factors of teaching competencies and effectiveness (i.e. knowledge of subject and teaching for independent learning) are concerned. On the other hand, using the paired sample t-test, the results show that there is no significant difference between the level of perception of the generation Z students on the dynamics and determining factors of teaching effectiveness of the academic personnel from Second Semester, SY 2017-2018 to First Semester, SY 2019-2020. Meanwhile, based from the paired sample t-test, result revealed that there is a significant difference between the perception of the generation Z students and all of the indicators of the dynamics and teaching effectiveness of academic personnel of a higher education institute in Imus City except the areas on knowledge of subject to teaching for independent learning.

**Keywords:** *determining factors, teaching competencies and effectiveness, Gen Z, academic personnel*

**The Impact of Reflective Teaching Diary in Higher Educational Institutions**

*John Paul T. Solon, Ramil P. Moreno, and Mary Jane Macarayo Laguna*

*ferjohn\_2007@yahoo.com, ramil.moreno@deped.gov.ph, Maryjane.laguna@eac.edu.ph*

A good teacher should have knowledge, skills, and disposition (Glanz, 2009). However, these are not the sole elements for being a good teacher. We believe that going beyond these qualities and descriptions is the term 'reflective.' It is never easy to be a reflective practitioner, but it should be an integral part of your system in teaching. This paper examines the significance of Reflective Teaching Diary in higher educational institutions in improving the teaching and learning process, how it affects student learning, and its implications for teaching practice. As a result of this study, the authors have come up with their recommendations to continuously make reflections on their own teaching, record these experiences, and conduct series of studies on reflective practice. It is recommended that the reflective teaching diary should be tried out and used by higher educational professors as a tool to improve the teaching and learning process in the classroom.

**Keywords:** *Reflection, Reflective Teaching, Teaching and learning*

# ALTERNATIVE METHOD IN SOLVING SYSTEMS OF LINEAR EQUATION

RUBEN M. TAGOLE

NU – Laguna

*rmtagole@nu-laguna.edu.ph*

As the world of mathematics specifically systems of linear equation evolved through several times, numerous methods have become advanced to parallel this evolution. But still, there is no method that we can say the best tool for solving linear equations. However, mathematicians are still hoping that the new generation could formulate a method that can do other formulated method cannot.

This study aimed to prove if there is a significant difference between the scores obtained using substitution, elimination and cross-multiplication method in solving system of linear equations in two variables of 1<sup>st</sup> year students of NU – Laguna (BSA) during the first semester of Academic Year 2019 – 2020. The researcher made a lesson guide that will determine which method is more effective that will ensure that the students will obtain a high score in solving systems of linear equation.

In order to gather information regarding the present existing condition, the researcher applied the quantitative single-subject experimental research design to determine the difference between Elimination method, Substitution method, and Cross-multiplication method when they are used by the respondents in solving systems of linear equations. Quantitative single-subject experiment is a design utilized to allow a researcher to test the effect of an invention or new method on a single individual or a set of individuals who are considered one group as elaborated by Lester and Lochmiller (2017).

The study strived to answer the following problems: 1.) What are the respondents' demographic profile of the respondents? 2.) What are the scores of the respondents in solving systems of linear equations in two variables using elimination and substitution method? 3.) What are the scores of the respondents in solving systems of linear equations in two variables using Cross-multiplication? 4.) Is there any significant difference between the scores obtained using Elimination method and Cross-multiplication and Substitution method and Cross-multiplication?

The noticeable findings of the study are the following: 1.) Based on the gathered data, most of the respondents ages from 18 – 19 years old with a frequency of twenty-four (24) or 80.00% and 20.00% of the respondents ages from 19 – 20 years old with six (6) as frequency. Moreover, twenty-three (23) or 76.67% of the respondents were female and seven (7) or 23.33% of them were male. 2.) The respondents' level in solving systems of linear equation in two variables using elimination method was found to be satisfactory. Fourteen (14) or 46.67% respondents attained a satisfactory level; nine (9) or 30.00% attained a poor level; four (4) or 13.33% achieved a very satisfactory level and three (3) or 10.00% belongs to a fair level. 3.) The respondents' level in solving systems of linear equation in two variables using substitution method was evidently found to be fair. Sixteen (16) or 53.33% respondents attained a fair level means their scores were ranging from 11 – 20; nine (9) or 30.00% attained a satisfactory level; five (5) or 16.67% respondents achieved scores ranging from 1 – 10 that belongs to a fair level. 4.) The respondents' score in solving systems of linear equation in two variables using cross-multiplication method was found out to be in satisfactory level like using elimination method. Eighteen (18) or 60.00% respondents attained a satisfactory level means their scores were ranging from 21 – 30; five (5) or 16.67% attained a very satisfactory level; four (4) or 13.33% respondents achieved scores ranging from 41 – 50 that belongs to outstanding level and three (3) or 10.00% manifested a poor level. 5.) Using statistical treatment (t-test) to determine if there is a significant difference in the respondents' score in solving systems of linear equation in two variables using elimination method and cross-multiplication, it was found out that the p-value (0.000) was lesser that the level of significance (0.05). 6.) Using statistical treatment (t-test) to determine if there is a significant difference in the respondents' score in solving systems of linear equation in two variables using substitution method and cross-multiplication, it was also found out that the p-value (0.000) was lesser that the level of significance (0.05).

# Effects of Interactive Games on the Academic Performance in Teaching Social Studies Among Grade 10 Students in Bulihan National High School

Orlando A. Ternida

Bulihan National High School

*orlyternida@yahoo.com—9279658550*

The primary purpose of this research was to investigate the effects of interactive games on the academic performance in teaching social studies among Grade 10 students in a Social Studies remedial class for the SY 2019-2020 in Bulihan National High School.

The subjects of this study are the attendees of remedial classes who failed during the first grading period in Social Studies 10 (Contemporary Issues). The study made use of descriptive design which focuses at the present situation (what is) with primary purpose of finding new truth.

The most important finding of this study is the result of the post-test wherein the attendees of remedial class which the teacher used interactive games got a weighted mean of 21.4 compared to 17.9 weighted mean wherein the teacher used the usual lectures and discussions.

This was focus on the attendees of remedial classes wherein the teacher used interactive games to facilitate learning. It may provide the proper basis on planning the format for remedial class and intervention program in Social Studies

The study clearly showed that there is a significant effect on the academic performance and interest of the students if interactive games will be used as strategy to facilitate learning

*Keywords: Interactive games, Remedial class, Academic performance, Teaching Social Studies*



**Attitudes and Skills Towards Civic Social Responsibility of District Junior High  
School Social Studies Teachers**

*Orlando A. Ternida*

*Bulihan National High School*

*orlyternida@yahoo.com—09279658550*

This study aimed to determine the attitudes and skills towards civic social responsibility of Social Studies teacher of a district. There were 40 Social Science Teachers who participated in the study. The researcher utilized a descriptive design of study and utilized frequency and percentage, weighted mean and One-Way Analysis of Variance (ANOVA) for the statistical treatment of data.

Based on the results of the gathered and treated data, the following findings were derived: The Social Studies teachers assessed their Civic Attitudes and Skills to be very High in all the indicators. In terms of significant relationship, it was found out that there is a significant relationship between the Social Studies teachers' profile and civic attitude and skills; therefore, the null hypothesis was rejected

There is a significant relationship between the Social Studies teachers' profile and civic attitude and skills

E-015

**PERCEPTION ON THE EFFECTS OF TAIJIQUAN: TOWARDS IMPROVEMENT OF STUDENTS**

*Joana L. Yasol-Vicente*

*National University – Laguna*

*Jlyvicente@gmail.com — 09957695564*

Taijiquan is now being offered as one of the Physical Education course offerings in Higher Educational Institutions. This could improve all the aspects of human life such as physical, social, mental, and emotional. The purpose of this study was to identify and evaluate the PE 2 students' perception of Taijiquan in improving their focus and self-discipline through an intervention. This intervention was done for a 12-week Tai Chi training program with 96 total number of students in Physical Education 2 Class. A self-made qualitative questionnaire was used by the end of the term after the conduct of the 12-week intervention which was religiously performed two times a week for an hour. The author found out that through these sessions, the students have improved their concentration and self-discipline. As a result, it had positive impact in physical, social, psychological, and emotional well-being of students when they experienced the taijiquan training.

E-016

**7C'S OF THE 21ST CENTURY SKILLS: ASSESSING THE LEARNING OF GRADE 11 SCIENCE, TECHNOLOGY,  
ENGINEERING AND MATHEMATICS STUDENTS IN STATISTICS AND PROBABILITY AT FAR EASTERN COLLEGE SILANG INC.**

*Ulysses S. Garcia Jr.*

*Far Eastern College – Silang Inc.*

*ugarcia@feucavite.edu.ph —09270568022*

Traditional Mathematics classroom – based assessment focused only on the scores of the students contrary to the goal of the 21st century education which is lifelong learning. In this study, the aim is to assess the learning of Grade 11 Science, Technology, Engineering, and Mathematics (STEM) students in Statistics and Probability in different context and to determine the significant predictors of learning in the 7C's of the 21st century skills namely critical thinking, creativity, communication, collaboration, cross – cultural understanding, computing and ICT literacy, and career and self – reliance. A total of 133 students was selected using purposive sampling. A study used self – made survey questionnaire to assess the learning of the STEM students. The results of the study showed that most of the respondents were in the age bracket of 16 to 17 and dominated by male. The ANOVA results revealed that there is a significant difference in the assessed learning of students when grouped according to age in the subject Statistics and Probability. On the other hand, – test also showed that sex had significant difference while section showed no significant difference. It was implied that the age of the students was in classification of Gen Z, and this classification possesses the qualities (independent, competitive, and cognizant) that were anchored on the 7Cs. On the age, however, it was concluded that males on the average, had a strong affinity and interest towards Mathematics. The regression analysis showed that the significant predictor among 7Cs is critical thinking, which concluded that the background knowledge was essential if students are to demonstrate critical thinking and making connections, patterns, and relationships on the different ideas or concepts on Statistics and Probability. In addition, prior knowledge informs critical thinking in multiple levels.

*Keyword: 7Cs of the 21st Century Skills , critical thinking, creativity, communication, collaboration, cross – cultural understanding, computing and ICT literacy, and career and self – reliance.*

E-017

**Developing the Leadership Skills of Student Leaders in One Higher Educational Institution**

*Pasco Marie, Christine, Hill, Marissa, Manantan, Virgilio, Ayonan, Rohaniah*

*Emilio Aguinaldo College*

*pascomariechristine@gmail.com*

Leadership is the ability to persuade others to seek defined objectives enthusiastically. It is the human factor which binds a group together and motivates it towards goals (Keith: 2020). The purpose of the study is to find out the various strategies in developing the leadership skills of student leaders in one higher educational institutions in the Philippines. Specifically, the study determines what the students have learned during the seminar-workshop; what the students would like to discover in themselves so that they could improve on these skills; and how do these skills are applied in students' lives, family, school, and their community. This study uses the descriptive approach using the Student Leadership Skills evaluation questionnaire to 105 participants. The results of the evaluation were summarized, graphed, and critically analyzed and compared with other researches in Higher Educational Institutions in the Philippines. It shows that the leadership skills seminar-workshop was found to be effective, practical, and beneficial in honing the leadership skills of the college's students. The researchers suggest that this activity should be continuously be done every start of the academic year; however, problems encountered such as, administration of time, speakers' profile, and budget should be taken into account. It is recommended by the researchers that these problems encountered should be resolved before conducting another series of Leadership Skills Seminar-Workshop in the next academic year.

**Keywords:** College Students, Leadership, Seminar-workshop, Evaluation

E-018

**Developing and Improving the Critical Thinking Skills of Student Leaders**

*Mack, Kimbert, Campana, Mark Jayson, Sibbaluca, Brandon G.*

*Emilio Aguinaldo College, City of Dasmariñas, Cavite*

*Email Address: mack.kimbert@eac.edu.ph*

Teaching student leaders to become critical thinkers is never easy. One good strategy is conducting a seminar-workshop that will develop student leadership and critical thinking skills. This study sought to find out the facilitator's strategies in recognizing student critical and leadership skills and to practically apply them in their studies, family, and the community.

This study utilizes the mixed-method of research through a survey-made reflective questionnaire to 40 student leaders who attended the seminar-workshop. The data gathered were summarized and interpreted. As a result, the various strategies were ranked accordingly while identifying the areas for improvement. There were challenges determined by the students on how to think critically, but they learned how to overcome them through the various strategies and exercises provided by the facilitator. In the end, the researchers have come up with a Reflective Critical Thinking Cycle that will serve as a guide or step to follow in thinking critically. It is further recommended that these steps in developing the critical thinking skills should be applied to oneself, family, and community.

**Keywords:** Critical Thinking Skills, Leadership Skills, Student Leaders

### **Impact Study on Literacy and Reading Program Among Pupils of SHL Restoration Village**

ROMANA CELESTE A. MAUHAY and Dr. Arnie Christian D. Villena

*Lyceum of the Philippines University, Batangas*

ramauhay@lpubatangas.edu.ph

This research study mainly determined the impact of the numeracy and literacy program in San Jose Sico, Batangas City specifically at the BATA Center where Mass Communication students aided in teaching the students. The study sought to describe the profile of the respondents as to their gender and age; which resulted that there is no significant difference as to their gender and age.

This also seeks to identify the impact of literacy and reading program as to the three domains of learning : Cognitive, affective and Psychomotor. Access to high quality, detailed guidance on literacy and numeracy improvement lifted literacy and numeracy performance offer a detailed and evidence based approach to the fundamentals of literacy and numeracy teaching and learning, across curriculum, assessment (including formative assessment) and pedagogy. Learning domains have always played an important role in evaluating the student's knowledge and skills. The learning domains can be incorporated, while designing the course outcomes of all the courses in a program; however, the assessment of learning domains practiced in many higher education programs resulted in vague assessment methods and as a result there are still lacking of some other aspects as to how they are able to deliver and strategize the methods in teaching the younger ones. The program also presupposes the use of proposed program under the literacy and numeracy program.

*Keywords: numeracy , literacy , learning domains, assessment, Communication students, education fundamentals, outcomes , impact*

### **The Use of Neurological Impress and Carbo Reading Method as Intervention in Improving the Comprehension Level of Grade 7 Frustration Readers**

GERPACIO, DIANE GENESIS M., MANCILLA, MARY FRANCE P., PAGAL, ARIAN SHENE P., PANGCO, KRYZHIA MARIELLE A

There are a lot of serious problems in both reading and academics that exist among students and these complications remain unanswered. Instead of counteracting the lack of interest in reading by making learning to read easy and fun, many teachers keep using various methods and activities which are not effective in order to foster students' reading prowess. This research identifies an urgent need to intervene as soon as possible to support children who are identified as at risk (Feifer, 2007; McCain, Mustard, Shanker, 2007; National Reading Panel, 2000).

According to UNESCO, in order to have quality education, each child must know how to read. This paved the way for this study to do an intervention to students who are under frustration level.

This research was conducted at Noveleta National High School from the month of August 2019 to December 2019. It aimed to; 1. determine the factors why students fall under frustration level; 2. identify the possible effects of Neurological Impress and Carbo Reading Method among the frustration readers; and, 3. measure the difference between the learners' reading comprehension level before and after conducting the intervention.

The researchers used a quasi-experimental design of research to investigate the possible effects of Carbo Reading Method and Neurological Impress to the reading comprehension level of frustration readers among Grade 7 students of Noveleta National High School. This study was partly based on a quantitative research method and action research method. Quantitative data-gathering instruments establish a relationship between measured variables. The researchers partly used qualitative approach particularly the informal interview due to its significant advantages.

Based from the answers on the oral interview, the factors why students fall under frustration level were: lack of parental support and teacher factor. The noted effects of Neurological Impress and Carbo Reading Method were: increased word per minute; improved reading comprehension level; and improved word recognition. Results showed that the comprehension level of participants 1 to 4 have increased from the scores of 0 correct answers out of 7 questions for the first and second participants and 2 correct answers out of 6 questions for the third and fourth participants to 1 out 7 for the first, 2 out of 7 for the second, 3 out of 6 for the third and 5 out of 6 for the fourth participant. Participants' word per minute rate have also increased from 9 words per minute to 35 words per minute for the first, from 48 words per minute to 87 words per minute for the second, from 19 words per minute to 55 words per minute for the third and from 87 words per minute to 121 words per minute for the fourth participant. All of the participants have increased comprehension level and word per minute rate after the intervention program.

The results after conducting the intervention program supports that there is a progression in the students' comprehension skills and word per minute rate. The idea of this research was sustained by the interview method wherein the participants confirmed that NI and CRM helped them improve.

ABSTRACTS

CLUSTER 2

Educational  
Technology

### **Students' Experiences on Blended Learning Approaches**

*Melody R. Dimaano*  
*Lyceum of the Philippines University*  
*Capitol Site, Batangas City*  
*mrdimaano@lpubatangas.edu.ph —09175041091*

Blended learning has a proven track record of bringing traditional classrooms into the tech-friendly 21st century. The growth in the use of blended learning has created cultural shifts in higher education, and it is important to understand student experience in this mode. The problems that we have with the current system are that we are still using strategies and structures that go back a hundred years—the classroom where students are sitting, sometimes very passively. The 21st century learner, if anything, is very averse to that.

The study aims to determine the most utilized blended learning approach and their experiences to them. Specifically, it aims to determine to what extent do the blended learning approaches are being utilized in the College of Computer Studies, how are the learning experiences of the students be described in terms of Interaction, Perception, Participation, Barriers and Preference. Also, are there significant differences between the blended learning approaches and the learning experiences of the students, and, what plan of action can be suggested to enhance the learning experiences of the students.

The study utilized a descriptive approach with 80 students as respondents. Lab rotation is the most utilized blended learning approach, citing much better interaction with other students, perceive to increase opportunity to access and use information, are motivated to succeed, have not withdrawn from a blended learning course, are satisfied are more engaged with blended learning. Further, results shows that there is a significant relationship that exist between blended learning approach and learning experiences of the students in terms of perception. Since there is an already established interest in the use of technology for learning the researcher recommends giving weight to classroom teaching as well to create a holistic interest in learning.

*Keywords: blended learning, lab rotation, student experience*

### **Teachers' plights on the spiral progression approach In mathematics**

*LADY LEE H. ESTRELLA, RICHARD P. LANDAGAN*  
*Cavite State University – Cavite City*  
*andaganrichard041591@gmail.com*

This research entitled, Teachers' Plights on the Spiral Progression Approach in Mathematics was conducted from August to December 2019 mainly to determine the views and insights of junior high school mathematics teachers of Cavite National High School on the implementation of spiral progression approach in mathematics. Specifically, it aimed to analyze the following variables: 1. demographic profile of mathematics teachers in terms of views and experiences on the use of spiral progression approach in teaching Mathematics.

The phenomenological design of qualitative research approach was applied to develop an understanding on the views and insights of the teachers regarding the spiral progression approach in mathematics in the K to 12 curriculum. Furthermore, the researchers used questionnaire to obtain the demographic profile of the participants and a semi-structured interview to draw the varied experiences of teachers in the delivery of spiral progression approach in mathematics. Purposive random sampling technique was used for the one-on-one interview with the teachers with audio recording as technological support. Member-checking was administered to test the validity of the interview transcript.

After thorough analysis of gathered data, results revealed that majority of the participants were 23 to 29 years old with a frequency of 7 or 35 percent and female with a frequency of 14 or 70 percent. It also revealed that most of them had graduated in college with the degree of Bachelor of Secondary Education major in Mathematics with a frequency of 18 or 90 percent, and experienced teachers with 4 to 15 years of teaching experience with a frequency of 11 or 55 percent; Teacher III in their position with a frequency of 7 or 35 percent; and grade 7 teachers with a frequency of 35 or 35 percent. The researchers also found out that majority of the participants had experienced teaching the old curriculum with a frequency of 16 or 80 percent.

Based on the summary of findings, in terms of plights in the curriculum shift such as: mastery of the subject matter, length of content and the discontinuity of lessons, teachers have enough trainings but insufficient enough to equip them of the necessary skills since only few were given the privilege. In terms of the comparison between students' retention of learning with the old curriculum and the current curriculum, the teachers claimed that there is a big difference on their retention rates, study habits and academic performance. The participants also had strong views against the spiral progression approach which led them to suggest for restructuring the content areas and competencies.

The researchers therefore concluded that spiral progression approach in mathematics poses problems and challenges to the teachers in terms of mastery of the subject matter, curriculum content, and professional development such as trainings and seminars. The results also indicate that the shift of curriculum approach has a great impact on the learning process such as decrease in retention rates of the students on content knowledge due to the fusion of several fields of Mathematics in each grading period. There may be inadequacies of spiral progression approach in mathematics under the K to 12 curriculum, but mathematics teachers and administrators in Cavite National High School ensure that they are doing their best to provide quality education to their students.



ET-003

### **Measuring the Impact of E-learning Adoption: A Case of University of Perpetual Help System-Pueblo de Panay**

*Ace Navea Bombaes*

*Jeric S. Fuasan*

*University of Perpetual Help System-Pueblo de Panay*

*bombaes\_21@yahoo.com —09297110303*

The reinforcement of knowledge has evolved to e-learning. The advancement in technology has augmented the representation of individuals using devices that led to rapid amelioration of education through e-learning. The utilization of tablet as a tool for acquiring knowledge and teaching has gained popularity notably in developed countries and it continually grows in other countries like the Philippines. E-learning has become the modern way of learning, so it is exceptional for the students to hold on with changing technology and time. It has a key position in elaborating a distinct pedagogical way of teaching in both secondary and tertiary students. It is important for a learning institution to be assessed. This is to identify the determining factors that directly affect the e-learning adoption. This study draws upon the model of technological acceptance (TAM) and five other variables such as facilitating conditions (FC), perceived enjoyment (PE), perceived service quality (SQ), perceived value (PV), and satisfaction (SAT) was developed to identify determinants of learning as an observational viewpoint from University of Perpetual Help System Pueblo de Panay. For this purpose, the data were collected from Senior High School respondents of UPHS-PdP. Perpetualite intimacy with e-learning technology adoption is highly observed thus giving the administration more outlook to advance and employ it in daily life. The results from the side of UPHS-PdP will draw a point as to how Senior High School students regard e-learning adoption. This is imperative that the institution will provide better understanding about e-learning adoption since it is new in the city of Roxas. The investigation utilizes quantitative with the support of SPSS and one-way ANOVA analysis.

*Keywords: e-learning, Perpetualite, perceived enjoyment, service quality, facilitating conditions, perceived value, satisfaction, behavioral intention*

ET-004

### **A Proposed Local Area Network (LAN) - Based Property Inventory Management System for Aviation Higher Education Institutions**

*Clyde Drexler B. Lachica*

*Philippine State College of Aeronautics*

*clydedrexlerlachica21@gmail.com —09366016952*

This study is to develop an Inventory Management System using LAN-Based Technology making it more effective in monitoring and managing of Tools and Equipment in Laboratory Room. This study covers the participants' evaluation on the proposed system in terms of the following software criteria: (a) Functionality Suitability, (b) Usability, (c) Security, (d) Portability and (e) Maintainability. It will be contributory to the industry such that these technologies have already been introduced in the learning environment of the students engaged in aviation-related courses which consequently can be an opportunity for conducive working environment in the future. Currently, the manual system being used poses problems such as miscalculations in terms of number of units/tools, inaccuracy of report and unmonitored conditions of tools. On this challenged, an improved and computerized tracking tool inventory system which has been introduced in MROs decades ago can be explored and adopted by HEI's to immerse students, faculty members and management personnel of the standard inventory management system of the aviation industry. By replicating such practices to the school setting, this study envisioned that aviation HEIs will produce quality graduates to fill the required human resources of the industry. In doing so, aviation HEIs is also producing quality graduates in compliance to the Outcome-Based Education (OBE) requirement of the Commission on higher Education (CHED). This study will be providing a great impact form the student to intensify to open the new information management methods to manage the pace of tools. The researcher will design and develop a computer-based system that will handle inventory control system for tools and equipment in the main laboratories of Aviation Higher Educational Institutions that will also be implemented by a Local Area Network (LAN)-based technology, RFID Technology, SMS Technology which aimed that the proposed system will lessen the time of laboratory personnel or tool keeper in the process of borrowing and returning of facilities including equipment and help in keeping an up to date status of the inventories in those laboratories. The researcher used V-Model in the conceptual framework. V-Model of software development provides an analysis and verification of development results, parallel to the phases of the system definition and integration. The proponents will build a test plan and test strategy such as where the proponents test the proposed system before to deployed it in target users. The questions were structured using a Four-Point Likert Scale Format and Five-Point Likert scale which it was verbal interpretation format to evaluate the inventory report, and reconciliation of data addressing the problem of Higher Education Institution in Laboratory Room. The researcher conducted interview, personal observation, survey questionnaire to students and key personnel of Higher Education Institution (HEIs) that were involved in conducting manual count, reconciliation of data and processing of borrowing and returning of tool. The data were tabulated, interpreted and analyzed by using descriptive and inferential statistics such as frequency and percentage distribution, weighted mean, ranking and Kruskal-Wallis H test non-parametric. Based on the result of the study, majority of the participants responded that the technological devices specifically in borrowing module, returning module, and monitoring module with the criterion "Radio Frequency Identification" was Most Suitable and ranked as number one (1). The participant's evaluation on the proposed system in terms of the following software criteria that the participants verbally interpreted as Very Satisfactory. From these findings, the researcher the Web Base System, to improve the accessibility of the system, Metal Detector / Proximity Sensor to improve more the security of the system and inventory management system must be familiar in using Radio Frequency Identification System. Provide orientation and training on the process of inventory management system. The output of this study is the Local Area Network (LAN)

ET-005

**CONSUMERS AFFIRMATION TO BREAD MADE OUT OF TILAPIA-WASTE FLOUR  
AS AN ADDED NUTRITIVE CONTENT TO BREAD PRODUCTION**

*RJAY VINCENT T. BUENAFE, TRANX AERIES ANDAYA, RYAN GLIPONEO, JOHN CARLO V. MALUBAY, MARIA ZANDRA ABOR-  
DO, ALEXANDRA NICOLE F. GUETA, RODOLFO, CREAMLYN, SUMAIT, KATRINA*

*Emilio Aguinaldo College – Cavite  
rjaybuenafe76@gmail.com*

Bread is one of the staple food around the globe. That is why, there is a continuous development of it in bread and pastry industry. Despite of the need for bread, a lot of millennial eliminate bread from their diet. Due to the fact that, bread has high carbohydrates which can incorporate fats in the body. As the main goal of the researchers to modify a healthier bread for the local citizens as well as those in diet for their body goals.

Knowingly that Philippines is rich in tilapia-fish and tilapia-fish are known high in minerals and protein components. The researchers make use of this concept to make a flour out of tilapia to incorporate and produce more healthy and nutritious type of bread as well as to produce another variant of flour for the continuously growing food industry.

Conducting an analysis to the consumers' affirmation between the Tilapia-waste flour bread and commercial bread, allowing the students of Emilio Aguinaldo College-Cavite in senior high school department try the readymade bread from tilapia-waste flour and let them compare it to usual commercial bread. The customer's evaluation to bread in terms of taste, texture, smell, and overall results in having a T-score value of 2.1212 (Moderately Satisfied) and its acceptability of being a commercial product to the market which resulted of having 2.1172 (Moderately Satisfied) T-test value and its consumers rate of satisfaction of Bread B over Bread A that resulted to 0.3614 (Moderately Satisfied) T-test value. These are going to be the determinants whether tilapia-waste flour bread is for market producing product. In the conducted analysis of the study modification to the product bread are needed for the reason that number of consumers resulted to moderately satisfy to the declared determinants of bread allowing its affirmation to consumers

*Keywords: TILAPIA-WASTE FLOUR, CONSUMERS AFFIRMATION, MODIFICATION, FOOD INDUSTRY*

ET-006

**Development of a Role Playing Game as an Educational Tool for Teaching the Philippine Culture, Values and Mythology**

*CARLITO O. LOYOLA JR.*

*National University Laguna  
Jhay\_loyola03@yahoo.com*

Baybayin is one of the important part of the Philippine culture as it is one of the country's identities (Gavera, 2014). It is a way of writing which also falls under the Philippine culture. In addition, Baybayin were also called "Scripts" are a cultural heritage that exists before colonization of other countries (de los Santos, 2015). Currently, the Philippine government wants to actively promote the Philippine culture and values specifically the Baybayin script (Philippine Congress, 2018). On April 2018, the House approved the proposed bill, with Bill no. 1022 also known as "National Writing System Act" which was authored by Rep. Leopoldo Bataoil. It was declared awareness and appreciation of the baybayin script and promoting it as the national writing system of the Philippines for the students in High schools in different schools (Philippine Congress, 2018). Considering that students in the Philippines now a days has lack of ideas in history and social studies (Montemar, 2015). It also added that factors such as low quality textbooks and having a pedagogy that is not student - centered affects how students absorb and learn about history. Students just become submissive to what is offered to them. Therefore, the researchers' goal is to design and develop a role playing game as an assistive tool to help digitizing the Philippine's cultural and the script baybayin for the grade 7 to10 students of Colegio de San Juan de Letran Calamba. In order for the researcher to successfully complete it, the researcher applied the ADDIE model in the development process. The method were the researchers used was convenience sampling, and it was conducted after playing the game. The Respondents were composed of 30 high school students from grades 7 to 10. And as a result, it was determined that the game was useful in teaching the students towards the Philippine methodology and baybayin. The students learned how to use the baybayin script and became familiar to most of the Philippine mythological stories and creatures by playing the seven stages of the role playing game. The respondents strongly agreed that the game responded consistently, the artificial intelligence behaved as intended, the game's view is appropriately set and did not fell off in terms of game input. The mechanics did not feel out-of-place, as well as the in- game elements responded to controls, the game provided status tracking. Thus, with the results of the surveys, there is no doubt that the game aid the students in memorizing and being able to write the baybayin script. The game also helped in familiarizing some of the Philippines' culture and mythology stories. In addition, the game could serve as foundation in the development process of Philippine-culture themed games for students in the Colegio, and as well as for the whole country.

*KEYWORDS: Educational tool, Multimedia Game Development, History and Culture Interaction*

ET-007

## **TEACHERS AND PARENTS INFLUENCE ON THE LEARNING MOTIVATION AND STYLES OF SENIOR HIGH SCHOOL STUDENTS**

*NUGUID, MARIA LURLYN M.*  
*Laguna State Polytechnic University*  
*nylruldiugun320@gmail.com*

Motivation is one of the most important factors for academic learning and achievement across childhood through adolescence, according to Elliot and Dweck, (2005). Using descriptive qualitative method, this study sought to establish information to determine the influence of teachers and parents on the learning motivation and styles of senior high school students in Siniloan Integrated National High School. The researcher used purposive random sampling and got 239 senior high school students as respondents.

The study finds that 52.30 or 125 of the students are male where 35.98 or 86 are age 16 years old, 99.58 or 238 are also single belonging to an entire family at 184 or 76.99 with a 194 or 81.17 are under the Roman Catholic religion. 83 or 34.73 of the students are also first born and 129 or 53.97 has a number of 1-3 siblings. Also, 110 or 46.03 student's mother and 12 or 5.02 guardian are unemployed and 170 or 71.13 of their father are doing blue collared job, 97 or 40.59 of the mothers and 88 or 36.82 of the fathers also attained secondary education and the guardian in tertiary level at 10 or 4.18. 65 or 27.20 of the respondents has a monthly income of Php. 5,001- Php. 10,00 and 81 or 33.89 lives near multiple facilities and establishment.

Two hundred thirty-three or 97.49 of the students also claimed to like the Technical Vocational Livelihood Strand and 69 or 28.87 are taking Food Processing as their field of specialization. 141 or 59.00 of the students also depicted that it was their parents that influenced them to take the TVL strand. In terms of class standings most of the students achieved high honor during their elementary level, without honor during junior high school level and also none during senior high school level. A large number of the students did not join any extra-curricular activities. The distribution of the general weighted average of the respondents is also far from each other.

In view of the foregoing findings, it confirms that students from the Siniloan Integrated National High School showed intrinsic and extrinsic motivation. The study also stated that the intrinsic and extrinsic motivation is significantly influenced by both the teachers and parent's method of motivation and it was also depicted that some learning styles can be influenced by the parents and teachers in accordance to the method of motivation used. It was also concluded that solitary learning style is likely to influence a student's academic performance because students that are intrapersonal tend to be more organized, focused and goal oriented in studying.

The researcher recommends that the parents and teachers continue to improve and use different methods of motivating students and to teach and allow the students to practice learning styles that would help the students to learn better and also encourage students to use solitary learning style or become intrapersonal learners to help them become successful in the future.

ET-008

## **Evaluation on Teachers' Knowledge and Use of Technology in Classroom Instruction**

*Ann Arcissa A. Nilooban*  
*Mauban, Quezon 4330 Philippines*  
*annarcissa.nilooban001@deped.gov.ph*

Technology integration in classroom instruction directly aids toward developing the 21st century skills of the learners. Reason why many teachers started to use blended learning as medium of instruction. But, as more and more teachers incorporate instructional technology inside the classroom, there were still some teachers that are ill-prepared in using such method. With this, the demands of technological revolution and the level of technological knowledge of teachers inspired the researcher to conduct this research which aimed to: (1) determine the proficiency of the teachers in terms of their knowledge of different technology devices and uses of different applications software; (2) identify the factors that influence their adoption and integration of technology; and (3) propose a needs-based technology training for improved technology integration in the classroom. This descriptive research utilizing qualitative data was employed to the 42 teachers of a public elementary school who served as the respondents of the study. This utilized a survey questionnaire adopted by the researcher. Mean was used to statistically treat the data. Results revealed that most teachers were somewhat proficient in using different technological devices. However, they were somewhat not proficient in using different applications software. The belief that integrating technology is completely compatible with the current needs of the students influenced them to evolve their pedagogical practice and completely transform the entire learning environment into positive learning outcomes. However, there are still a growing concern that the teachers wanted to be addressed to fully integrate technology inside their classrooms.

*Keywords: ICT; instructional technology; needs-based; technology integration; technology training.*

ET-009

### **Enhancement of the Students' Learning Process in Advanced Multimedia Systems Through Gamification**

*Maria Julieta A. Saldua*

*Lyceum of the Philippines University—Batangas*

*masaldua@lpubatangas.edu.ph*

Gamification is a pedagogical approach of using game design and mechanics to enhance non-game contexts. It is viewed as an emerging technology that involves usage of the software. This software typically includes online applications that encourage students to participate in computer-based learning activities. The extent of gamifying learning materials depends on the students' level of progress. The research is process-oriented where students enrolled throughout the duration of this technical study, performed the activities in the Learning Management System.

Results show that Lesson, Database and Open Forum tools are the best gamifying tools in LMS. The framework in this research indicates underlying dynamics which consists of elements found in all activities performed by selected participants; where multiple-choice type of questions can be found in assessments and narration done in the posted videos. Feedback is shown to students after seeing results of their quizzes in LMS and Microsoft Form. Progress is apparent in lessons by the tool's feature to allow students to review topics to obtain higher scores. Motivation is encouraged by participating in forums. Social influence and relatedness can also be observed from students who participate in the usage of Kahoot! which is commonly used in academic events of the College of Computer Studies. The students receive badges as a form of reward every time they finish the activities. Total points are accumulated at the end of the course which shows the highest scorer in the class. One of the recommendations to the College of Computer Studies is to gain the support of LPU-MIS to download and install the H5P plugin in Blackboard LMS to develop full usage of the Interactive Content tool in LMS.

*Keywords: gamification, XP, badge, core drive (CD), LMS tools, h5p plugin, Interactive content*

ET-010

### **EMERGING PROGRAMMING LANGUAGES: THE LIVED EXPERIENCES OF TEACHERS TEACHING PROGRAMMING IN THIS CURRENT PHENOMENON**

*Joshua Joy M. Crucis, Yuanah Marie S. Cruz, Jerome Vic G. Doplito, Emmanuel Jonathan B. Loyzaga, Ma. Isabel A. Pabatang, Adriana C. Raymundo, Iñigo Miguel P. Resurreccion, Conrado Jose D. Rodriguez, Angelyne Tan, Joseph Christian E. Testa*

*Adamson University*

This study about the lived experiences of teachers teaching programming in Adamson University under the influence of the studied phenomenon which is the emersion of new programming languages has a main objective of answering the following statement of the problems: 1) What are the dilemmas faced by the interviewed programming teachers from Adamson University? (2) What are the specific actions done by these teachers to address the said phenomenon? (3) What is the significance of these emerging programming languages to their careers, to their students, to this progressive generation and to our economy? Through a Qualitative Phenomenological research design, the main respondents were chosen through the Purposive Sampling Technique and to gather enough information an Informal Interview was done with the use of Guide Questions. The individual responses were transcribed and related themes were namely: Ineffective curriculum; Teaching methodology; Struggles in knowledge enrichment; Subjected individuals; Mastery of the subject matter; Adapting; Promotes competency, preparedness and global competitiveness; The positive outcome of being unre-served; Paves the way for economic development and technological advancement. These appropriately answer the study's questions.

*Keywords: programming, programming languages, adapting, coping, emerging, phenomenon.*

# ABSTRACTS

## CLUSTER 3

Psychology, Philoso-  
phy, and other Social  
Science



PS-001

**Coaching Styles of Coaches and Level of Motivation of Para athletes in Selected Institutions for Persons with Disabilities: an Enhancement Program**

*Juno C. Bautista, Zharmine D. Agravante, and Darwin R. Palado*  
*Emilio Aguinaldo College*  
*junocbautista@gmail.com —09556674461*

One of the most critical factors of motivating athletes is coaching. Thus, this study mainly focused on the relationship between the coaching styles of coaches who cater paraathletes and their corresponding motivation and use the data as reference/bases for enhancement program for improvement of the PWD's. The study used a Descriptive-Correlational research design to 115 participants catered by the Philippine Paralympic Committee. The participants were selected through purposive sampling. Coaching style inventory and Sport Motivation Scale II was adapted and implemented to obtain different scores for the coaching style and motivation. The data gathered were statistically analyzed. The study revealed that the coaches preferred "expert and developer coaching" most of the time and Paraathletes) showed intrinsically motivated. Thus, it is recommended that the paraathletes to understand more about the factors that motivate them. Furthermore, continue the coaching used, and if possible be exploring the catalyst coaching style.

*Keywords: Paraathletes, Coaching Style, Motivation, Philippine Paralympic Committee*

PS-002

**PARENTING STYLE AND SOCIAL INTERACTION ANXIETY AMONG GRADE 6 PUPILS AT BES ELEMENTARY SCHOOL IN SILANG CAVITE**

*April Eunice O. Aguinaldo and Frederick A. Andal*  
*Emilio Aguinaldo College-Cavite*  
*april eunice28aguinaldo@gmail.com*

Parents are the most important personality in child's life. Variety of parenting styles is used depending on culture and societal needs. Social anxiety on the other hand, leads to feelings of inadequacy, inferiority, self-consciousness and embarrassment, a common experience of pupils in elementary grade. Thus, this study determined the relationship between parenting style and social interaction anxiety of Grade 6 pupils at BES Elementary School in Silang, Cavite. The study is a quantitative descriptive research design conducted to sixty (60) pupil participants from BES Elementary School. Adapted survey questionnaire was used to analyze the parenting style and social interaction anxiety. Pearson correlation was used to assess the relationship between parenting styles and pupils' social interaction anxiety. One-way ANOVA was used to determine the significant difference between the parents' parenting style. Results revealed that authoritarian parenting style is moderately correlated with the pupils' social interaction anxiety ( $r = 0.409$ ;  $p = 0.002$ ). Very weak relationship was observed between authoritative and permissive parenting style and pupils' social interaction anxiety. Further, there was no significant difference ( $p > 0.05$ ) observed among the parenting styles on the parents of the grade 6 pupils. The results indicated that authoritarian parenting style can lead children to become socially anxiety. This suggests the possibility of extending the study on the potential of parenting style as predictor of different mental disorders among children and adolescents.

*Keywords: parenting styles, social interaction anxiety*

PS-003

**Needs Assessment on Guidance and Counseling Services**

*Lambert M. Diokno, Richel P. Diokno, Laarni B. Perlado*  
*Cavite State University – Cavite City*  
*lambert\_cvsu@yahoo.com*

Higher educational institutions are mandated to offer a set of student-centered services in support of academic instruction envisioned to enable holistic and well-rounded student development for active participation as future responsible citizens and leaders. (CMO no. 09 series of 2013)

This study focuses on identifying the guidance and counseling services that the University will offer to cater the students' personal, social, and career needs. This study is significant since it will give a clearer view on the students' perspective on their needs on guidance and counseling services. This research undertaking was grounded on a sample of 1166 first year and second year students of Cavite State University-Cavite City Campus.

The study revealed that most of the participants were adolescence, female, and majority were Information Technology students. It also revealed that most of the participants were first year students coming from public high schools, and residing in Cavite City.

The results show that the participants believed that it was very important for the University to have guidance and counseling services that cater their self-development, family relationship, social relationship, studies, personal and social issues, and spirituality. There is a significant difference on the perception of the participants regarding the importance of guidance and counseling services that cater their family relationship, social relationship, studies, personal and social issues, and spirituality when they were grouped according to sex. It was highly recommended that the campus administrator, faculty, and especially the staff of the Office of Student Affairs and Services should take into consideration the results of this study in developing the guidance and counseling services that will cater the needs of the students to become future responsible and useful citizens.

*Keywords: counseling; guidance services; higher institution; inventory; needs assessment*

PS-004

**Hyperrealism in Media Communication, Consumerism and Political Advertisements: An analysis using Baudrillard's philosophy**

*Allan Dominic Alcazaren and John Paul T. Petrola*  
*University of San Agustin, Iloilo City*  
*c/o jpetrola@usa.edu.ph —09985325314*

This paper attempts to provide analysis on how media communication, consumerism and political advertisements assume the status of the hyperreal in Jean Baudrillard's Philosophy. Given the rampant spread of fake news, the existence of fabricated facts in media ads, and the drama series in television, it is necessary that TV viewers and users of social media should be knowledgeable in determining what is real and what is not real. Using critical analysis in the application Baudrillard's semiological theory, I argue that political advertisements and other forms of media communication assume the status of the hyperreal through the use of modern technology that has developed concept of fantasy (cyberspace) in the minds of the viewers. Moreover, in consumerism, it is by way that the individual is overpowered and seduced by consumer values, ideologies and role models. Thus, this paper provides a deeper appreciation of Baudrillard's philosophy particularly, his notion of hyperreal, and how this concept may benefit the consumers, audience and viewers in under-

PS-005

**HOME ENVIRONMENT, PARENTING STYLE, AND ACADEMIC PERFORMANCE OF GRADE SIX PUPILS IN THE DIVISION OF GENERAL TRIAS CITY, CAVITE**

*Aileen A. Durac*  
*Cavite State University—Indang, Cavite*  
*aanacan@yahoo.com*

This study aimed to determine the observed home environment, experienced parenting style and academic performance of Grade 6 pupils of public elementary schools of Gen. Trias City, Cavite, School Year 2018-2019.

Specifically, this research aimed to (1) describe the socio-demographic profile of the participants in terms of: sex, sibling configuration, family structure, parents' highest age, civil status of the parents, highest educational attainment of the parents, occupation of the parents and monthly income of the parents; (2) determine the observed home environment of the participants in terms of: parent-child interaction, motivational influences at home, child's early learning at home, parental involvement in school and nutrition at home; (3) determine the parenting styles experienced by the participants; determine the academic performance of the participants; (4) determine the difference of home environment when grouped according to their socio-demographic profile; difference in parenting style when grouped according to their socio-demographic profile; (5) determine the parenting style according to their socio-demographic profile; (6) determine the relationship between the following: home environment and parenting style; home environment and academic performance of the participants; parenting style and academic performance of the participants

Descriptive correlational design was used in the study. Instruments used in data gathering was a three-part survey questionnaire: the socio-demographic profile; researcher-made questionnaire for home environment validated by three experts in the field; and Parenting Style Inventory II adopted from Darling (1997). The academic performance was based from the school records of their grade six average. The participants of this study were the 200 Grade 6 pupils of two public elementary school in Gen. Trias. Statistical measures used were frequency, percentage, mean, standard deviation, chi-square, Pearson's rank correlation coefficient Kruskal Wallis test and Mann Whitney Test.

The results of the study revealed that female dominate male participants. Most of them were the first child in the family, having three to five siblings with mixed sex composition. Their highest birth spacing was 3-5 years. They had nuclear or traditional family structure. Their parents were of young age, married, secondary/vocational graduate. Their mothers were unemployed and fathers were employed having a low combined monthly income (below P40,000).

In terms of the overall observed home environment of the participants. All areas of home environment (parent-child interaction, motivational influences at home, child's early learning at home, parental involvement in school and nutrition at home) were more dominant. As to their frequency and percentage, majority of the participants had high parent-child interaction and parental involvement in school. Most of them had very high motivational influences at home, child's early learning at home and in nutrition at home. However, the experienced parenting styles of the participants was authoritarian. Participants' parents were more dominant in authoritarian, dominant in authoritative and permissive. Moreover, many of the participants had very satisfactory academic performance. Based on the statistical analysis, the following independent variables were significantly related to home environment: birth order, sibling size, sex composition, civil status of parents, highest educational attainment of parents, father's occupation and combined monthly income of parents. Conversely, independent variable that shows significant with parenting style is mother's occupation

PS-006

**Pain, Boredom and Despair: a Phenomenology of Persons Deprived of Liberty**

**Rashid Vicky Anthony and John Paul T. Petrola**

*University of San Agustin*

*jpetrola@usa.edu.ph —09985325314*

This study assessed the experiences of pain, boredom and despair of the persons in conflict with the law in Pakistan and Philippines. This is premised on the idea that this piece of work may help in understanding the life and actual situation of the so-called "Prisoners". This is grounded on Arthur Schopenhauer's concepts of the suffering of the world. Schopenhauer argued that the experience of pain, boredom and despair is unavoidable, thus every person should take life as a process and a task to be done. Using phenomenological method, interview and actual encounter with the prisoners, I have realized that like any other people, they too, have experienced pain, boredom and despair brought by feelings of being discriminated by their community, including their families, the feelings of being abandoned by society, and hopelessness in the justice system of the country. Despite that most of them have committed crime against the people and the society they deserve to be treated as human persons and understand their social conditions. Hence, this study hopes to bring awareness to the people on the real-life conditions of the people behind bars and strongly urged everyone to give them respect as a co-equal human-being.

PS-007

**Work and Community Immersions: Service-Learning Exposures for Senior High School Students in a Private University in Iloilo City, Philippines**

*John Paul J. Petrola*

*University of San Agustin*

*jpetrola@usa.edu.ph —09985325314*

This paper aimed to discuss how work and community immersions have been an effective avenue of service-learning among Grade 12-Senior high school students who belong in the Humanities and Social Sciences (HUMSS) strand in a private university in Iloilo City, Philippines. The researcher argued that work and community exposures have enabled HUMSS students to not just familiarized with the environment in a workplace and applied the learning competencies they have acquired from school in the real-life situation, more so, they have learned to develop confidence and understand the value of social relationships. Through interviews, sharing, reflections, and small group discussions with the students, four themes have emerged, namely: promoting work ethics in the workplace, appreciating one's worth in the community, understanding the value of social relationships, and logically applying principles and theories in the real-life situation. Indeed, education is not just confined in the four walls of the classroom thus, this paper recommended that senior high schools in Iloilo City should focus in developing more programs and activities relating to work immersions and community engagements.

Keywords: work and community immersion, service-learning, K to 12, learning experiences

**Ati people in Panay: Their Experiences of Disrespect and Struggle for Social Justice**

*John Paul J. Petrola*

*University of San Agustin*

*jpetrola@usa.edu.ph —09985325314*

This paper aimed to narrate and critically analyze the struggle for social justice of the Ati people using the critical theory of Axel Honneth. It is grounded on the argument that the Ati people's struggle for recognition are deeply driven by their experiences of society's unending denial of their deep-seated claims and expectations as co-equal members of the Filipino community. Using phenomenological approach, ethnography, face-to-face interview, focus group discussion and critical analysis in the appropriation of Honneth's philosophy, this paper showed that it is by way of giving recognition in the spheres of love, rights and solidarity, the Ati people were able to gain their confidence, self-respect and self-esteem, as individual and as a community. This paper recommended that the society should fully implement the Indigenous People's Rights Act of 1997 and UN Declaration on the Rights of IPs. Through this, it will guarantee cultural preservation and development of social conditions of Ati communities in Panay.

Keywords: Social Justice, Axel Honneth, Indigenous Peoples (IPs), Ati People, Panay

PS-008

**EFFECTS OF GROUP PRESSURE ON CONFORMITY WITHIN THE CONTEXT OF NATIONALITY, SEX, AND SETTING VARIATIONS AMONG SELECTED STUDENTS IN EMILIO AGUINALDO COLLEGE-CAVITE**

*Glaiza Marie R. Beltran, Elaine A. Camañag, Polynn Ginger P. Lardizabal, and  
Claribel Amihan*

*Emilio Aguinaldo College-Cavite  
pgplardizabal@gmail.com*

This study was conducted to further understand the effects of group pressure on conformity behavior within the context of nationality, sex and setting variations among selected students in Emilio Aguinaldo College - Cavite. This research is both a quantitative experimental and qualitative descriptive study. In this study the following queries were used to help in demonstrating the relevance of the study: (a) knowing the profile of the participants; (b) determining the mean score and percentage of the participants in the conformity pre-test and post-test in terms of nationality, sex, and setting variation; (c) knowing the significant difference between the pre-test and post-test of the participants and; (d) determining the insights of the participants throughout the experiment. The researchers were able to conclude the following (a) majority of the participants are Filipinos; (b) Indian males conform the most to a group of people with same nationality as theirs while the Filipino females conform the most to a female group. It is also concluded that conformity behavior due to group pressure is more prevalent to the everyday lives of Filipinos compare to Indians; (c) The computed value between the pre-test and post-test of both Filipinos and Indians in terms of nationality and field setting are both 0.000. On the other hand, the computed value for Filipinos in terms of sex is 0.004 while 0.003 is for Indians, and (d) majority of the participants felt nothing about the experiment but most of them admitted that they conform due to group pressure.

Keywords: Conformity, Group Pressure, Nationality, Sex, Setting Variations

PS-009

**THE CONTINUOUS PATRONAGE OF VOTERS FOR POLITICAL FAMILIES: A CASE STUDY OF POLITICAL DYNASTIES IN METRO MANILA**

*Arcangel, K., Dela Cruz, N., Lineses, F., Lozanes, A., Mabanta, A., Pamplona C., Ricardo, J., Tena, A.  
Adamson University*

Political dynasties have always been present in Philippine politics. As such that the country is a democratic state, the Filipino voters are the biggest contributors as to why this phenomenon became ubiquitous in their country. This paper aims to discover the different factors that Filipino voters in Manila take into consideration when they decide to persistently patronize members of different political families and to know the perception of these voters regarding the effects of political dynasties to the political landscape in their area which can be seen through the current conditions of their society. Furthermore, this paper uses the Case Study Research design. As such, in order to answer the questions of this study, four (4) participants from different districts in Manila were personally interviewed by the researchers. After carefully analyzing and interpreting the data from the informants, it was revealed that the majority of Filipino voters continuously support dynastic politicians that are able to provide them with various economic assistance. Additionally, it was also found that voters have no pre-conceived thoughts regarding the negative effects of political dynasties on the over-all conditions of their respective communities.

Keywords: political dynasties, dynastic politicians, Filipino voters

# ABSTRACTS

## CLUSTER 4

Accountancy/Business  
Management/Tourism/  
Aviation

A-001

**THE INTEGRATED PERSONNEL PERFORMANCE MANAGEMENT SYSTEM IN THE  
PHILIPPINE AIR FORCE: AN ANALYSIS**

*Mariposa Bulanon Abales  
Philippine State College of Aeronautics  
mariposaabales@gmail.com*

This study analyzed the Integrated Personnel Performance Management System (IPPMS) in the Philippine Air Force (PAF) as performance management tool. Participants of the study were composed of two groups – the rater and the ratees – and they are all assigned in Colonel Jesus Villamor Air Base, Pasay City. Out of the 212,56 of whom are raters composed of military and civilian supervisors and 156 are ratees. The IPPMS was analyzed based on how it is implemented in the PAF taking into consideration the four areas: clear understanding, communication, fairness and trust. The study determined the effectiveness of the use of performance rating in performance-based personnel actions such as performance-based bonus, promotion and incentive, scholarship and grants, security of tenure, and disciplinary action. Moreover, it also identified the challenges in the implementation of the system. The study combined both primary and secondary data in generating data for analysis based on the quantitative method of research. Survey was used to collect primary data using a content-validated questionnaire. The gathered data were analyzed, using descriptive and non-parametric statistics, in order to address the research questions. The result of the analysis revealed that the participants have contrasting assessment on the current IPPMS. The system's implementation in the PAF is ineffective particularly on the area of communication and fairness. On the use of the performance rating for performance-based personnel actions, the study indicated that linking an employee's high performance rating to the performance-based bonus and incentive, promotion and step increment, and scholarship and grants is not an effective avenue to motivate employee's to perform in exemplary. There is an apparent problem in the implementation of the IPPMS as assessed by the two groups of participants. There are also some areas of the IPPMS processes which are not fully implemented that result to infrequent feedback, inconsistency across raters, untrained raters, and absence of second review. Due to time and financial constraints, the study was conducted in one PAF air base. Therefore, the findings of the study might not reflect the current implementation of the IPPMS in the entire PAF.

A-002

**The Assistance of Health Card and its Relation to Decreasing Medical Expenses among Rural Community in Cavite**

*Gelli Mae S. Afinidad, Mar Jhun D. Corpuz, Ivy M. Fernandez, Gemma Ruth C. Gecolea, Ken Crishabel B. Lacap, Kyla Jane G. Olazo, Nicole Ashley Ramis and Ms. Kianna Alzina V. Diocales  
Emilio Aguinaldo College  
gemmagecolea07@gmail.com*

The health care system in the Philippines has changed immensely in the last 20 years in an attempt to meet every Filipino's medical needs. For all this change, the gap between the high-income and low-income populations have been found to have drastically different difficulty levels in accessing health care. This study aims to determine the relationship between the assistance of health card and the decreasing medical expenses among rural community in Cavite. A citizen's life status becomes a hindrance when it comes to paying off their medical finances and obtaining health care system especially from rural places. A correlational research design was used among 100 participants owning a health card and living in some areas of Cavite. The questionnaires were created by the researchers and were pilot tested using the Fleiss' Kappa Reliability Test ( $K=0.29$ ,  $K=0.35$  - fair agreement). Pearsons R was used as a statistical method in analyzing data. From the mean scores of the participants, the level of relationship between variables was determined ( $r=0.44$ ) interpreted as moderate positive relationship. The findings of the study indicate that despite having achieved the Universal Health Care (UHC) program, struggles with unequal access to health care services is still prominent in rural areas.

*Keywords: Health Card, Medical Expenses, Health Care, Assistance, Rural*



A-003

**A Comparative Study of Bird Strike Reporting Culture of selected Airlines in the Philippines**

*Jhanica Anna T. Almario*

*Philippine State College of Aeronautics*

*jtalmario@pal.com.ph*

Bird strike has been recognized as common, and major problem to all aircraft operations worldwide. While the number of both bird population and flight increases, the risk also remains high and will further bring new challenges in the future. The aviation industry has been adopting safety management system in mitigating risks and safety reporting as one its fundamental tools. The occurrences of bird strike in the Philippines and its reporting system have not been analyzed in any previous studies. This study is a qualitative research that analyzed collected data using SWOT ( strengths, weaknesses, opportunities, threats ) analysis to study the existing reporting system and safety culture in the civil aviation authority of the Philippines and major air operators such as Philippine Airlines, PAL Express, Cebu Pacific Air, CEB Go, and Air Asia. While there was no survey conducted, the primary data was gathered through key informant interviews to Civil Aviation Authority of the Philippines Personnel, Aviation Safety Professionals, and Wildlife Research and Conservation Science Expert. This thesis concentrated on the reports received by the authority and airlines from year 2016 to 2018. According to this data, the number of bird strike reports has been increasing significantly during the past few years. Unfortunately, at the same time, the quality of bird strike reports has been decreasing. Based on the reports analyzed, in the majority of strikes, bird species were poorly identified, and a lot of other valuable data in second form were unreported, such as cost information, and special information on engine damage strikes. The objective for bird strike reporting should be to produce better quality reports and to increase frequency than what is currently being practiced. As an additional finding of this study, bird strike data bases of authority and major airlines has disparity. A policy recommendation for bird strike reporting system for airlines and authority was formulated. This could certainly prevent the discrepancy and improve the bird strike analysis for a national scale. Other recommendations were also provided by the interviewees for betterment of reporting system and bird strike mitigation.

A-004

**Purchasing of Long-Term Assets: Real Estate, Business, and Health Insurance with Regards in Maintaining Financial Stability of Filipino Families**

*Hillary Mae Albarico, Ericka Joy T. Eron, Anne Clarisse L. Frani, Lanross C. Gatchalian, Andrea Miguel R. Herrera, Bernadeth Allaine R. Perillo, April Mae B. Villaceran and Ms. Kianna Alzina V. Diocales*

*Emilio Aguinaldo College*

*andreamercadejas30@gmail.com*

Financial stability is a state in which an individual remains in a constant condition of financial system notwithstanding the interminable rotation of economy. This study aimed to amend Filipino families in maintaining their financial capability while considering the incurring cost of long-term assets particularly real estate, business and health insurance. Ex post facto was used as the overall strategy of this paper which focused on the financial stability as the phenomena which has already occurred. The researchers were able to gather and analyze data through the means of survey questionnaire that is authentically made by the people behind. The said instrument undergone through a validity and reliability test known as Fleiss Kappa Coefficient where it resulted that there is a substantial agreement among the variables with the value of 0.61 which means that it has the credibility to measure the consistency of the responses. Due to the fact, it came out to the actual interpretation of data that there is a significant difference among long-term assets specifically the real estate, business and health insurance with the P-Value of 0.019 that leads to the decision not to reject the alternative hypothesis formulated. Thus, this study concluded that the incurring variables affect the financial stability of Filipino Families in Dasmariñas, Cavite.

*Keywords: Budget Scheme, Financial System, Investment, Management, Monetary, Resources*

A-005

### **AN ENHANCED OPERATION AND MAINTENANCE MANAGEMENT SYSTEM FOR AN AVIATION SCHOOL**

*Gilbert V. Baltazar*

*Philippine State College of Aeronautics*

*Gilbert.baltazar@pms.gov.ph*

Government buildings usually have poor maintenance programs because there is lack of focus group, guidelines on the use of building facilities and amenities, maintenance and operation plans, and allotted budget.

In this study, the aspects of an operation and maintenance management system for the building of PhilSCA were determined using Systems Theory. A 4-point Likert Scale was used to determine the level of agreement on the following subs-systems: (a) development of maintenance management systems (b) formation of organizational structure, (c) development of maintenance program and plan, and (d) budget preparation. There were 45 respondents from PhilSCA administration, faculty and students. Key Informant Interview (KII) was also used to validate results of survey.

The study found the necessity for PhilSCA to enhance its building operations and maintenance management system as the study established that PhilSCA lacks the following: (a) guidelines on the use of building facilities and amenities, (b) approved operating organizational structure for General Services Division (GSD), (c) conformity with Civil Service Commission (CSC) Program recruitment process, (d) program and workplan, and (e) lack of basis on budget preparation.

Finally, the study recommended for PhilSCA to perform the following: (a) develop manuals for building operating systems / procedures and building facilities and amenities, (b) conduct organizational diagnosis of its GSD, (c) comply with requirements of CSC Competency-based and qualification standard in hiring personnel, (d) develop operations and maintenance program and workplan, and to review its guidelines on budget preparation for strict compliance.

**Keyword:** Public Aviation School's Enhanced Operation and Maintenance Management System

A-006

### **Utilization of Predatory Pricing in Small-Scale Rice Business Resulting to Sales**

*Jhon Anthony M. Aldave, Abdul Rahman D. Busara, Jennifer P. Gernale, Cassandra Lavern P. Ingreso, Trisha Mae A. Pambrita, Mave Rick M. Rance, Shane Steven Harold G. Tamil, and Ms. Kianna Alzina V. Diocales*

*Emilio Aguinaldo College*

*tamilshane@gmail.com*

The business world is a battle for survival. For a business to take a long run in the market, they utilize various tactics for them to aggrandize in the market. One of those business competition practices that was utilized since the 1900s is the predatory pricing. This is a type of penetration pricing strategy where a product or service is set at its lowest price. Theoretically, consumers tend to buy cheaper products, especially that prices of commodities nowadays are soaring high. The goal of this study is to find out if applying predatory pricing will increase the sales of a business. Employing a Quasi-experimental design, the participants selected were assigned as the experimental group that consists of 30 small-scale rice business owners operating in the vicinity of Dasmarinas, Cavite. Using created questionnaires that undertook Fleiss' KAPPA reliability test ( $K = 0.45$  – moderate agreement), the data that is pivotal on the findings of this study was obtained and analyzed thoroughly to find out if utilizing predatory pricing will boost the profit gains of small-scale rice business. Results showed that there is a significant difference between the pre-test scores (Mean=3.35; SD=0.26) and the post-test scores (Mean=3.60; SD=0.22) of the experimental group,  $t(30)=4.348$ ,  $p=0.008$ . Hence, there is a significance gained in the scores of the experimental group after the intervention was given. The sales of the participants significantly increased after utilizing predatory pricing. Thereafter, the findings of this study indicate that utilizing predatory pricing could enhance the sales performance of small-scale rice businesses.

**Keywords:** Predatory Pricing, Sales Performance, Market Completion, Penetration, Marketing Strategy, Business Competition Practices

## AIRLINE SERVICE PERFORMANCE IN COMPLIANCE TO AIR PASSENGER BILL OF RIGHTS

**Manilyn A. Canino**

*Philippine State College Of Aeronautics*

*manilyn.canino@gmail.com*

*Adviser: Alfredo M. Joson, Ph.D.*

Customers' emotions today are a significant part of the market, which can influence marketing performance either directly or indirectly. It can be said that consumer complaints arise when consumers start generating negative emotions because of unfavorable service experience. And one of the major reasons for airline passengers' dissatisfaction which will lead to complaints and distrust is how airlines handle flight disruptions. The primary objective of this study is to evaluate the responsiveness and effectiveness of the three (3) mainline domestic carriers in the Philippines namely: Cebu Pacific, Philippines AirAsia, and PAL Express in compliance to Rights to Compensation which can be found in sections 11 and 12 of the Joint DOTC-DTI Administrative Order No. 1 series of 2012, otherwise known as the "Air Passenger Bill of Rights". Simultaneously, to determine its impact on the general satisfaction levels of customers. It is based on an empirical evaluation of the data collected from two-hundred and twenty-one (221) participants of the aforementioned airline customers during December 2019 and January 2020. Furthermore, this study has presented airline process recommendations that will serve as a guideline to strengthen the compliance level of the airlines, and which will mitigate further damages and complaints from the airline current and prospective customers.

The research involves a descriptive-quantitative methodology in a purposive approach to conduct a paper and an online survey. The data primary data collected from the current and previous passengers of the three (3) mainline domestic carriers who have experienced flight delays of at least three (3) hours or cancellation of flights, except flight cancelled due to force majeure, among other specific conditions were analyzed using a variety of statistical techniques. The compliance level and significant difference were measured using Kruskal Wallis and Wilcoxon Mann-Whitney Test, among others. Subsequently, the SERVPERF Model by Cronin and Taylor (1992) was utilized this model is mainly to measure the service performance of the airlines based on the perceptions of the participants and will discover dimensions of service that the airline needs to improve in terms of Reliability, Assurance, Tangibles, Empathy, and Responsiveness. Thus, it determines the relationship of the airlines' service performance quality to the selection behavior of passenger towards airlines brands.

The key findings of the study indicate that there is a significant difference between the mainline domestic airlines that are operating in the Philippines in the way they provide amenities to affected passengers and the way their rebooking system or processes work, where as there is no significant difference between the notification protocols in the case of irregular operations (IROPS) such as flight delays or cancellations. The research paper categorized which airline greatly performed its service in the case of irregular operations from the year 2015-2019 garnering the highest average score between the other two mainline domestic carriers through the SERVPERF Model. The result of the study will be beneficial to the many including the passengers, airline companies, future researchers and others, as this paper provides an assessment of airline level of compliance and determines its implications to the airline passengers in terms of loyalty, an embodiment of the brand, and trust with the airline.

### Conclusion

According to the Civil Aeronautics Board (CAB), irregular operations (IROPS) remain as one of the primary factors that generate an increasing number of passenger complaints against airlines in the Philippines, and even though there is a number of studies related to customer service, solutions are yet to come by. Moreover, based on the findings of the study, indeed a propose airline process is greatly needed to feel the gap in terms of airline compliance to the Air Passenger Bill of Rights specifically on the Right to Compensation, and its service performance based on the SERVPERF Model dimensions such as Reliability, Assurance, Tangibles, Empathy, and Responsiveness (R.A.T.E.R). Furthermore, the researcher injected inputs from the industry experts which validated the proposed airline process of the study.

*Keywords: Airline Passenger Bill of Rights, SERVPERF, Irregular Operations*

## **McDonald's NXTGEN: Exploring its Effectiveness in Giving Elevated Dining Satisfaction among Branches in Cavite**

*Alexis Mico S. Alejo, Arabella A. Cabacungan, Gwenna C. Garcia, Lorie Ann P. Javier, Ronjay Allen Lacson, Bryan F. Marin,  
Hannah Elijah C. Nafarrete and Ms. Kianna Alzina V. Diocales*

*Emilio Aguinaldo College-Cavite*

*alejoalxs@gmail.com*

Providing customers a superlative dining experience is the primary ground for the fabrication of McDonald's new store format, NXTGEN. Comprised of Self-Ordering kiosks, Split Counters, and Guest Experience Leaders, the transfiguration of McDonald's traditional store format came to fruition. Manifesting experimental design, the randomly chosen participants were divided into control and experimental group. The first group was characterized as participants unexposed to the intervention (control group) whereas the latter group was exposed to (experimental group). Through the use of questionnaires that underwent Fleiss' Kappa reliability (results were:  $K=0.76$  – substantial agreement;  $K=0.98$  and  $K=0.82$  – almost perfect agreement; and  $K=0.41$ ,  $K=0.60$  and  $K=0.44$  – moderate agreement), the data critical in fulfilling the research were acquired and digested to beget the needed information. Procuring the significant difference of the participants' mean scores subliminally accomplished the research's objectives. Results showed that there is no significant difference between the mean scores of the pre-test (Mean=3.28) and post-test (Mean=3.28) of the control group. Likewise, there is no significant difference between the mean scores of the pre-test (Mean=3.17) and post-test (Mean=3.26) of the experimental group. Thereafter, results demonstrated that the p-value of control group's pre and post-test scores ( $p=0.665$ ) has no significant difference; as well as the p-value of experimental group's pre and post-test scores ( $p=0.361 < 0.364$ ). Lastly, the p-value of the control group's post-test scores ( $p=0.51$ ) has no significant difference with the experi-

**A PROPOSED PUBLIC-PRIVATE PARTNERSHIP  
FINANCIAL MODEL FOR REAL ESTATE PROJECTS**

*Liberty Prado De Leon*

Bases Conversion and Development Authority

*Philippine State College of Aeronautics*

*libertypradodeleon@yahoo.com*

Public-Private Partnerships (PPP) propel government's real estate and urban city developments through the private sector's ability to finance projects, its expertise and innovation capabilities. Despite these advantages though, its implementation had not been perfect and financial terms were the most contentious issues raised. Financial Models/terms are drawn up from various assumptions and variables of PPP for real estate projects. Aimed at getting the reasonable variables to formulate a financial model, this Study was conducted to examine real estate projects implemented through PPPs (e.g. Bonifacio Global City, the New Port City in Pasay and the National Government Administrative Center (NGAC) in Tarlac. Financial terms of these projects or Cases were examined to review particular components that made up its financial terms.

This qualitative Study evaluated secondary or historical data to come out with relevant observations. Financial statements, joint venture agreements, lease agreements, tender documents and other project related documents were collected and reviewed focusing on the nominal values and figures presented to see through components and patterns from which a financial model may be developed. Key-Informant interviews were also made to validate the information collected.

The results of the Study revealed numerous assumptions and variables for any real estate projects. It was found out that financial model cannot be applied across real estate development projects under PPPs. Financial model depends highly on multiple assumptions and variables to include the type of developments to be introduced to the property based on a master development plan (MDP), project costs and revenue sharing schemes. The types of development include mixed-used, residential, industrial and government center. Assumptions are formulated based on these developments.

To conclude this Study and propose a PPP financial Model it is necessary to apply certain assumptions other than those extracted from the Cases studied. The financial model proposed in the Study comprises of details resulting from the study and supplementary assumptions based on the proposed MDP for an Aviation School Complex on a parcel of land in Tarlac allocated for the Philippine State College of Aeronautics (PhilSCA). The proposed MDP indicates the property's land-uses on which cost estimates were based. Since the development is an educational institution, government payment is considered to encourage a private sector to engage in this high-cost and high-risk Project. Moreover, the proposed financial model or the Output of this Study, may be subject to further study and/or test application.

*Keywords: PPP Financial Model for Real Estate Projects, PPP, Financial Model, Real Estate Projects*

**Covariance Among Missing a Quota, Motivation, and Productiveness on Improving Salesclerks' Promotional Skills at Dasmariñas City, Cavite**

*Cielo Grace F. Bacani, Angelynne Marie G. Dalaguit, Kyla M. Gigante, Jewel P. Salvador, Bobzer L. San Juan, Winonah Andrea Q. Santos*

*Emilio Aguinaldo College—Cavite*

*cielogracebacani@gmail.com*

Salesclerks refers to a sales profession targeted to reach sales quotas and accountable of promoting their products. In order to refine salesclerks' promotional skills, the researchers conducted a correlational study that primarily aims to know the covariances among missing a quota, motivation, and productiveness. The study subjects to know what is the relationship among variables and the level of their relationship. Purposive sampling, particularly a snowball sampling technique is utilized in gathering participants. Moreover, "create your own" instrument is conducted, with the use of Fleiss kappa reliability test value of 0.05, 0.03, and 0.11 in the following variables which states that there is a slight agreement, that shows credibility of the questionnaire. One-way analysis of variance (ANOVA) is used to interpret the data collected. Findings have indicated that; (a) there is a weak positive correlation in missing a quota and improving salesclerks promotional skills ( $P=0.02$ ,  $r=0.21$ ), (b) very weak positive in motivation and productiveness and improving salesclerks promotional skills ( $P=0.02$ ,  $r=0.19$ ). Given the results of the data which states the significant relationship of the variables, it is further suggested to emphasize on implementing strategic plan on how to attain salesclerks target quota, provide a motivational approach, and observing the work performance of the salesclerk to primarily hone their promotional skills.

*Keywords: Motivation, Productiveness, Promotional Skills, Salesclerk, Sales quota*

A-011

**TOURISM BRANDING PROPOSITION FOR MARIKINA CITY, PHILIPPINES:  
TOWARDS DESTINATION SUSTAINABILITY**

*Alejandro D. Magnaye*

Our Lady of Perpetual Succor College (OLOPSC)

*ad.magnaye@olopsc.edu.ph*

This paper draws from the generic literature on city branding to develop the idea of tourist-based destination sustainability. Tourism brand identity is proposed to ensure sustainability of tourism related businesses in the city. It serves as alternative to conventional destinations exist in renowned provinces and towns. Diverse marketing ideas provide new opportunities through collaborative efforts from various stakeholders and interested parties. The sustainability program initiatives serve as the driving force to continuously develop more activities beneficial to the community.

The city brand measurement approaches to quantify destination brand are compared, examined and scrutinized; highlighting on the strength, weaknesses, opportunities and threats. Throughout the discussion, examples of successful destination branding practices are integrated and presented.

*Keywords: sustainable branding, brand proposition, brand assessment, destination sustainability*

A-012

**Microtrend and Consumer's Buying Behavior: Exploring Its Relationship among Samgyeopsal Consumer in the City of Dasmariñas, Cavite**

*Jan Tisha S. Bare, Aron Morris G. Cabalfin, Diana Marie D. Collao, Nellisa F. Cortez, Glezzy Mae L. Madrid, Audry Casandra F. Paalam, Lorraine Marie L. Volante and Ms. Kianna Alzina V. Diocales*

*Emilio Aguinaldo College—Cavite*

*crtznelys@gmail.com*

Microtrend pertains to shorter trend wherein it only lasts for six (6) months up to three (3) years. On the other hand, consumer's buying behavior refers to the attitude, preferences, and decision-making process of an individual when consuming a product or service. The intention of this quantitative research was to primarily explore the relationship between Microtrend and Consumer's Buying Behavior among Samgyeopsal Consumers. This study was composed of two (2) general questions which discussed the relationship and its level between Microtrend and Consumer's Buying Behavior. Furthermore, Correlational Research Design was utilized in this study and was further strengthened by the use of research instrument made by the researcher and its reliability was founded by Fleiss Kappa Reliability. ( $K=0.11$ -slight agreement). Moreover, the data analysis that was used in this study was Pearson's Correlation Coefficient ( $r=0.37$ ) which states a weak positive relationship. It revealed that Microtrend and Consumer's Buying Behavior have altered the perspective of the consumers towards the taste of the Samgyeopsal products, whereas the Korean culture influence involved the consumers in the process of rational decision-making in Samgyeopsal products' consumption, and one of the factors that led them to purchase the Samgyeopsal products was their money availability.

*Keywords: Microtrend, Consumer's Buying Behavior, Decision-making, Trend*

**INTENSIVE INDUSTRY-IMMERSION PROGRAM FOR AVIATION STUDENTS OF JOCSON COLLEGE:  
PROSPECTS FOR KEY EMPLOYMENT GROWTH**

*Mr. John Patrick T. Mallari  
Philippine State College Of Aeronautics  
johnpatricktegelanmallari@gmail.com*

This study aimed to develop an intensive industry immersion program for aviation students of Jocson College to make a significant contribution to the employment growth of the aviation industry in Central Luzon. The aviation students will be immersed in different Approved Maintenance Organizations (AMO's) and will acquire actual training work experience in different areas of aviation such as line maintenance, base maintenance, structure maintenance, and maintenance management. This four-levels of in-depth professional development program requires the aviation students to become industry-ready and well experienced Aviation Professionals. The researcher utilized a survey questionnaire and key informant interview in gathering data and have a comparative analysis of the findings. A Four-point Likert Scale was used to quantify weighted mean of the responses of one hundred (100) Aircraft Maintenance Technicians to determine their perception of the level of relevance on the proposed program. The data were tabulated, interpreted and analyzed using statistics such as frequency, percentage, weighted mean, and ANOVA F-test. The participants from the five groups of AMO perceived that level of relevance of the industry immersion program as to the curriculum in terms of line maintenance, base maintenance, structure maintenance, and maintenance management obtained the overall average weighted mean of 3.27 and verbally interpreted as "highly relevant." Additional to these, the participants also perceived that the proposed program towards the employability of aviation graduates in terms of individual growth and employment growth obtained the overall average weighted mean of 3.78 and verbally interpreted as "strongly agree = very important." The recommendation, "conduct post-training review and evaluation of the program to determine its effectiveness" got the highest frequency of 49 and ranked as 1st. On the other hand, the three (3) groups of key informant interviews were conducted to gather data and to confirmed the findings of the survey questionnaire from the two (2) industry experts, two (2) CAAP Inspectors and one (1) School Administrator. These five (5) participants for key informant interviews perceived that the proposed program for aviation students of Jocson College was "highly relevant." The industry experts assumed that through this immersion program it will be able to cut great cost in doing basic training to fresh graduates and has the potential to reinforce the right qualifications to be successful in the aviation field. Among the CAAP Inspectors perceived that the program was very encouraging to aviation students that will gain more knowledge and familiarization in the actual workplace. The school administrator also perceived that it will help to achieve the goals of the institution in providing quality education and training for their students to become industry-ready. Overall, the summary of the findings of the key informant interview confirmed the result of the survey questionnaire. Therefore, the researcher recommended that the administrator of Jocson College should utilize this structured four levels of an industry immersion program for their aviation students to uplift the quality and competency of graduates to increase the employment growth of aviation professionals in Central Luzon.

**The Relationship between Creations and Innovations of Fast-Food Restaurants to Purchasing in Dasmariñas, Cavite**

*Christian Justin R. Belmonte, Hezekiah Bray P. Carpio, Reyanne Jane F. de Guzman, Vince Iñigo S. Macapagal, Katrina Ann A. Rabano, Paul Edison E. Silva, Ma. Angel Joan S. Urrete, and Ms. Kianna Alzina V. Diocales  
Emilio Aguinaldo College-Cavite  
deguzman.reyjean@gmail.com*

Developing new products often lead to two circumstances: it can create an edge for the business or produce company loss if not handled properly. Creations and Innovations made by fast-food restaurants are their way of attracting customers to gain interest of what they market, but there remains dearth as to how it is interrelated to the purchasing of consumers. This study aimed to determine the relationship between the two variables, creations, and innovations of fast food restaurants as to purchasing in Dasmariñas, Cavite. This correlational research was conducted to a total of 100 Senior High School students of Emilio Aguinaldo College-Cavite through Simple Random Sampling. The data used were collected by the means of survey questionnaires, which the researchers developed by modifying certain parts of a valid and reliable questionnaire which was already utilized in a previous study. Collected data were analyzed through Pearsons R or Correlational Coefficient R ( $r = 0.72$ ) a strong positive degree which states that creations and innovations of fast-food restaurants could be some factors that buyers consider and look upon before purchasing the products that businesses offer.

*Keywords: Brand Image, Commercialization, Consumer, Consumer Behavior, Restaurateurs*



### **Analysis of Aircraft Maintenance Error: Inputs to Improve Safety and Quality**

*Garry D. Mendoza*

*Philippine State College of Aeronautics*

*garygary.mendoza@lht.philippines.com*

The study focuses on aircraft maintenance error in aviation and contributing factors affecting the performance of aircraft maintenance personnel in an Approved Maintenance Operation (AMO) based on the Maintenance Error Decision Aid (MEDA) principle. The study was conducted within the premises of an Approved Maintenance Organization (AMO), particularly in Aircraft Maintenance division which is divided into three main airport terminal namely Terminal 1 (MA11), Terminal 2 (MA12) and Terminal 3 (MA13), with participants which composed of 135 aircraft maintenance personnel, 36 participants are from MA11, 72 from MA12 and 27 participants came from MA13. The descriptive four-point Likert Scale survey as well as participant-observation research were used to determine the level of frequency of aircraft maintenance errors. Data is analyzed through descriptive statistics such as weighted mean, percentage, frequency distribution and Sign Rank Test. Additionally, Kruskal Wallis H-Test is used to determine the significant difference in the perception between the group of participants. The results showed that participants generally agreed aircraft maintenance errors listed in Maintenance Error Decision Aid are "rarely" committed/ observed. Study also reveals that Junior mechanics have the least committed or observed and Aircraft Mechanic A have the most in different kind of errors. In the previous studies, installation error become the most frequent error committed as reflected in related literatures. This study is quite different because participant's perception differs when grouped to job position. Team Leader/ Crew Chief have their highest mean coming from maintenance control error considering task under this are mainly management. Junior Mechanic and Aircraft Mechanic C both have their highest scores on personal injury because of their constant long exposure to heat and substance as helper to main production personnel. Aircraft Mechanic A and Mechanic B both agree that foreign object damage/ debris as the most common error committed or observed due more task are being delegated to them. Thus, more job set up and job close up procedure needed to be done in addition to factor of nature of working in open fields like ramp where strong winds led to these debris to scatter. This clearly states job position varies in errors committed. To conclude, managing error should also consider job position and these frequent errors and factors committed and observed.

A-016

### **Workplace Environment and Job Performance: Exploring their Relationship among Baristas in Small-Scale Cafes of Dasmariñas City**

*Arlyn M. Bonzo, Kenneth Franz B. Condonar, Maureen D. Cuizon, Via Andrea*

*C. Gudao, Jachelle T. Pascua, Anjelica Raine E. Pilpil, Mayolito C. Waje and Ms. Kianna Alzina V. Diocales*

*Emilio Aguinaldo College*

*pilpilanjelicaraine@gmail.com*

A workplace is substantial to the effectiveness and efficiency of the tasks executed by the baristas on a daily basis. Small scale cafes, in particular, struggle with building an ideal working environment that will meet the needs and satisfaction of the baristas. The study intends to know the linear relationship between workplace environment and job performance in today's competitive and dynamic corporate world. Using the correlational design, the study comprises 100 participants around the City of Dasmariñas through purposive sampling. Each was asked to respond in the questionnaire, provided with a series of questions modified from the previous study. Bivariate data was analyzed through the use of Pearson correlation coefficient to determine the critical value. As the results were derived, tabulated data and figure shows a strong positive correlation with a computed value of 0.76. While, plotted points are close to one another shown in the scatter plot. This indicates a direct increase and decrease relationship between workplace environment and job performance. Overall, the researchers found out that a good working environment creates a sense of motivation, security, productivity and excellency in an employee's performance.

*Keywords: Environment, Employees, Performance, Motivation, Interaction*

A-017

### **The Role of Management Information System: Review on the Importance of Data and Implementation in Organizational Process**

*Cherish Kay L. Pastor*

*Faculty, Business Administration Program, Pangasinan State University, Lingayen Campus*

*cpastor@psu.edu.ph / 09186200902*

Management Information System is important in the organization's success. Management Information System in every organization should work according to the plan and vision of every organization. The purpose of this study is to underscore the importance of the Management Information System through a literature review and to determine the level of implementation in private universities in Pangasinan. A literature search and survey questionnaire were used in order to satisfy the requirement of the study. The result of the study shows that schools in Pangasinan are implementing the process and practice of Management Information System. The literature review shows the big importance of industries and organizations to maximize the utilization of the unit. It is recommended that all institutions should revisit and include the Management Information System unit as a priority unit for improvement for organizational effectiveness and innovation.

*Keywords – management information system, organization's data*

### **Turnover Intentions of Private Institutions' Academic and Non-Academic Personnel**

*Cherish Kay L. Pastor*

*Faculty, Business Administration Program, Pangasinan State University, Lingayen Campus*

*cpastor@psu.edu.ph / 09186200902*

Employees are considered as the most valuable assets of an organization. Employee turnover is an important factor in all organization including the institutions. Replacing employees can affect an institution's productivity, expenses, and overall performance. Turnover is the process through which staff leaves a business or organization and that business or organization replaces them. The objective of the study is to determine the turnover intention of the teaching and non-teaching personnel in private institutions. It aims to answer specific objectives such as the profile of the respondents, the turnover intention of the personnel, the difference between the level of the intention of academic and non-academic personnel. In this study, the researchers will be used the quantitative study. The questionnaire was used as a data-gathering instrument, to determine the turnover intentions of the personnel. The descriptive survey method will be used to gather the data and to know the status to help to address effectively the research objectives. Based on the result of the study, most of the non-teaching personnel have lower turnover intentions compared to the teaching personnel of the private institutions. The result also shows that the teaching personnel has higher turnover intentions than non-academic employees. It is recommended that human resource management and the top management of the private institution should develop an intervention in order to maintain the manpower in the organization.

*Keywords – turnover intention, organizational satisfaction, private institution*

### **Job Obligatory, Satisfaction, and Employment Agreement: Delving the Minimum Wage Salary of Undergraduate Workers Engaged in Industrial Sector**

*Gail T. Constantino, Jean Nicole S. Condrada, Kane Jia B. Castellano, Mikee D. Alcantara, Oscar Jr. A. Dagarag, Reizel Joyce M. Bago, Russel James O. Perez, and Ms. Kianna Alzina V. Diocales*

*Emilio Aguinaldo College*

*perez.r.j.31@gmail.com*

Minimum wage is compared with salary given to a worker in exchange of every consummated workload. Undergraduate workers, as part of the industrial sector and as a minimum wage earner had been chosen to be the focus of this study. To attain the phenomena of this Ex Post Facto research, which is to determine how Job Obligatory, Satisfaction, and Employment Agreement affects the compensation of the participants, questionnaires through snowball sampling technique had been used. For the results, with the aid of ANOVA (Analysis of Variance), 0.00035 is the computed p value which concludes that a significant difference is existing. Furthermore, it had been cited that Satisfaction with their job is the strongest determinant factor that undergraduate workers in industrial sectors considers for it got the highest variance of 0.373747 among other independent variables. Based on the data gathered by the researchers, not rejecting the Alternative Hypothesis has been the decision. A relationship among Job Obligatory, Satisfaction, and Employment Agreement to the Minimum wage of Undergraduate workers of the Industrial Sector has been established.

*Keywords: Remuneration, Compensation, Industrial Firm, Gratification, Employment Contract*

### **IMPACT OF MICROFINANCE TO WOMEN EMPOWERMENT IN SELECTED AREAS IN CAVITE**

*Sixto N. Ras Jr., Joshua B. del Rosario, Cjay B. Garino, Jose Carlo O. Timbang, Alfe M. Solina*  
*Cavite State University—Imus*  
*rassixto@gmail.com*

Microfinance has been a continuously growing industry that a lot of financial institutions are taking part of. Most of these institutions are mainly on the business to help out in the community by providing resources to households with low-income. It has been observed that most of the people involved in microfinance are women. It seems like they are empowered when they joined.

Women empowerment, as defined in The Magna Carta of Women (2009), refers to the provision, availability, and accessibility of opportunities, services, and observance of human rights which enable women to actively participate and contribute to the political, economic, social, and cultural development of the nation as well as those which shall provide them equal access to ownership, management, and control of production, and of material and informational resources and benefits in the family, community, and society.

With Gender and Development (GAD) being inculcated across the country and the continuous emergence of microfinance institution, this study aims to evaluate whether the indicators engaging in microfinance can significantly empower the roles and status of women; socially and economically.

The purpose of this study is to determine the impact of microfinance to women empowerment across three indicators such as social aspect; legal awareness, family decision making, community involvement whereas in economic aspect; household economic decision making, economic security and entrepreneurial skills. Specifically, empowering women through microfinance will create a positive impact that indicates women empowerment. This is the main assumption of the study that were backed up by facts and previous studies related to it. The result revealed that the motivating factors for the participants to join microfinance program was individual business loan, educational loan and health insurance. Women who have access to credit loans established their own business and operate by themselves.

Moreover, the result of descriptive-comparative analysis between social and economic aspect was measured by its indicator. The findings show that there is significant difference in social aspect across three indicators and it was found that legal awareness was the most empowered among the three indicators. In economic aspect, it was found out that there is significant difference in the mean empowerment ratings of the three indicators and revealed that economic security and entrepreneurial skills were the most empowered indicators.

### **The Correlation between the Newest Personal Income Taxation and Worker's Annual Income under the Tax Reform for Acceleration and Inclusion Law**

*Angela Kate C. Dalluay, Marione Alia G. Fauni, Mary Angeline M. Javier, Christy Ann Faye T. Leonzon, Christian Andrei G. Narito, King David L. Ostan, Alex Mathew G. Reyes and Ms. Kianna Alzina V. Diocales*  
*Emilio Aguinaldo College*  
*dalluaykate@gmail.com*

National Tax is a tool used by the government in order to generate funds for providing services to the people and a means of avoiding economic inequality. This research aimed to know the level of relationship between the newest income taxation and worker's annual income in Dasmariñas City under the TRAIN Law. Using the correlational design as the strategy, the study gathered data from 100 participants through means of survey questionnaire which is solely created by the researchers. Fleiss Kappa Coefficient is used to assure that the instrument administered is reliable and valid wherein the result shows both substantial agreement ( $K = 0.62$ ,  $K = 0.70$ ). Furthermore, this study does not reject the alternative hypothesis due to the fact that there is a strong positive relationship between the variables ( $r = 0.717$ ). Hence, this study points out that there is a direct association between the newest personal income taxation and worker's annual income under the tax reform for acceleration and inclusion law.

*Keywords: Monetary Institutions, Revenue, Minimum Wage, Tax System, Inflation*

### **An Assessment On The Operational Hazard Reporting System Practices In Naval Air Group**

*Dennis Sison Resuello*

*Philippine State College of Aeronautics*

*dencio2k1@gmail.com*

The Naval Air Group Operational Hazard Reporting System is an important integral part of the Naval Aviation Safety Program in particular and the Philippine Navy Safety Program in general. It is characterized by a proactive way of addressing operational hazards that poses great risk and threat to the organization's two most important assets – its personnel and equipment.

However, this proactive system has plague by controversy of ineffectiveness because of the wrong perception brought about by alleged wrong safety culture in NAG, as evident of only four reported OHRs per year in the NAG Aviation Safety Office in the past two years.

This paper then is geared to assess the safety reporting culture of NAG personnel, their safety practices and perception on safety culture by way of improving the operational hazard reporting practices. NAG personnel from all ranks, specifically 120 participants coming from Field Grade Officers, Company Grade Officers, Non-commissioned Officers and Lower Four are involved in the study to assess their perception as regards to conditions of work assignment on different areas, the strength and weakness of the operational hazard reporting, and the alternative means that can be adopted for an enhance NAG operational hazard reporting system. Through the application of scientific research and descriptive methodology as well as with the aid of a survey questionnaire, the needed data were obtained to come up with a reliable result.

Collected data were interpreted statistically, and the following findings were derived: condition of work assignment in various areas in relation to hazard reporting practices affects the accomplishment of a given mission; policies in relation to hazard reporting practices must be strongly observed; hazard reporting practices being observed in NAG either provides as strength or weakness on the safety reporting culture of the unit; and alternative ways or methods of reporting hazard can served as a basis for the enhancement of NAG's operational hazard reporting system.

Subsequently, the following recommendations were raised: gender equality must be observed; the need for additional equipment and related items such as PPE, weather information sources, ground support equipments and runway lights; implementation and observance of policy in regards to hazard reporting practices and the need to update and review the organization safety policy on hazard reporting; the establishment and implementation of training on safety through initial and follow-up recurrency training; and the promotion of the alternative means of reporting hazard

### **Conducive Workplace, Beneficial Wage and Company Rewards in Relation to Quality Performance of Yazaki Workers in the City of Imus, Cavite**

*Julianne Rose B. Lim, Glenn Aldrin Macato, Lea Athena N. Marzan, Sophia Francine B. Mercado, Jerinhy Isobel R. Octa, Siara N. Yanoshita and Ms. Kianna Alzina V. Diocales*

*Emilio Aguinaldo College*

*leaathenammarzan@gmail.com*

Having quality performance is having accuracy, thoroughness and competence in the workplace. These traits result to well-developed productivity, time management, and work etiquette. This research focused on the relationship of conducive workplace, beneficial wage and company rewards relating to quality performance. This research wanted to answer if there is a relationship towards the variables stated and what type of relationship, they have with each other. The researchers used correlational research design to gain the answers to their questions. The researchers used non-probability sampling wherein the purposive sampling technique is used to gather 100 participants. The researchers give questionnaire to their participants, specifically the Yazaki workers. Furthermore, this research used one-way ANOVA as a statistical approach to analyze and to interpret the data that has been collected from the participants. Having the ( $P=0.18<0.05$ ), the researchers have concluded that there is a significant relationship among the three variables relating to the phenomena. Therefore, the researchers concluded that conducive workplace, beneficial wage and company rewards are related to one another to cause a certain phenomenon, which is providing quality performance of the workers.

**Keywords:** Company Rewards, Beneficial Wage, Conducive Workplace, Quality Performance, Etiquette

A-023

### **Blockchain Technology as a Competitive Advantage for Higher Educational Institutions in the Philippines**

*Marita T. Salandanan*

*Emilio Aguinaldo College—Cavite*

*Marita.salandanan@eac.edu.ph*

The research sought to determine blockchain technology as a competitive advantage to higher educational institutions in the country. It also aimed to find out the perception of respondents' awareness and relevance on the use of emerging technology. Furthermore, the study also wants to establish that blockchain is a foundational technology which will revolutionize the education industry.

The theoretical framework was taken from knowledge procurement cycle and distributed learning ledger. The conceptual framework revolved around how blockchain technology, built on Ethereum platform, will enhance the record keeping system on educational credentials.

To answer the statement of problems, frequency and percentage and weighted mean was used to know the degree of awareness as well as relevance of blockchain technology as a competitive advantage to higher educational institution in the Philippines. One-way ANOVA determined the significant relationship of respondents with regards to their awareness of blockchain. It was also utilized to find out the significant relationship of the technology as a competitive advantage over colleges in terms of cost and differentiation.

The results showed that students were the most aware while professors were the least aware of blockchain. Both null hypotheses were accepted, which means, there is no significant relationship on the respondents' perception with regards to their awareness on the use of this technology. The respondents considered the technology relevant. Blockchain serves as a foundational technology which will revolutionize the record keeping system in the education industry

The recommendations are: Students may harness their skills because of the abundance of work in this field. Administrators may coordinate with free providers of blockchain training and may be part of the faculty development of professors.

EduChain Activity Flow Model is recommended to enhance the efficiency of recordkeeping system of schools. Government agencies may coordinate and collaborate with educational institutions, entrepreneurs to enhance the use of blockchain. Future researchers are encouraged to study other aspects of blockchain in the education industry.

Keywords: blockchain in education, distributed ledger, blockchain technology, nascent technology, EduChain Activity Flow Model. record keeping credentials.

A-024

### **Perpetration of Air-ink: An Experimental Study on a More Convenient Way of Converting Polluted Air from the Vehicle's Exhaust Pipe into Ink**

*DE LEON, JOSEPH M., ALMADEN, KATRINA MA. DESIREI C., BENGIL, JANUS NINA BLAIRE C., BERONILLA, MIKAELA F., CASTILLO, ANGELO GENO N., CATADA, SHAIRALYN G., PANGAYAN, KARLO ENZO N., PENAFORT, COBIE-RYAN C. ROMERO, EANA ANGELA B., RENEE GUIRAO*

*reneemanaloguirao@gmail.com*

This study was conceptualized to determine the convenient way of converting polluted air collected from the vehicle's exhaust pipe into a more useful object such as ink. Air pollution has caused numerous of unexpected death due to particle exposure which is the soot. This issue paved way to the creation of air-ink done by a group of innovative scientists from India with the use of their proprietary device called Kaalink designed to catch pollution emitted from the vehicle's tailpipe. This study also sought to lessen the circulation of air pollution as well as to reduce the harmful conventional production of ink. However, the previous study lack on determining the effectiveness of converting polluted air into ink in a more convenient way which is the objective of this research. The whole process was conducted under the grounds of Emilio Aguinaldo College-Cavite with the participation of Senior High School Grade 12 STEM students. The entire procedure was carried out quantitatively under Experimental design with the use of Observational Test for data gathering. The interpretation of the ANOVA Test has shown the relationship of each trials in terms of its varying results and its computed P-value of 0.03044 which indicated its statistical significance. Based on the findings, the researchers concluded that there is a significant difference among the trials given that the P-value has not exceeded more than 0.05 and it showed variation on the opaqueness of the ink. They also concluded that the device used in catching air pollution was effective as it successfully filtered and collected the particulate matter out of the exhaust pipe.

A-025

**Syllabus Enhancement and Training Plan for Junior Business Administrators as a Basis for Intervention on Writing Research in Global Standards**

*Randy Joy M. Ventayen*

*Dean, College of Business and Public Administration, Pangasinan State University, Lingayen Campus  
rventayen@psu.edu.ph*

Feasibility Study and research writing is one of the important competencies that is needed in order to project a successful project such as business sustainability and overcoming problems in operations. The Pangasinan State University, Lingayen Campus which offers BS Business Administration are encouraged to develop a feasible project to prepare them in the industry. This study aims to determine the difficulties of junior business administrators in writing a research paper and a feasibility study. It also aims to provide intervention through a proposed training plan and suggested syllabus enhancement. The fourth-year graduating students are the respondents of the study, a self-made validated questionnaire based on the five feasibility criteria and outline of the research paper was utilized to measure the difficulties of students in writing research. The result shows that majority of the respondents has weakness in the preparation of Financial Statements such as Income Statement, Balance Sheet and Cash Flows. Another weakness of the respondents is most of the part of the Market Study. After the training plan, the result shows that the majority of the respondents improved their own skills in the market, financial and most of the research writing content. It is recommended that the training plan should be conducted yearly to improve the competencies of future students and be adopted by other campuses or State Universities in the Philippines as a basis for syllabus enhancement in Research Writing and Feasibility Study writing.

*Keywords – feasibility study, training plan*

A-026

**Development of the Spaceport Layout Design for the Philippine Space Agency in Balabac, Palawan**

*Sherwin R. Trinidad*

*Philippine State College of Aeronautics  
strinidad@aliac.edu.ph*

In the advent of the Philippine Space Agency, the researcher accepted the challenge to come up with a Spaceport Layout Design. Consequently, the first part of this study focused on proving the suitability of Balabac, Palawan as the proposed location for the first spaceport in the country while the second part concentrated on developing the design criteria. With secondary data derived from analyzing active spaceports worldwide, the final criteria which were tailor-made for the Philippines setting, were crafted through the incorporation of responses received through interviews and exchange of emails with highly qualified local professionals in the field of Aerospace Engineering, Astronomy and Space Science. Furthermore, the culminating stage of the study was devoted to the application of the design criteria. Hence, using SketchUp Pro, a digitized model of the Spaceport Layout Design in Balabac, Palawan was presented in the study.

A-027

**Best Practices of Employee Credit Cooperatives in the City of Dasmarinas, Cavite**

*Shaira Fernandez, et al.*

*Emilio Aguinaldo College—Cavite  
shairafernandez2917@gmail.com*

Credit cooperatives has been one of the sources of financial services to low income people in many countries as well as the Philippines. In this study, the goal is to know the differences among credit cooperative that operates in the City of Dasmarinas, Cavite in terms of privileges, programs offered to each member, and to determine the frequency level on common practices of three credit cooperatives. A total of three general managers was selected by the researchers using purposive sampling. This study used self-made survey questionnaire to assess the best common practices of each organization. The respondents are composed of one male and two females. The result from ranking of shared of shared practices depicts that dividends, quick loan, and emergency loan is the most observed privileges and programs offered to its members since it is ranked as number one. On the other hand, the options provided by the researchers to the survey questionnaire in determining the amount of loan to be granted is sometimes observed with an average answer of 1.59. In accordance to that, the research also implies that a member who is capable to fulfill his/her obligation to the cooperative must submit a certification of their source of income is also sometimes observed by the Cooperatives with the mean of 2.



A-028

### **Effective Marketing Strategies that attract customers of food park in Imus Cavite**

Emilio Aguinaldo College— Cavite

*Exequiel Dionisio*

*Adonna Samala*

Millennials today are very impressive, apart from that, many of them are struggling to find a way to cope with tension. The first outlet they usually go to is food. The second one is a place where they can have social relationships with friends as they enjoy eating with others and not alone. Food Parks were introduced to a new concept of dining in the Philippines. They offer different dining atmospheres in food parks. Food parks are just like a court of food, but they're outdoors. You can admire and observe the environment, and you can also see other interesting businesses inside. Now, the food park craze is in full swing and seems to be the hardest of all phenomena.

The research design of this study is quantitative, the purpose is to define the relation between a population variable independent and another population based or outcome variable. Quantitative research projects are either informative topics that are usually evaluated once or experimental topics that are tested before and after treatment. The study conducted in food parks in the City of Imus, Cavite. The respondents for this study are 135 customers of food parks. It is for this reason that they experience these products and services given by the stalls in the food parks. The researchers used a self-made survey questionnaire. Researchers go to the food parks in Imus, Cavite at least 3 to 5 days every peak days of the week, which are Friday, Saturday, and Sunday. The researchers used a random sampling technique for this study in which the respondents are chosen by chance, the respondents serve as the unbiased representation of the corresponding population. After the data has been retrieved, the researchers collected, collated, tallied, tabulated, and subjected the data for analysis to determine the best strategies that attract customers. To answer the statement of problems, the following statistical methods are used: frequency distribution, percentage distribution, ranking method, weighted mean and Likert scale. Level of Likelihood in the effectiveness of these strategies. As per the results, it shows that customers will surely patronize and eat again to the food parks because the strategies are very well executed.

The researchers conclude that proper implementation of the strategies can create customers loyalty. This study is very important for people who plan to have a business. This research is intended to contribute to business success in terms of strategies and customer attraction. This also lets the food parks' owners build a business marketing policy, how they attract more customers, how they create customer loyalty, and how facilities are enhanced in the organization.

A-029

### **Application and Technology Integration among Business Educators in Teaching Business Courses**

*Cliff Ervin V. David*

*Faculty, Business Administration Program, Pangasinan State University, Lingayen Campus*

*cdavid@psu.edu.ph / 09186200902*

The use of modern technology, such as mobile devices, has become a pivotal part of the learning and teaching process. Every class usually uses some form of technology to deliver lessons in a modernized way because it has been used to both help and improves learning. Technology integration should be applied in all education levels not only in primary and secondary but also in tertiary education. This study aims to determine the technology integration and practices among business educators teaching business courses, specifically in the tertiary education. It also determines the practices of educators in a developing country where internet connectivity is an issue. The respondents for this research was the tertiary educators. The questionnaire was randomly distributed to the respondents who qualify based on the given criteria. The results of this study show that technology-based teaching is more effective compared to the traditional classroom in tertiary education and in teaching business courses. Tertiary educators teaching business related courses integrate ICT in teaching and learning despite challenges such as neutral support from the administrators and a mild access related problem that could hinder the educators from fully utilized ICT resources.

A-030

### **Effectiveness of watching Korean drama in buying behavior of Business Administration**

*Denise Margarette Santos, Joseph Ariola, Mike Kenneth Roblea, Daniel Jonas Martin*

*Emilio Aguinaldo College - Cavite*

*jm634477@gmail.com*

Watching Korean drama have become increasingly popular here in our country nowadays that it affects our social, cultural and economic needs. It becomes a potent vehicle for businesses here in our country and it serves as a foundation for a better economy. Its main goal is to form an organization where entrepreneurs can make their ideas turn into ventures since it has a long term effects on the viewers. Those ideas and inspirations have been the foundation of korean ventures of entrepreneurs these days., This paper presents the result of our research. Based on the statistics, most of the respondents are female and they preferred watching movie and korean drama that it affects their buying behavior. It also has a significant relationship between the profile of the respondents and the buting behavior.

To this ends, the results shows that the respondent more likely female because female preferred watching while male prepared playing games or online games. Also watching movies become trendy to the respondent which makes the Korean drama movies become popular to them. The results between the profile of the respondents and their buying behavior shows that watching preference of the viewers affect their lifestyle and culture.

A-031

**Bike Lane: Emerging Need of College Students for Mode of Transportation in the City of Dasmariñas**

*Marchie Vald V. Limenzon, Carlos John D. Catacutan, Jose Paulo S. Ong, Katrina B. Portugaliza*

*Emilio Aguinaldo College—Cavite*

This research was mainly focusing on the desirability of college students in using a bike as a mode of transportation. The main problem of this research is if the advantages and hindrances may affect the desirability of the college students in using a bike lane. The researchers conducted a survey to the college students in Emilio Aguinaldo College - Cavite and Health and Science Institute with 383 respondents. The proponents of the study asked students some questions through survey primarily their desirability in using bicycle as alternative mode of transportation. That way, the study would have crucial information knowing that people would love to use bicycle if they will be given the opportunity to do so.

A-032

**Soft-Skills for Entrepreneurship of EAC-C Bachelor of Science in Business Administration Students**

*Jaycer Val C. Arre, Richie Dematera, Rolando John Rafael*

*Emilio Aguinaldo College—Cavite*

This research was mainly focusing on the soft-skills used by Business Administration (BA) students of Emilio Aguinaldo College - Cavite (EAC-C) in terms of teamwork, leadership, critical thinking and communication skills. The main problem of this research is to know what soft-skills of students must be improved that they needed for entrepreneurship. The researchers conducted a survey to (BA) students and entrepreneurs that consisted of 46 participants, there were 14 students in 3rd year and 9 students in 4th year total of 23 students taking BSBA program of all currently active majors since, 1st sem of 2019 - 2020. Correspond with 10 entrepreneurs at Robinson place Pala-pala, 5 entrepreneurs along Emilio Aguinaldo Highway and 8 entrepreneurs at Dasma Bayan with total of 23 entrepreneurs. This quantitative study determined that the highest weighted mean of the soft-skills was teamwork which shows that students learned teamwork at the young age when playing outdoor activities with their peers, through collaboration and interaction with others. Children adopt the skills that they used inside the classroom. It is recommended that the respondents should take more time to improve their soft-skills.

Keywords: Soft-skills, Teamwork, Leadership, Critical Thinking, Communication skills

A-033

**Acquisition of Knowledge and Practice of Sangguniang Kabataan Officials on Department of Interior and Local Government Mandatory Training**

*Bea Liza S. Madrid, Mikko D. Manlincon, Maria Kristina P. Zaratan, Gener Denzel B. Andaya, Menard P. Nava*

*Bachelor of Public Administration Students, Pangasinan State University Lingayen Campus*

*Bachelor of Public Administration Faculty Member, Pangasinan State University Lingayen Campus*

*Lingayen, Pangasinan, Philippines*

*mnava@psu.edu.ph / 09186200902*

The Republic Act 10472 or the "Sangguniang Kabataan Reform Act of 2015" provides Mandatory Training for SK Officials as one of its key reforms. The SK Officials should undergo the training before he or she can assume office. This study determined the acquisition of knowledge and practice of SK Officials on the Mandatory Training. The study has a research design of descriptive survey and descriptive normative, and it used questionnaire and test examination as data gathering instruments. The SK Officials of the barangays with the highest population in each municipality under the second district of Pangasinan served as the respondents. The gathered data are analyzed with frequency, percentage, descriptive rating and ranking as statistical tools. It was found out that most of the SK Officials are 18-21 years old, male, single, college graduate, without family members who have political background and new in politics. The study revealed that the over-all score of SK Officials in terms of knowledge acquisition is 31-40 which means that the SK Officials are highly knowledgeable. As per topic, the SK Officials are very highly knowledgeable in code of conduct and ethical standards, while knowledgeable in decentralization and local governance, SK history and salient features, meetings and resolutions and planning and budgeting. The SK Officials practices in general the attendance and participation to SK-related trainings. Further, the SK Secretary practices the preparation of notice and minutes of the meeting, while the SK Treasurer submits financial-related reports to Local Youth Development Office. The problem met by the SK Officials is on the consideration of other topics for the training. The researchers recommended that the Department of Interior of Local Government (DILG) should conduct an assessment on topics needed with the SK Officials. The other findings should be highly considered for DILG's training program development.

A-034

**Development Orientation of Parliamentary Procedures of the Barangay Officials in Lingayen, Pangasinan**

*Eunice V. Valdez, Jillie Castro, Jessica V. Fernandez, Desiree Joy F. Cagaoan, Jandy Z. Cacapit*

**Administration Program, Lingayen, Pangasinan**

*jcacapit@psu.edu.ph / 09186200902*

The aim of this study was to measure the development orientation of parliamentary procedures of the barangay officials in Lingayen, Pangasinan. This study determined the profile of the barangay officials in terms of age, sex, civil status, educational attainment, position, years in service, and number of trainings attended related to parliamentary procedures, and the profile of the Sangguniang Barangay in terms of schedule of sessions, number of sessions conducted per year, number of resolutions approved, and number of ordinances passed for the past three years. Descriptive method was used as the research design, and the respondents of the study are 100 barangay officials from the top 10 most populated barangay in Lingayen, Pangasinan. A test question and a checklist was used as the instrument for data gathering. Frequency and percentage were used in determining the application of knowledge of barangay officials in the conduct of parliamentary procedures. Based on the findings, the study revealed that the Barangay officials are knowledgeable in the conduct of parliamentary procedures, and the main problem encountered is the nonattendance of some barangay officials during sessions. With thorough analysis of findings of the study, the following recommendations were conceptualized as follows: The Local Government Unit should monitor the Sangguniang Barangay on the proper conduct of parliamentary procedures as stated at the Local Government code, there should be additional seminars or trainings for barangay officials regarding parliamentary procedures, strict attendance of barangay officials during sessions should be enforced, and disciplinary actions to nonattendance of barangay officials during sessions should be strictly implemented as stated at the Local Government Code.

*Keywords – parliamentary procedures, sangguniang barangay, barangay officials*

A-035

**Electronic Aircraft Documentation: Inputs to Aircraft Maintenance and Airworthiness**

*Gilbert C. Bernardino, Alfredo M. Joson*

**Philippine State College of Aeronautics**

*gilbert.bernardino06.gb@gmail.com*

The purpose of this study is to know the factors to consider of Philippine Aviation Industry on Technical Aircraft Documentation processes pursuing the applicable type of operations on specified airline as they implement the technology of Electronic Aircraft Documentation in Aircraft maintenance operations in relation with its airworthiness condition. Whereas maintenance and engineering personnel will be knowledgeable about the inputs of Aircraft Electronic Documentation technology on aircraft maintenance, as well as, the practices that should be applied when performing maintenance task in a good quality of work in accordance with the regulations of an Civil Air Authority pertaining to the procedures indicated on the applicable manual as depends on the type of task to perform.

As Aviation Industry rises, air transport is the most efficient mode of transportation. However, due to the high demand of flights, airline tend to make the flight target achieve on time without any trouble, wherein Aircraft Maintenance sets as the barrier concerning with the airline goal to have the said-on time flight target. When trouble and/or defects occur, discrepancy on aircraft could be the factor in airworthiness of an aircraft which determined the aircraft's airworthiness condition. Nonetheless, Airline has concern with the discrepancy on aircraft documentation itself and its processes.

*Keywords - Aircraft, Process, Documentation, Aircraft Maintenance*

# ABSTRACTS

## CLUSTER 5

ECE/Engineering/  
Biomedical Sciences

EC-001 (CANCELLED)

EC-002

### **Design and Development of Re-engineered Cross-platform Calendar: An Application of Smart Technology**

*Almar Pasyon, Randolph Santos  
Emilio Aguinaldo College Cavite  
eacc.research@eac.edu.ph*

The focus of the research design is on the development of smart calendar application, which provides the user with an optimized schedule, taking into considerations other constraints like appointment schedules, durations and locations of the activities, modes of travel and its distance. The value proposition of this application is to fill the needs of having a tool that calendars and optimizes the schedule of a user to be more productive by focusing on the tasks at hand, and not be burdened with the details of scheduling. The absence of any schedule are as follows: to optimize schedules taking into account various user constraints as well as other information like location of activities, their duration, and travel times depending on the mode of transportation; to provide access to which can be used via a web and/or through a mobile mechanism.

*Keywords: smart technology, cross-platform calendar, optimize*

EC-003

### **Utilization of Microcontroller-based Automatic Face-recognition Attendance System using Arduino and Global System for Mobile**

**Vernon Avila**  
*Emilio Aguinaldo College Cavite  
eacc.research@eac.edu.ph*

The utilization of the project will deliver assistance to the School of Engineering and Technology in monitoring the attendance of their students. For this experiment, select computer engineering students, computer engineering faculty members and parents or guardians of the computer engineering student-respondents are being considered to evaluate the efficiency, accuracy, and functionality of the microcontroller based automatic face recognition attendance system using Arduino and the Global System for Mobile Technology. This will bring also opportunities to the faculty and student researchers not only in the school of engineering and technology of the college but to the entire school premises to conduct research utilization or transfer of technology with regards to their research and creative works. The device is implemented to find out if these parameters are being addressed: efficiently record the students' attendance; accurately determine the attendance of the students; and improve student's attendance monitoring system. With the emergence of this technology, computer engineering students taking capstone design or project courses will be enthralled to conceptualize designing simple projects with the integration of new technologies.

*Keywords: automatic face-recognition, attendance system, Arduino*

BS-001

**In Vitro Activity of Silver Ion Derived from *Perna viridis* (Green Mussel Shell) Against Extended Spectrum Beta-Lactamase Producing *Klebsiella pneumoniae***

*Meara Abiog, Ronnel Costa, Charlene Alano, Jean Desiree Menil, Christine Joy Pangilinan and Dr. Supachai Basit  
Supachai.basit@eac.edu.ph*

This study was conducted to determine the in vitro activity of the chemically synthesized silver ion derived from the *Perna viridis* also known as the green mussel shell, against the clinical isolate Extended Spectrum Beta-Lactamase producing *Klebsiella pneumoniae*. The characterization of the silver ion was performed by Fourier transformed infrared spectroscopy (FT-IR). Susceptibility testing of ESBL-KP with the silver ion was done through tube dilution method along side with the positive and negative control Amoxicillin-clavulanic acid and Gentamicin, respectively. The result indicates that the silver ion was able to inhibit the growth of ESBL-KP with an MIC and MBC of 0.125 mg/mL. Thus, this study confirms the potential usage of GMS in addressing the preponderance of multidrug resistant bacteria such as Extended Spectrum Beta-Lactamase producing *Klebsiella pneumoniae*.

BS-002

**Exploring the Grassroots: Predictors to Alleviate Insomnia and Effectiveness of Headspace's Sleepcast**

*Bacani, Cielo Marie F., Sta. Ana, Alexandra Abigail H., Almoete, Aubrey P., Barbo, Joshua B., Calumpita, Hazel Joy S., Ferrera, Isabela D., Seron, Paul Mikko J., Torres, Micaela M., Villareal, Frank C.  
bcielomarie@gmail.com*

Insomnia is one of the prevalent phenomena in this fast-growing society. This refers to the struggle in sleeping. The study subjects to assess the effectiveness of using Headspace's Sleepcast as a meditation application and to determine the grassroots predictors concerning the alleviation of the students' insomnia. Also, this aims to address the mean scores of the intact group in the seven-day test during the implementation of the intervention; to know if there is a significant interaction in the seven-day test after using the application, and lastly; to determine the modalities concerning the alleviation of insomnia of the students. Purposive sampling was utilized in gathering participant who are qualified for the study. Moreover, to specifically obtain the five participants, convenient sampling was used. Two-way ANOVA with replication was used to interpret the data collected. Findings have shown that: the significant interaction between the time span of sleep and the factors of daily activities of the participants is 0.231398436; the five grassroots predictors are productiveness, easefulness, concentration, balanced mood, and mindfulness. It is suggested that students should possess the predictors in order to make the meditation application effective.

*Keywords: alleviate, grassroots, Headspace's Sleepcast, insomnia, meditation, predictors*

BS-003

**THE EFFECT OF E-CIGARETTE ON THE SALIVARY FLOW RATE AND SALIVARY pH OF VAPE USERS IN DASMARIÑAS CITY, CAVITE**

*Frances Adour A. Bayot, Mikee De Guzman and Beda J. Igasan  
Emilio Aguinaldo College- Cavite*

Electronic cigarette or commonly known as Vape/ E-Cigarette has grown exponentially over the past few years with millions currently using them. The study aims to determine the changes in specific biomarkers in saliva during stimulated and unstimulated situations, when an individual is subjected to using E-cigarette. There were 30 respondents aged 18-45 years old in Dasmariñas City, Cavite, 15 active vape users and 15 non-vape users. Spitting Method was used to collect saliva samples. For stimulated saliva collection, all the participants were asked to chew orthodontic bands to stimulate saliva secretion. A one-hour interval between unstimulated saliva collection and stimulated saliva collection was done. Salivary flow rate was measured from the volume of saliva (ml/min), while salivary pH was measured using a calibrated pH meter. Active vape users showed a statistical increase in the salivary flow from a mean of 0.44mL/min to 0.78mL/min and statistical decrease in salivary pH from a mean of 7.64 to 7.37. For non-vape users, salivary flow rate demonstrated an increase from a mean of 0.71mL/min to 1.29mL/min and an increase in salivary pH from a mean of 7.33 to 7.41. There is no difference on the stimulated and unstimulated between salivary flow rate of vape users and non-vape users. A statistical difference between stimulated and unstimulated of salivary pH of vape users and non-vape users was found. In this study, it was concluded that the long term use of e-cigarettes eventually will have an effect on the normal physiologic salivary flow rate and pH of active users, decreases the strength of the tooth enamel and attracts more cavity-causing bacteria to the teeth making it more susceptible to tooth decay.

*Keywords: Vape, Stimulated Saliva, Unstimulated Saliva*



BS-004

**IN VITRO ACTIVITY OF BIOSYNTHESIZED CHITOSAN EXTRACTED FROM *Ganoderma lucidum* AGAINST METHICILLIN-RESISTANT *Staphylococcus aureus***

*Jesumariae C. Caranto, Patricia Oly Mae L. Eparwa, Rose Jenine Apunar, Dana Armina Ramos and Dr. Supachai Basit  
Emilio Aguinaldo College—Cavite*

The rise of antimicrobial resistance is a continuing threat in healthcare. In recent studies, Methicillin-Resistant *Staphylococcus aureus* (MRSA) has been commonly isolated multi-drug resistant bacteria among immunocompromised patients. As a result, efforts are required to discover new antibiotics from alternative sources such as plants, fungi and other organisms. In this study, chitosan derived from *Ganoderma lucidum* and its antimicrobial property is compared with the antimicrobial properties of Vancomycin against MRSA. The mycelia of *Ganoderma lucidum* were dried, treated and chitinous material from *Ganoderma lucidum* were deproteinized and deacetylated using NaOH in different concentrations at varying temperature within indicated time. The extracted chitosan was then further purified and was verified using FT-IR Analysis. The antimicrobial properties of extracted chitosan were compared with Vancomycin using microbroth dilution assay wherein MRSA was subjected to extracted chitosan and Vancomycin at different concentrations. Results showed that the percent growth inhibition of extracted chitosan is comparable to Vancomycin against MRSA ( $p < .05$ ). This study affirms that potential usage naturally extracted chitosan from fungus as a potential agent against multidrug resistant bacteria such the MRSA.

BS-005

**The Efficiency of Coconut (*COCOS NUCIFERA*) Shell and Husk as Alternative Cement**

*Ricohermoso, Andrei Yvone R.; Encallado, Mae Niezel Nicol B.; Lesigues, Richard Kyle S.; Narvaez, Emmanuel D.; Porras, Arrah Jares R.; Rubio, Harrold Dave D.; Tan, David Lian M.; and Ms. Guirao, Renee M.*

*Emilio Aguinaldo College—Cavite  
Ricohermosa.andreiyvone@gmail.com*

This study was conducted to determine whether coconut cement can be an effective alternative to commercial cement, providing a method to recycle one of the top contributors to the agricultural waste of the Philippines with the utilization of leftover coconut shells and husks as concrete (Zafar, 2019). The mixture of both shell and husk was composed in order to balance the coconut fibers' corrosiveness (Ramli, Kwan, & Abas; 2013) with the coconut shell's modulus properties. The tests used included a drop test and a water-absorption test, with data verified through T-test and ANOVA. By creating concrete out of the coconut shell and husk, they compared the prototype to commercial concrete in terms of durability, permeability, and cost. During the drop test, the prototype has retained its full weight unlike the commercial cement; establishing the prototype's superiority in durability. Another drop test was conducted with three subjects made from the shell-husk mixture, differing in ratio. The ANOVA has proven the difference in strength of the trials to be not significant. In the water-absorption test, the prototype hardly increased its weight after a 50-minute timeframe, proving it to be less permeable. The coconut cement has surpassed its commercial counterpart in durability, permeability, and production costs. The study has verified that coconut shells improve the concrete's quality, despite the fibers' corrosiveness. The findings of this study are significant to future infrastructural development, as the shell-husk mixture is proven to be an efficient alternative to commercial cement. With proper utilization of the coconut cement, future infrastructures are to be of higher quality than previous structures.

**Keywords:** agricultural waste, coconut cement, commercial cement, corrosive, cost, drop test, durability, shell, fiber, permeability, water absorption test

BS-006

**EFFICACY OF CURCUMA LONGA AND ZINGIBER OFFICINALE EXTRACTS AS ANTIBACTERIAL AGENTS AGAINST STREPTOCOCCUS MUTANS**

*Nicole Kelsey V. Pepa and Beda J. Igasan  
Emilio Aguinaldo College—Cavite  
nicolekelseypepa@gmail.com*

Dental caries is said to be the most prevalent chronic disease of people worldwide (Kapinski, 2013). Preventing the onset of this disease in the oral cavity is through proper oral hygiene which can be achieved through tooth brushing, flossing and the use of mouth rinses. Mouth rinses are either chemically made such as Chlorhexidine gluconate and Polyhexa-methylene biguanide hydrochloride or from naturally occurring plants with antibacterial property. This study was conducted to determine the antibacterial efficacy of *Curcuma longa* (Turmeric) and *Zingiber officinale* (Ginger) against common oral pathogen, specifically *Streptococcus mutans*. The essential oils of both turmeric and ginger were extracted by steam distillation technique and the zone of inhibition was measured using the agar well diffusion method. Results showed that there is a minimal significant difference between *Curcuma longa* and *Zingiber officinale*. The study also concluded that both *Curcuma longa* and *Zingiber officinale* essential oil extracts contain minimal antibacterial potential compared to commercially used mouthrinses with 0.12% chlorhexidine. Despite these results, the study showed that *Curcuma longa* has a higher antibacterial activity than *Zingiber officinale*. Additional in vitro studies must be considered to further assess the antibacterial abilities of these two plants.

**Keywords:** Chlorhexidine, Steam Distillation Technique, Agar Well Diffusion Assay, Zone of Inhibition.

BS-007

**DIAGNOSTIC UTILIZATION OF URINE 1, 5 – ANHYDROGLUCITOL AS A NON-INVASIVE PREDICTOR OF SERUM 1, 5 AG IN DIAGNOSIS OF TYPE II DIABETES MELLITUS USING ENZYME LINKED IMMUNOSORBENT ASSAY (ELISA)**

*Charles Andrew Vasquez, Melyn Besana, Alex Nicole Bolaños, Kristal Claire Guevarra, Ma. Kathrina Ballentos, Pamela Rose Bremner and Dr. Supachai Basit  
Emilio Aguinaldo College—Cavite  
charlesandrewvasquez@gmail.com*

1,5- Anhydroglucitol (1,5-AG), a naturally occurring polyol, is a stable biomarker that detects the hyperglycemic excursions of diabetic patients. Diagnosis of type 2 diabetes mellitus is based on the measurement of the concentration of 1,5-AG in the blood (serum 1,5-AG). A significantly lower concentration of serum 1,5-AG is seen in diabetic patients versus normal and healthy individuals. Current methods of screening involve an invasive method through extraction of blood sample. In this study, concentration of 1,5-AG in urine (urine 1,5-AG) is explored as a proxy for serum 1,5-AG. This is valuable in order to conduct non-invasive diagnostic tests for type 2 diabetes mellitus. Urine and blood samples from 44 individuals were gathered for this research. Half of the group is comprised of individuals diagnosed with type 2 diabetes mellitus, while the other half is composed of individuals who have not been pre-diagnosed with type 2 diabetes mellitus to be used as control. The blood and urine samples obtained were analyzed for 1,5-AG concentration using an ELISA microplate reader with a wavelength of 450 nm. Simple linear regression was used to determine correlation. From the results, urine 1,5-AG showed positive correlation with serum 1,5-AG in diabetic patients. The study finds that urine 1,5-AG may be a non-invasive predictor of serum 1,5-AG in diagnosis of type II diabetes mellitus.

**Keywords:** Type II Diabetes Mellitus, 1,5- Anhydroglucitol (1,5-AG), ELISA, HBA1C



# Directory of Participants

## EDUCATION/PROFESSIONAL

NAME	AFFILIATION	Email Address	Mobile Number
BITERA, MA. XENIA Z.	Lyceum of the Philippines University Batangas	xeniabitera@gmail.com	09998892578
CAMARA, EVELYN and MINIE ROSE C. LAPINID	Bulacan State University / DLSU MANILA	evelyn_camara@dlsu.edu.ph / minie.lapinid@dlsu.edu.ph	09262353278
DOLOT, JOSELITO A.	Lyceum of the Philippines University Batangas	jadolot@lpubatangas.edu.ph	09258030380
GARCIA, MARK SYLVESTER P.	Laguna State Polytechnic University	marcsylvester.garcia@gmail.com	09368345582
GARCIA JR., ULYSSES S.	Far Eastern University — Cavite	usgarciajr@gmail.com	09270568022
LIRA, PRINCESS G.	Bulihan National High School	lira.pg@pnu.edu.ph	09279658550
MACK, KIMBERT	Emilio Aguinaldo College — Cavite	Kimbert.mack@eac.edu.ph	09294612880
CAMPAÑA, MARK JAYSON	Emilio Aguinaldo College — Cavite	markjaysonmendozacampa-na@gmail.com	09463287767
SIBBALUCA, BRANDON G.	Emilio Aguinaldo College — Cavite	Brandon.sibbaluca@eac.edu.ph	09171505678
MAUHAY, ROMANA CELESTE A.	Lyceum of the Philippines University Batangas	romanaceleste@yahoo.com	09475209474
VILLENA, ARNIE CHRISTIAN D.	Lyceum of the Philippines University Batangas	-do-	-do-
PELAEZ, SARA JANE ELAINE P.	Caigdal National High School	Sarajaneelaine24@gmail.com	09283150090
PUTONG, CYFLOR E.	Silliman University	cyflorepotong@su.edu.ph	09568836210
RAMOS JR., RAFAEL C.	Caigdal National High School	rafael.ramos.@deped.gov.ph	09284037498
SARMIENTO, ARVINA S.	Mabalacat City College	inadavid@rocketmail.com	09276093139
SOLINA, ALFE M. and CRISTAL, BABY KHAREN A.	Cavite State University, Imus Campus	alfemsolina@yahoo.com / babykha-rencristal@gmail.com	09178360166/ 09362738375
SOLON, JOHN PAUL T.	Bulihan National High School	ferjohn_2007@yahoo.com	09998266829
MORENO, RAMIL P.	San Jose Community High School	ramil.moreno@deped.gov.ph	09501232328
LAGUNA, MARY JANE M.	Governor Ferrer Memorial National High School	Maryjane.laguna@eac.edu.ph	09213021252
TAGOLE, RUBEN M.	National University—Laguna	rmtagole@nu-laguna.edu.ph	
TERNIDA, ORLANDO A.	Bulihan National High School	orlyternida@yahoo.com	09279658550
VICENTE, JOANA L. Yasol	National University—Laguna	joanna jlyvicente@gmail.com	09957695564

## EDUCATION / STUDENT

GERPACIO, DIANE GENESIS M.
MANCILLA, MARY FRANCE P.
PAGAL, ARIAN SHENE P.
PANGCO, KRYZHIA MARIELLE A.
MONSANTO, ANNA MARTHA C.
PASCO, MARIE CHRISTINE
HILL, MARISSA
MANANTAN, VIRGILIO
AYONAN, ROHANIAH

## EDUCATIONAL TECHNOLOGY / PROFESSIONAL

NAME	AFFILIATION	Email Address	Mobile Number
DIMAANO, MELODY R.	Lyceum of the Philippines University Batangas	mrdimaano@lpubatangas.edu.ph	09175041091
BOMBAES, ACE NAVEA	University of Perpetual Help System-Pueblo de Panay	bombaes_21@yahoo.com	09297110303
FUASAN, JERIC S.	University of Perpetual Help System-Pueblo de Panay		
LACHICA, CLYDE DREXLER	Delta Air International Aviation Academy		09366016592
NILOOBAN, ANN ARCISSA	Mauban, Quezon 4330 Philippines	annarcissa.nilooban001@deped.gov.ph	
SALDUA, MARIA JULIETA	Lyceum of the Philippines University - Batangas	masaldua@lpubatangas.edu.ph	09173018432

## EDUCATIONAL TECHNOLOGY / STUDENT

BUENAFE, RJAY VINCENT T.	LOYZAGA, EMMANUEL JONATHAN B.
ANDAYA, TRANX AERIES	PABATANG, MA. ISABEL A.
GLIPONEO, RYAN	RAYMUNDO, ADRIANA C.
MALUBAY, JOHN CARLO V.	RESURRECCION, INIGO MIGUEL P.
ABORDO, MARIA ZANDRA	RODRIGUEZ, CONRADO JOSE D.
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CRUCIS, JOSHUA JOY M.	LANDAGAN, RICHARD E.
CRUZ, YUANAH MARIE S.	LOYOLA JR., CARLITO O.
DOPLITO, JEROME VIC G.	NUGUID, MARIA LURLYN M.

## PSYCHOLOGY / PROFESSIONAL

NAME	AFFILIATION	Email Address	Mobile Number
DIOKNO, LAMBERT M.	Cavite State University – Cavite City	lambert_cvsu@yahoo.com	09178695773
DIOKNO, RICHEL P.	Cavite State University – Cavite City	c/o lambert_cvsu@yahoo.com	09178695778
PERLADO, LAARNI B.	Cavite State University – Cavite City	-do-	09353484428
DURAC, AILEEN A.	Cavite State University – Indang	aianacan@yahoo.com	09165806611
PETROLA, JOHN PAUL J.	University of San Agustin	jpetrola@usa.edu.ph	09985325314
BAUTISTA, JUNO C.	Emilio Aguinaldo College – Cavite	junocbautista@gmail.com	09556674461
AGRAVANTE, ZHARMINE D.	Emilio Aguinaldo College – Cavite	Zharmine.agravante@eac.edu.ph	046-416-43-41

## PSYCHOLOGY / STUDENT

ALCAZAREN, ALLAN DOMINIC	LOZANES, A.
AGUINALDO, APRIL EUNICE O.	MABANTA, A.
ANTHONY, RASHID VICKY	PAMPLONA, C.
TENA, A.	RICARDO, J.
BELTRAN, GLAIZA MARIE R.	ARCANGEL, K.
CAMANAG, ELAINE A.	DELA CRUZ, M.
LARDIZABAL, POLYNN GINGER P.	LINESES, F.
AMIHAN, CLARIBEL	

# BUSINESS/ ACCOUNTANCY / PROFESSIONAL

NAME	AFFILIATION	Email Address	Mobile Number
ABALES, MARIPOSA B.	Philippine State College of Aeronautics	mariposaabales@gmail.com	99489666636
ALMARIO, JHANICA	Philippine State College of Aeronautics	jtalmario@pal.com.ph	9178136819
BALTAZAR, GILBERT V.	Presidential Management Staff	gilbert.baltazar@pms.gov.ph	9273165937
CACAPIT, JANDY Z.	Pangasinan State University	jcacapit@psu.edu.ph	9186200902
CANINO, MANILYN A.	Philippine Association of Researchers for Tourism and Hospitality	manilyn.canino@gmail.com	9971722873
DAVID, CLIFF ERVIN V.	Pangasinan State University	cdavid@psu.edu.ph	9186200902
DE LEON, LIBERTY	Bases Conversion and Development Authority	libertypradodeleon@yahoo.com	9178867020
MAGNAYE, ALEJANDRO D.	Our Lady of Perpetual Succor College, Marikina	ad.magnaye@olopsc.edu.ph	9566720076
MALLARI, JOHN PATRICK T.	Philippine State College of Aeronautics	johnpatricktegelanmallari@gmail.com	9177712009
MENDOZA, GARRY D.	Philippine State College of Aeronautics	Garry.Mendoza@lht-philippines.com	9152673325
NAVA, MENARD P.	Pangasinan State University	mnav@psu.edu.ph	9186200902
RESUELLO, DENNIS S.	Philippine State College of Aeronautics	dsresuello@yahoo.com	9561985865
PASTOR, CHERISH KAY	Pangasinan State University	cpastor@psu.edu.ph	9186200902
RAS JR., SIXTO N. / Alfe M. Solina	Cavite State University Imus	rassixto@gmail.com / alfemsolina@yahoo.com	9277782133
SALANDANAN, MARITA	Emilio Aguinaldo College — Cavite	triamanta322@gmail.com marita.salandanan@eac.edu.ph	0915 231 4416
TRINIDAD, SHERWIN R.	Philippine State College of Aeronautics	strinidad@aliac.edu.ph	9285513973
VENTAYEN, RANDY JOY M.	Pangasinan State University	rventayen@psu.edu.ph	9178192454
GILBERT C. BERNARDINO	Philippine State College of Aeronautics	gilbert.bernardino06.gb@gmail.com	

# BUSINESS/ACCOUNTANCY/OTHERS/STUDENT

AFINIDAD, GELLI MAE S.
CORPUZ, MAR JHUN D.
FENANDEZ, IVY M.
GECOLEA, GEMMA RUTH C.
LACAP, KEN CRISHABEL B.
OLAZO, KYLA JANE G.
RAMIS, NICOLE ASHLEY
DIOCALES, KIANNA ALZINA V.
ALBARICO, HILLARY MAE
ERON. ERICKA JOY T.
FRANI, ANNE CLARISSE L.
GATCHALIAN, LANROSS C.
HERRERA, ANDREA MIGUEL R.
PERILLO, BERNADETH ALLAINE R.
VILLACERAN, APRIL MAE B.
ALDAVE, JOHN ANTHONY M.
CONDRADA, JEAN NICOLE S.
CASTILLIANO, KANE JIA B.
ALCANTARA, MIKEE D.
DAGARAG, OSCAR JR. A.
BAGO, REIZEL JOYCE M.
PEREZ, RUSSEL JAMES O.
DALLUAY, ANGELA KATE C.
FAUNI, MARIONE ALIA G.
JAVIER, MARY ANGELINE M.
LEONZON, CHRISTY ANN FAYE T.
NARITO, CHRISTIAN ANDREI G.
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ALMADEN, KATRINA MA. DESIREI C.
BENGIL, JANUS NINA BLAIRE C.
BUSARA, ABDUL RAHMAN D.
GERNALE, JENNIFER P.
INGRESO, CASSANDRA LAVERN P.
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TAMIL, SHANE STEVEN HAROLD G.
BONZO, ARLYN M.
CONDONAR, KENNETH FRANZ B.
CUIZON, MAUREEN D.
GUDAO, VIA ANDREAC.
PASCUA, JACHELLE T.
PILPIL, ANJELICA RAINE E.
WAJE, MAYOLITO C.
CONSTANTINO, GAIL T.
DE GUZMAN, MA. JASMINE J.
CARPIO, HEZEKIAH BRAY P.
DE GUZMAN, REYANNE JANE F.
MACAPAGAL, VINCE INIGO S.
RAVANO, KATRINA ANN A.
SILVA, PAUL EDISON E.
URRETE, MA. ANGEL JOAN
BARE, JAN TISHA S.
CABALFIN, ARON MORRIS G.
COLLAO, DIANA MARIE D.
CORTEZ, NELLISA F.
MADRID, GLEZZY MAE L.
PAALAM, AUDRY CASANDRA F.

BACANI, CIELO GRACE F.
DALAGUIT, ANGELYNNE MARIE G.
BERONILLA, MIKAELA F.
CASTILLO, ANGELO GENO N.
CATADA, SHAIRALYN G.
PANGAYAN, KARLO ENZO N.
PENAFORT, COBIE-RYAN C.
ROMERO, EANA ANGELAB.
GUIRAO, RENEE
LIM, JULIANNE ROSE B.
MACATO, GLENN ALDRIN
MARZAN, LEA ATHENA N.
MERCADO, SOPHIA FRANCINE B.
OCTA, JERINHY ISOBEL R.
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SAN JUAN, BOBZER L.
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NAFARRETE, HANNAH ELIJAH C.
VOLANTE, LORRAINE MARIE L.
DE LEON, JOSEPH M.

# ENGINEERING / PROFESSIONAL

NAME	AFFILIATION	Email Address	Mobile Number
ALNAR PASAYON	Emilio Aguinaldo College	eacc.research@eac.edu.ph	046 416 4341
RANDOLPH SANTOS	Emilio Aguinaldo College	eacc.research@eac.edu.ph	046 416 4341

# BIOMED / STUDENT

CARANTO, JESUMARIAE C.
EPARWA, PATRICIA OLY MAE L.
APUNAR, ROSE JENINE
RAMOS, DANA ARMINA
BASIT, SUPACHAI
ABIOG, MEARA
COSTA, RONNEL
ALANO, CHARLENE
MENIL, JEAN DESIREE
PANGILINAN, CHRISTINE JOY
BACANI, CIELO MARIE F.
ALMOETE, AUBREY R.
PORRAS, ARRAH JARES R.
BARO, JOSHUA B.
CALUMPITA, HAZEL JOY S.
FERRERA, ISABELA D.
RUBIO, HARROLD DAVE D.
TAN, DAVID LIAN M.
RENEE, GUIRAO
PEPA, NICOLE KELSEY V.

IGASAN, BEDA J.
VASQUEZ, CHARLES ANDREW
BESANA, MELYN
BOLANOS, ALEX NICOLE
GUEVARRA, KRISTAL CLAIRE
BALLENTOS, MA. KATHRINA
BREMNER, PAMELA ROSE
BASIT, SUPACHAI
NARVAEZ, EMMANUEL D.
SERRON, MIKKO PAUL J.
STA. ANA, ALEXANDRA ABIGAIL H.
TORRES, MICAELA M.
VILLAREAL, FRANK C.
ESTRELLA, LAURENCE RALPH V.
BAYOT, FRANCES ADOUR A.
DE GUZMAN, MIKEE
IGASAN, BEDA J.
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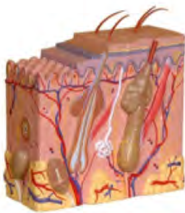
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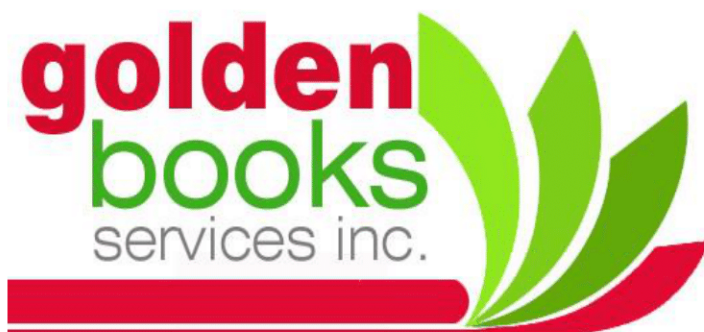
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Suites 706-707 First Marcel Tower,  
926 Araneta Avenue, Quezon City,  
Philippines  
Tel. +632-4116752; Telefax +632-7410855  
Office Mobile: 0917-5641488  
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---

Website: [GoldenBooksServices.com](http://GoldenBooksServices.com)

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3411-6752	8741-0855	0917-5641488	<a href="mailto:goldserv.gbsi@gmail.com">goldserv.gbsi@gmail.com</a>

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**Baguio**  
Units GF and GH, 035 E-Decibar Bldg.  
Bonifacio St., Baguio City  
Tel. (074) 446 6543

**Naga**  
Light House Lady's Hall  
Jacob St., Bagumbayan Sur, Naga City  
Tel. (054) 472 5680

**Bacolod**  
Ground Floor, JTL Bldg.  
Benigno S. Aquino Drive, Bacolod City  
Tel. (034) 433 0187

**Recto**  
Ground Floor, Dalupan Bldg.  
2219 C.M. Recto Ave., Manila  
Tel. 251 0948

**Dagupan**  
Unit 102, Del Pilar Place  
M. H. Del Pilar St., Dagupan City  
Tel. (075) 523 0552

**Cebu**  
Tango Plaza, Gotianuy St.  
Queen's Road, Cebu City  
Tel. (032) 253 0876

**Cagayan de Oro**  
J. R. Borja Velez St.  
Cagayan de Oro City  
Tel. (088) 859 3367

**Dapitan**  
Units 102 & 103, Dioresa Plaza  
1521 Dapitan St., Sampaloc, Manila  
Tel. 243 8128

**Tuguegarao**  
Ground Floor  
AYC San Jacinto de Ermita Bldg.  
Mabini St., Tuguegarao City  
Tel. (078) 844 9467

**Iloilo**  
Units 1 & 2, The Galleria Bldg.  
Jalandoni St.  
Brgy. Our Lady of Lourdes  
Jaro, Iloilo City  
Tel. (033) 321 7889

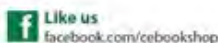
**Davao**  
Ground Floor, DUC Bldg.  
Sta. Ana Ave., Davao City  
Tel. (082) 225 0159

**Valenzuela**  
Unit F, Ground Floor, Gotaco Bldg. II  
32 McArthur Highway  
Marulas, Valenzuela City  
Tel. 294 2454

**Biñan**  
Unit 6, Ground Floor  
Rain's Place Bldg., National Highway  
Brgy. Sto. Niño, Biñan, Laguna  
Tel. (049) 511 4844

**Tacloban**  
Khatani Bldg.  
Brgy. 51-A Real St., Tacloban City  
Tel. (053) 321 5325

**Zamboanga**  
Ground Floor, Tang-Yu Fraternity, Inc. Bldg.  
Nuñez St., Zamboanga City  
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