

# 1ST RESEARCH COLLOQUIUM AND PROJECT EXHIBITS

June 13 & 14, 2023

**Theme: “WCC-ATC Research Innovation for Sustainable  
Education 2023: Promoting Research Culture through  
Innovation & Community Engagement”**

**BOOK OF ABSTRACTS**



**WCC-ATC** Promoting Research Culture through  
Innovation & Community Engagement  
**RISE2023**  
Research Innovation for Sustainable Education 2023



**WCC**  
AERONAUTICAL & TECHNOLOGICAL COLLEGE  
B I N A L O N A N



## **1<sup>st</sup> Research Colloquium & Project Exhibits**

### *About*

## **WCC-ATC Binalonan Campus 1st Research Colloquium and Project Exhibits**

The WCC-ATC Research Exhibits and Research Colloquium with the theme "**WCC-ATC Research Innovation for Sustainable Education 2023 (WCC-ATC RISE 2023): Promoting Research Culture through Innovation & Community Engagement**" is an event scheduled to take place on June 13 and 14, 2023. The event aims to display research exhibits and foster a research culture that promotes innovation and community engagement in the field of sustainable education.

The WCC-ATC- Binalonan Campus is hosting this event to provide a platform for researchers, educators, and professionals to present their research findings, share innovative practices, and engage with the community. The specific details regarding the venue, schedule, and participants may vary depending on the organizer of the event.

The focus of the event is on research innovation in the context of sustainable education. This may include topics such as incorporating sustainable practices in educational institutions, developing innovative teaching methodologies, utilizing technology for educational sustainability, promoting environmental awareness, and addressing social issues in education, among others.

The research exhibits component of the event will likely involve showcasing research projects, prototypes from the College of Avionics Technology, Aircraft & Maintenance Technology, Aeronautical Engineering and demonstrations related to sustainable education by the College of Tourism, College of Aviation and the Teaching and Non-Teaching Personnel of WCC-ATC Binalonan Campus with collaboration of the partner institutions. This provides an opportunity for researchers to present their work visually and interactively to attendees, fostering knowledge exchange and collaboration.

The research colloquium, on the other hand, typically involves presentations or panel discussions where researchers, experts, and practitioners share their insights, findings, and experiences related to sustainable education. It serves as a forum for intellectual discourse, allowing participants to engage in discussions, ask questions, and gain valuable insights from the presenters.

Overall, the WCC-ATC Research Exhibits and Research Colloquium with the theme "WCC-ATC Research Innovation for Sustainable Education 2023 (WCC-ATC RISE 2023)" provides a platform for researchers and educators to contribute to the advancement of sustainable education through research, innovation, and community engagement.





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The following are in the five (5) equally significant research program areas:

1. Tourism Management
2. Engineering and Technology
3. Business, Finance and Management
4. Education
5. Natural and Applied Sciences

WCC-ATC RISE 2023 serves as a venue for sharing and discussing research issues, concerns and output in a scholarly yet friendly environment. Colloquium & Project Exhibits Highlights include:

Seminar held by Respectable Guest Speakers  
and Lecturers

Research Exhibits and Showcasing Research  
Products and Projects for Sustainable Cities  
and Communities

Seminar and Workshop on Qualitative  
Research Approach

Research Presentation by selected  
Researchers from WCC-ATC Binalonan and  
Invited Partner Institutions

Best Research Projects/Best Idea Award

Best Research Papers

Best Presenters







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The WCC-ATC RISE 2023 will be participated in by students, faculty, non-teaching personnel, innovators, research enthusiasts from invited partner institutions, stakeholders, LGUs, media and industries; and government bodies, academicians and administrators as speakers.

### PROJECT EXHIBIT GUIDELINES

This project exhibits aims to bring together the most-tech savvy and innovative products that promotes sustainable cities and communities and enhance partnership with different colleges and universities in line with research and technology. This exhibit seeks to encourage these students to think and propose out-of-the-box solutions and provide students the much-needed space to present their projects and ideas especially to disseminate knowledge and share innovations that could form part of the country's pool of practices in the hope of gaining a sustainable cities and communities.

- Exhibitors
  - The exhibitors shall be categorized into two:
    - Tourism Students
    - Aviation Students
    - IT Students from partner institutions
  - Duration of Submission – WCC-ATC Organizers will start accepting entries via online submissions from June 05 to June 08, 2023
- Exhibit Requirements
  - School entries must have been researched and developed prior to the event proper.
  - They must submit their latest or existing school projects using any robotics, machineries, parts, and platforms.
  - Must highlight their latest product innovations that might be significant in developing sustainable cities and communities and can be of great help to the institution.
  - The project exhibit will be displayed together with the relevant materials e.g. promotional ads submitted by the school for exhibition.
- Content
  - Each exhibitor must present a poster, banner, catalogue, and other media-related materials highlighting the special features of the robotic technology, product or service. Prepare and print a 4ft x 3ft poster,
  - They can present different media elements that may include high-quality photos, charts, diagrams, illustrations, etc. that would help bring the content to life.
  - The exhibitors must submit a video (if applicable) showing the capability of the project in solving a problem and serve as aid to their respective department/colleges and the institution; or a sustainable project that would be of great help to aid the community.
- Exhibit Proper
  - All exhibit materials must be submitted for thorough screening.
  - Each exhibitor will be given a booth in the MPH.





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### **RESEARCH PRESENTATION GUIDELINES**

- Presentation Guidelines
  - This format includes a 5 to 8-minute presentation per paper.
  - Papers are grouped closely according to the selected project discipline.
  - Entrants in the research paper category will present their research in-person at the colloquium, and may use slides or other materials to aid their presentation; their oral presentation should focus on the rationale and historical context underlying their interpretation of the material (please use the provided PPT template).
  - All presenters will be required to go to their respective referees for technical and content debriefing. Presenters have had a chance to speak, there will be general discussion period where you will have additional time to speak to your fellow presenters and peer reviewer in the session.
  - Visual Aid: Slideshow, video, or graphics to support 8-minute oral talk.
    - Examples: Oral: PowerPoint presentation.
    - Performance: Video and/or actual demonstration.
  - NOTE: You can select to be placed in a "competitive presentation" to be judged, or to present in a session without a judges' panel or "non-competitive presentation".
  - Bring a pen and pad of paper for notes and to record names and addresses of contacts.



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## TENTATIVE PROGRAMME

### DAY 1: PROJECT EXHIBITS

8:30am to 9:00am	Registration and Billeting	
9:00am to 9:15am	Invocation National Anthem WCC-ATC Hymn	
	Cutting of Ribbon	WCC Admin WCC Heads WCC Staffs Participants & Guests
9:15am to 9:30am	Opening Remarks	<b>Dr. ROGER A. MARTINEZ, Jr., LPT, CGSP</b> Vice President for Academic Affairs  <b>Sir RAYMOND PATRICK V. GUICO, MM</b> Message from the President
9:30am to 10:30am	Keynote Address - Plenary Talk 1 - Plenary Talk 2	DOST Representative  DTI Representative
10:30am to 12:00	Presentation of Delegates and Participants	Deans
12:00pm-1:00pm	LUNCH BREAK	
1:00pm to 2:00pm	Project Presentation and Exhibits & Assessment	
2:00pm to 3:00pm	Awarding Ceremony	
3:00pm	Closing Remarks	Mr. Benedict Navalta CESO Head, WCC-ATC Binalonan Campus



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## DAY 2: RESEARCH EXHIBITS

8:00am to 8:30am	Registration	
8:30am to 9:00am	Invocation National Anthem WCC-ATC Hymn	
9:00am to 9:15am	Opening Remarks	<b>Dr. ROGER A. MARTINEZ, Jr., LPT, CGSP</b> Vice President for Academic Affairs WCC-ATC Binalonan Campus
9:15am to 9:20am	Introduction of Plenary Speaker	<b>Dr. ROSALIE SHERYLL T. ROSALES</b> Director RPDO WCC-ATC Binalonan Campus
9:20am to 10:30am	Keynote Address - Plenary Talk & Workshop	<b>Dr. RYAN DELOS REYES</b> Guest Lecturer Qualitative Methods
10:30am to 11:30am	Workshop	
12:00pm-1:00pm	LUNCH BREAK	
1:00pm to 3:00pm	Presentation of Research Delegates and Participants	
3:00pm to 3:30pm	Debriefing with the Guest Peer Referees	
3:30pm to 4:00pm	Awarding Ceremony	
4:00pm	Closing Remarks	Ms. Mary Ann Zarco Research Coordinator RPDO, WCC-ATC Binalonan Campus



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### **IMPORTANT DATES:**

- June 03, 2023 - deadline of Registration
- June 05, 2023 - deadline of Abstract Submission
- June 08, 2023 - deadline of IMRAD Format and Action Research Submission
- June 13, 2023 - Project Exhibit Proper
- June 14, 2023 -Research Colloquium Proper

### **Note:**

- For June 14, 2023 (Research Presentation), participants are advice to bring sample transcripts of interview to be use for the qualitative workshop proper.

### **CONTACT DETAILS:**

#### **MARY ANN P. ZARCO**

Research Coordinator, RPDO

Email address: [mzarco.wccatc@gmail.com](mailto:mzarco.wccatc@gmail.com)

Cellphone Number: 09358646823

#### **BENEDICT D. NAVALTA, LPT, MED**

Head, Community Extension and Services Office







# **1<sup>st</sup> Research Colloquium & Project Exhibits**

## **BOOK OF ABSTRACTS**



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Multi-Purpose Hall, WCC Aeronautical and Technological College



## 1<sup>st</sup> Research Colloquium & Project Exhibits



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### Local Ecotourism Development in Lingayen, Pangasinan

Ma. Theresa H. Bianzon, et.al  
College of Hospitality and Tourism Management, University of Luzon

Ecotourism is one of a number of alternative forms of tourism and is assumed to be a 'new wave' of tourism and a 'new way out' of conventional mass tourism development. It has developed along with or as a part of the world trend of 'sustainable tourism development' which attempts to address the key problems of mass tourism and eliminate the faults of conventional tourism. Moreover, it recognizes the local community's role in the management and community participation has been included in the principle of ecotourism. The paper focuses on the local ecotourism development prospects in Estanza Beach, Lingayen, Pangasinan as one of the potential ecotourism destinations in Lingayen, Pangasinan. Estanza Natural beauty is still undisturbed by commercial establishments, a wonderful hideaway for beach lovers. The researchers wanted to have this kind of research study because of their curiosity about how the local governments assess prospects for ecotourism. In addition, the researchers perceived that the success of this research study can be an instrument to check things that are needed to be improved in Estanza Beach in order for it to be more attractive and organized. This research would also help the local government to know the problems that it encounters and the proposed measures to solve these problems. Thus, with these improvements, the Department of Tourism will be more confident to promote Estanza Beach as one of its pride in the tourism industry. This study aimed to determine the local ecotourism development prospects of Estanza Beach in Lingayen, Pangasinan with the end in view of determining its operational issues and concerns in order to have a basis for the enhancement of the project.

**Keywords:** *Ecotourism, Sustainable Tourism Development, Planning, Monitoring, Implementing*







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## **Perceived Usability of SAP Business One for Business Administration Students**

Alyana Bugasto<sup>1</sup>, Chantale Miranda<sup>2</sup>, Diana Mae Tagra<sup>3</sup>, and Jerusha Almonte<sup>4</sup>

1 University of Luzon College of Business Administration (bugastoalyana@gmail.com), 2 University of Luzon College of Business Administration (dianamaetagra14@gmail.com), 3 University of Luzon College of Business Administration (jerushaalmonte@gmail.com), 4 University of Luzon College of Business Administration

This study investigates students' perceived usability of educational technology, specifically on SAP Business One, and explores the factors that influence their perception. The research aims to provide valuable insights to educators and education policymakers, aiding in informed decision-making regarding the usability of SAP for business administration students. The study comprises a profile analysis of University of Luzon Business Administration students, an assessment of their perceived usability of SAP Business One, identification of factors influencing their perception, and proposes actions for improvement based on the findings. Using a survey questionnaire based on the System Usability Scale (SUS), data was gathered from students to assess their perceptions of SAP's usability. The survey data indicated a high level of agreement with statements related to SAP's ease of use and integration of functions. However, concerns were raised regarding SAP's complexity, consistency, accessibility across devices, and software cost.

To enhance the usability of SAP Business One at the University of Luzon, the study proposed collaborative efforts with system administrators to prioritize and address the identified usability issues. Actions may include user interface redesign, feature enhancements, or system customization. Implementing improvements incrementally and continuously seeking user feedback will allow for careful testing and evaluation of effectiveness. This iterative approach aims to optimize and provide a more user-friendly environment for students. The study provides insights into students' perceptions of SAP's usability in education and factors influencing educational technology perception. This information can guide educators and policymakers in making informed decisions about integration and design into future education.

**Keywords:** Usability; SAP Business One; Business Administration; Students





## **The Financial Management Practices on Quality of Education of a Private School in Mangaldan, Pangasinan**

Jeanica C. Joson  
College of Business Administration, University of Luzon

Finance is a vital component of the quality of education. Therefore, school heads and administrators must optimally and prudently use available resources to attain institutional objectives. This paper aimed to investigate the financial management practices of Aura Vista Montessori & High School in sustaining the needs of a private school for quality education. A descriptive qualitative approach was used in this study with face-to-face interviews for data gathering. The results depict that there are needed improvements in the school's financial management, specifically in terms of financial resource maximization and mobilization. Also, internal controls affect the school's financial management practices that limit its investment in educational-related resources and activities. The mentioned concerns affect the implementation of programs or projects and the procurement of teaching and learning resources. Thus, it is recommended that Aura Vista Montessori & High School should revisit its financial policies and procedures to align them with its mission and vision. For any educational institution to run effectively, there is a need for adequate resources and efficient management leadership. Resources directly utilized in teaching and learning are classroom and curriculum support resources. For the successful running of a school, finance plays a central role. Financial management is therefore an essential element in the proper management of an institution of learning.

**Keywords:** *Financial Management Practices; Quality of Education; Private School; Mangaldan, Pangasinan*



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**Keywords:** *Financial Management Practices; Quality of Education; Private School; Mangaldan, Pangasinan*





## 1<sup>st</sup> Research Colloquium & Project Exhibits



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### Level of Satisfaction of the Student on the Hospitality and Tourism Management Program of University of Luzon

Racquel M. Mejia, et al  
College of Hospitality and Tourism Management, University of Luzon

Tourism and hospitality are expanding global industries resulting in an increased demand for skilled managers to lead and develop international organizations. The International Tourism and Hospitality Management program equip students with the tools, techniques, and concepts necessary to analyze the major influences affecting the international hospitality business environment, as well as a deep-rooted understanding of the issues currently shaping the international hospitality management. For industry-based programs such as hospitality, part of a student's experience and collegiate preparation includes practical experience and an understanding of how the industry operates in a professional setting. To garner industry exposure and experience for students, many collegiate programs offer internships or cooperative-learning experiences to provide valuable experience within controlled and monitored industry settings (Beggs, Ross, & Goodwin, 2008; Dickerson & Kline, 2008). This study aimed to determine the level of satisfaction of the students in Hospitality and Tourism Management of University of Luzon in Dagupan City as a baseline data to improve the services provided by the university. The descriptive survey method was used by the researchers in the conduct of the study for the collection of the data in order to arrive at the answer to the problems addressed in the study. The identified problems affecting the students' satisfaction are: Lack of Financial, Lack of Cooperation, Lack of Equipment, Lack of Communication between Teacher and Students, Lack of Preparation, Lack of Interpersonal Skills. Based on the results of the study, the researcher therefore concludes that among the problems encountered by the Hospitality and Tourism Management students, interpersonal skill is the most essential part to enhance their self-efficiency. The faculty's performance of teaching affects largely their attitude, the level of satisfaction of the students and their academic performance.

**Keywords:** *Level of Satisfaction, Hospitality and Tourism Management Program of University of Luzon*



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### Sustainable Tourism Practices of Jovellanos Beach Resort in San Fabian, Pangasinan

Anie Rose Domantay<sup>1</sup>, Aira Jane Lee<sup>2</sup>, Nicole Andrea Buya<sup>3</sup>, Angelo Mathew Bato<sup>4</sup>, Kaye Cee Ayson<sup>5</sup>, Jann Maeka Flor<sup>6</sup>, Ralph Kevin Baniqued<sup>7</sup>, and Gerard Christian Guarin<sup>8</sup>

<sup>1</sup>University of Luzon College of Tourism Management, <sup>2</sup>University of Luzon College of Tourism Management,

<sup>3</sup>University of Luzon College of Tourism Management, <sup>4</sup>University of Luzon College of Tourism Management,

<sup>5</sup>University of Luzon College of Tourism Management, <sup>6</sup>University of Luzon College of Tourism Management,

<sup>7</sup>University of Luzon College of Hospitality Management, <sup>8</sup>University of Luzon College of Hospitality Management

Sustainable tourism practices have been one of the trends that beach resorts consider to incorporate in their operations. It is one of the initiatives that resorts undertake in order to help and sustain the environment. These practices help beach resorts to lessen the impact of their services in compromising the condition of the environment. This study investigated the sustainable tourism practices of Jovellanos Beach Resort, one of the most well-known beach resorts in San Fabian. It answered the measures the beach resort initiates in the water and energy consumption management, waste management, and environmental management as well as the challenges of promoting sustainability. The paper utilized a descriptive design, quantitative in nature, and made use of interview guide in the collection of data. The respondent(s) of the study was identified through convenience sampling, resulting the supervisor of Jovellanos Beach Resort as the sole respondent. The study found out the sustainable tourism practices of the beach resort in terms of: water and energy consumption management, waste management, and environmental management. Based on the findings of the study, the beach resort has ample practices regarding the stated problems, but are not sufficient in the long run and needs further enhancement. Thus, the researchers proposed measures that be used only by the beach resort management to maintain the sustainability of the said area.

**Keywords:** Sustainable Tourism Practices; Jovellanos Beach Resort; Water and Energy Consumption Management; Waste Management; Environmental Management



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Aldrin R. Coloma<sup>1</sup>, Mari Jason S. Dulay<sup>2</sup>, Carl Michael Portillo<sup>3</sup>, and Hamilton C. Rosiete<sup>4</sup>

<sup>1,2,3,4</sup> Student, College of Engineering, WCC Aeronautical and Technological College Inc. Binalonan Campus, 2436

The project undertaken by fourth-year Aeronautical Engineering students at WCC-ATC Binalonan Campus involved the design of a drone, with a specific focus on optimizing its stability, lift, and drag characteristics. The team utilized 3D modelling software to create a precise framework that adhered to principles of aerodynamics. For the manufacturing process, they employed rapid prototyping using 3D printing technology and utilized PLA, a lightweight and resilient material. The integration of electrical systems, including the power distribution board, ESCs, motors, flight controller, and receiver, was carefully monitored during the wiring assembly phase. Extensive testing and calibration were conducted to transform the drone into a scientific experiment, enabling the collection of data on flight performance, stability, and control. The project highlighted the researchers' dedication, collaboration, and enthusiasm for exploration, as they applied scientific principles, engineering expertise, and advancements in drone design technology.







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### Aircraft Servicing Virtual Reality Ground Operation Training For WCC Aeronautical And Technological College

Patric Vien A. Tomas<sup>1</sup>, Vernon Rencel C. Vista<sup>2</sup>, Jann Daniel B. Maglalang<sup>3</sup>, Stephen Lewis M. Dizon<sup>4</sup>, Arrence A. Rodriguez<sup>5</sup> and Yashkumar N. Mistry<sup>6</sup>

<sup>1,2,3,4,5,6</sup> Student, College of Aircraft and Maintenance Technology, WCC Aeronautical and Technological College Inc. Binalonan, Pangasinan, 2636

Virtual Reality (VR) is a cutting-edge technology that duplicates a real-world environment and enables for immersion and interaction with it. The primary goal of this project is to create a Virtual Reality Aircraft Servicing Ground Operation Training program that can be used for instructional purposes by students and instructors at WCC Aerotech College. The goal is to develop a VR-based application that can aid in the teaching and learning of ground operations training while also providing a safe alternative to real-world training and lowering the chance of accidents. VR technology can be used in the field of aviation as a training simulator, allowing aviation mechanics to study and test aircraft components remotely in an immersive environment. However, there are drawbacks to VR training because the virtual and real worlds are not the same, and users may not perform optimally in real-world scenarios. There has previously been built a VR-based application for aircraft marshalling, and this study attempts to update and expand the program to incorporate more Aircraft Line Maintenance tasks to assist students, teachers, and aviation technicians in safely practicing other maintenance duties. Overall, the study seeks to investigate the possible benefits and applications of virtual reality technology in aircraft maintenance training.







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## **PULP RPG: An Educational Game Development Project for Promoting the University of Luzon Pozorrubio Campus**

Rina Cabansag<sup>1</sup>, Carlos Johncent Ventura<sup>2</sup>, Nolan Bautista<sup>3</sup>, and Justine Maro Nimer<sup>4</sup>

<sup>1,2,3,4</sup> University of Luzon

This study aims to develop PULP RPG (Promoting University of Luzon Pozorrubio RPG), a video game as a unique promotional tool for the University of Luzon Pozorrubio Campus (ULPC). PULP RPG engages prospective freshmen and transferees while serving as an educational tool. Data gathering involved interviews and questionnaires with ULPC administrators and senior high school students in Pozorrubio. Video games emerged as a potential avenue for promoting ULPC, with educational games enhancing student participation, social-emotional learning, and academic performance.

For PULP RPG's development, Unity was selected as the game engine, cross-platform compatibility, and community support. Ink and Visual Studio Code were chosen as code editors for their user-friendly interfaces and customization options. Aseprite and Photoshop served as graphics design software, enabling pixel art creation and editing. PULP RPG features platforming challenges and RPG elements such as quests, exploration, items, and character attributes. Its pixel art graphics style is cost-effective, time-efficient, and appealing to indie developers and players.

The game's storyline and level design follow a graduating student participating in a capstone project at ULPC. Interactions with non-playable characters unlock new mechanics, items, and characters. Resource management involves collecting in-game currency to purchase items and advance in the story. PULP RPG offers a unique and engaging way to promote ULPC by combining educational gameplay, pixel art graphics, and an immersive storyline. It showcases the campus and educational offerings to prospective students while providing an enjoyable learning experience. This project exemplifies gamification's potential in education and marketing, paving the way for similar initiatives.

**Keywords:** PULP RPG; game development; educational game; Unity game engine; pixel art





## **Preflight and Post Flight Enhance Reality Inspection List**

Vega Niño C. Macabantad<sup>1</sup>, Patrick Neciel B. Dela Rosa<sup>2</sup>, Caster Troy S. Tizon<sup>3</sup>, Felix Paolo A. Marquez<sup>4</sup>, James Paulo M. Baloca<sup>5</sup>, Jather Edrie C. Fernandez<sup>4</sup> and Emmanuel Jubeth M. Reyes<sup>7</sup>

<sup>1,2,3,4,5,6,7</sup> Student, College of Aircraft and Avionics Technology,

WCC Aeronautical and Technological College, Inc, Binalonan, Pangasinan 2436

Maintaining and inspecting aircraft can be a time-consuming task for both aircraft personnel and students learning how to perform maintenance procedures. Furthermore, the use of manual inspection methods can lead to human errors and incorrect details about aircraft maintenance. However, our project, the "Augmented Reality Inspection Glass," aims to solve these issues by utilizing wireless communication and software components to create a reliable and efficient inspection system. By leveraging the power of enhanced reality technology, our system will minimize the acquisition cost of papers and increase workflow productivity, resulting in a cost-effective and reliable solution for maintenance checklist and documentation. Additionally, our system will be able to store information from pre-flight and post-flight inspections on a memory card or handheld device, allowing for easy access and retrieval of maintenance information. Through extensive testing and evaluation of functionality, reliability, and response time, we aim to demonstrate the effectiveness of our project and its ability to outperform conventional paper-based media.

**Keywords:** *Augmented reality, Pre-flight and post-flight inspection, and reliable & efficient system*







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## Learning System Through CESSTEC Application At WCC ATC Binalonan

Amirah Kaye W. Nafu<sup>1</sup>, John Bernard M. Dela Cruz<sup>2</sup>, Kian Brian Shane D. De Leon<sup>3</sup>, Bien Carlo C. Eligado<sup>4</sup>, Danna Allijah R. Ignacio<sup>5</sup>, and Michael Antonio M. Lagria<sup>6</sup>

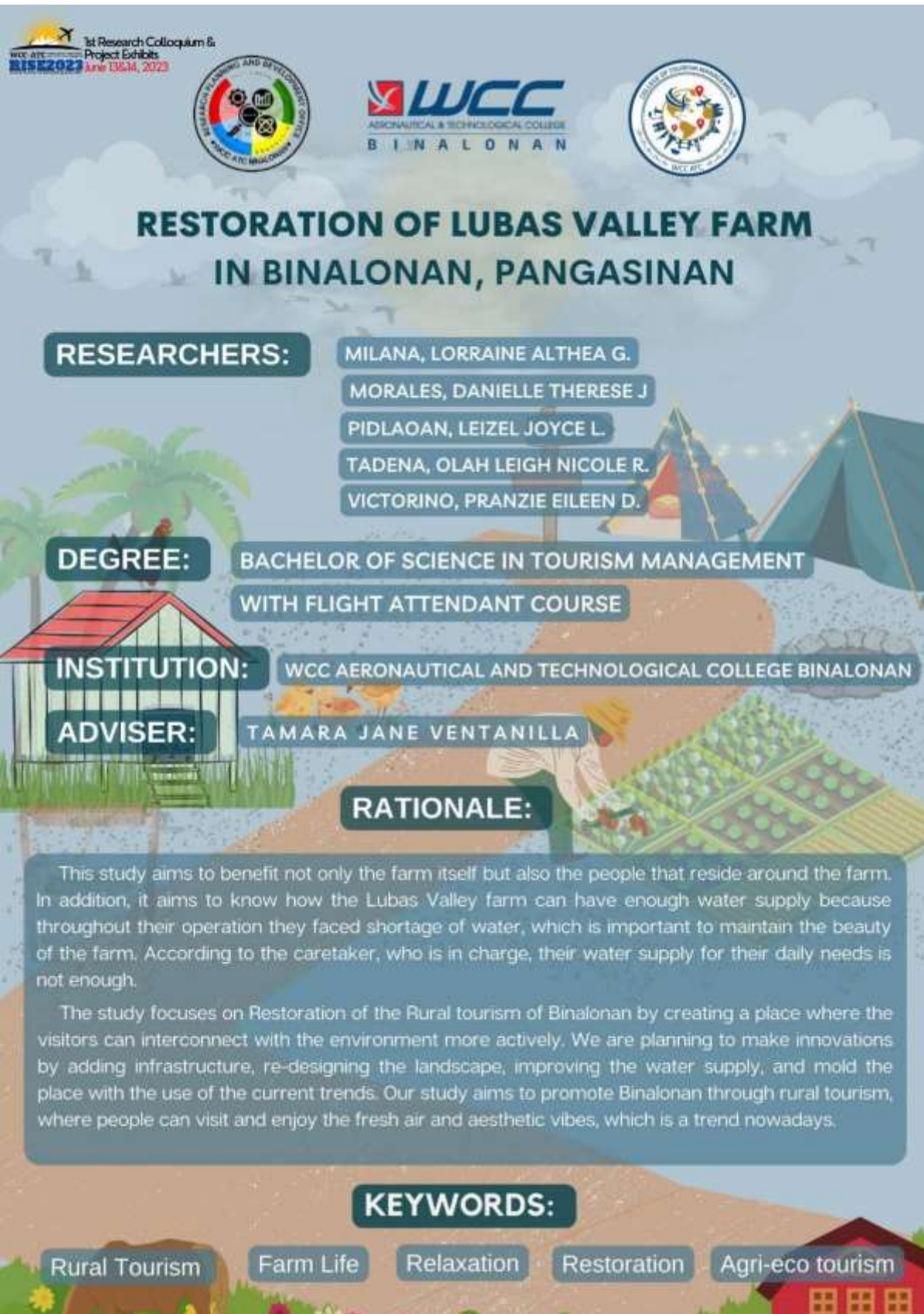
<sup>1,2,3,4,5,6</sup> Student, College of Avionics Technology, WCC Aeronautical and Technological College, Inc., Binalonan, Pangasinan 2436

In response to the rapid growth of technology, the global landscape of education has undergone significant transformations. One such trend is the successful application of e-learning in both formal and informal, as well as academic and non-academic, residential, and remote contexts. It has been observed that there is an increase in the use of e-learning concepts in academia, which enable educators to implement education and training interactively and facilitate learners' interaction and collaboration. Hence, utilizing technology to enhance education is not a new challenge for universities. The research project aims to create a system in the form of a Computer Based Training Application mainly for CESSNA and TECNAM aircraft being utilized by aspiring, on-training student pilots, and instructors in WCC ATC. The CESSTEC Learning Application is a stand-alone learning system application that is simply a computer based training application that contains information about the four (4) aircraft of WCC ATC: the CESSNA 152, the CESSNA 172, the TECNAM P2002JF, and the TECNAM P2006T. The total results demonstrate the project's functionality, Reliability, and Usability.

**Keywords:** Computer Based Training, Learning System, Learning Application, Web-based technology, and E-Learning







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**RESTORATION OF LUBAS VALLEY FARM  
IN BINALONAN, PANGASINAN**

**RESEARCHERS:**

- MILANA, LORRAINE ALTHEA G.
- MORALES, DANIELLE THERESE J
- PIDLAOAN, LEIZEL JOYCE L.
- TADENA, OLAH LEIGH NICOLE R.
- VICTORINO, PRANZIE EILEEN D.

**DEGREE:** BACHELOR OF SCIENCE IN TOURISM MANAGEMENT  
WITH FLIGHT ATTENDANT COURSE

**INSTITUTION:** WCC AERONAUTICAL AND TECHNOLOGICAL COLLEGE BINALONAN

**ADVISER:** TAMARA JANE VENTANILLA

**RATIONALE:**

This study aims to benefit not only the farm itself but also the people that reside around the farm. In addition, it aims to know how the Lubas Valley farm can have enough water supply because throughout their operation they faced shortage of water, which is important to maintain the beauty of the farm. According to the caretaker, who is in charge, their water supply for their daily needs is not enough.

The study focuses on Restoration of the Rural tourism of Binalonan by creating a place where the visitors can interconnect with the environment more actively. We are planning to make innovations by adding infrastructure, re-designing the landscape, improving the water supply, and mold the place with the use of the current trends. Our study aims to promote Binalonan through rural tourism, where people can visit and enjoy the fresh air and aesthetic vibes, which is a trend nowadays.

**KEYWORDS:**

- Rural Tourism
- Farm Life
- Relaxation
- Restoration
- Agri-eco tourism







**Title:** Entrepreneurialism of Tahongganisa

**Researchers:**

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- De Leon, Khryzzalyn Flor D.
- Hogyawon, Jamaica C.
- Sison, Angela N.
- Uy, Angelika Crisanta A.

**Degree:** Bachelor of Science in Tourism Management with Flight Attendant Course

**Institution:** WCC ATC BINALONAN

**Adviser:** Sushmita Sen Chan Montano

**Rationale:**

Longganisa is a processed food product composed of many ingredients and is typically refrigerated. It has a unique flavor due to its combination of spices, and has become a beloved part of Filipino cuisine. It became a staple Filipino dish for majority of the hotels and resorts in the Philippines. But it pose a threat in health when consumed daily. According to the nutrition facts and calories of a Longganisa, it is very low in vitamins and minerals (0.5%/cal, it contains a high amount of risky components that may include saturated fat, cholesterol, sodium, and sugars (0.04%/oz). To produce a much healthier diet and to establish a name for Binalonan in the bigger market of Longganisa, the researchers innovated the product by making a Tahongganisa. It is a Longganisa with mussel as an added ingredient.

The researchers chose mussel as an extender because of it rich flavor and health benefits. Mussels help in boosting a person's immune system, it lowers blood pressure, it is low in cholesterol, and it reduce inflammation in the lung's airways. And mussels are sustainable farmed with no negative impact to the environment.

In addition, one of the researchers' family is a supplier of mussels which lessen the expenditure of making the tahongganisa. Cost is important in this aspect as it determines the market price of the product, and price is one of the factors that consumers consider the most.

Tahongganisa is a new flavor of Longganisa which will provide consumers with a fresh flavor that will set aside from other types of Longganisa. In correlation with the tourism industry, the product will attract locals and non-locals which will boost the food and tourism industry.









**PROMOTION OF BINALONAN'S  
HISTORICAL TOURISM: LOCAL LIBRARY  
HIGHLIGHTING CARLOS BULOSAN**

**RESEARCHERS:** ELASIN, TRIXIE ALTHEA G.  
ELIZAGA, HERMILYN JAZZ B.  
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**CO-AUTHOR:**

**DEGREE:** BACHELOR OF SCIENCE IN TOURISM  
MANAGEMENT WITH FLIGHT ATTENDANT

**INSTITUTION:** WCC AERONAUTICAL AND TECHNOLOGICAL  
COLLEGE OF BINALONAN

**ADVISER:** DR. HONEY LYN ULANDAY-PINOL

**RATIONALE:** THIS STUDY IS DESIGNED TO INVESTIGATE  
PROMOTIONAL TECHNIQUES FOR LOCAL LIBRARY BY HIGHLIGHTING  
CARLOS BULOSAN. THE RESEARCHERS EMPLOYED A MIXED METHOD OF  
QUANTITATIVE AND QUALITATIVE RESEARCH DESIGN. THE POPULATION  
CONSISTED OF STUDENTS, PERSONNEL, AND TOWNSPEOPLE OF  
BINALONAN. THE AIM OF THE STUDY WAS TO DISCOVER THE NEED TO  
PROMOTE THE LOCAL LIBRARY BY SHOWCASING THE LIBRARY  
SERVICES AND HIGHLIGHTING CARLOS BULOSAN AS A KEY ASSET FOR  
THE HISTORICAL TOURISM DEVELOPMENT OF THE TOWN.

**KEYWORDS:** PROMOTION, LOCAL LIBRARY, ADVERTISEMENT,  
PROMOTIONAL MATERIALS





# 1<sup>st</sup> Research Colloquium & Project Exhibits



**Mount Paldingan  
(Fourteen Crosses):  
A Pilgrimage Tourism**

**Researchers:**  
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**Degree:** Bachelor of Science in Tourism  
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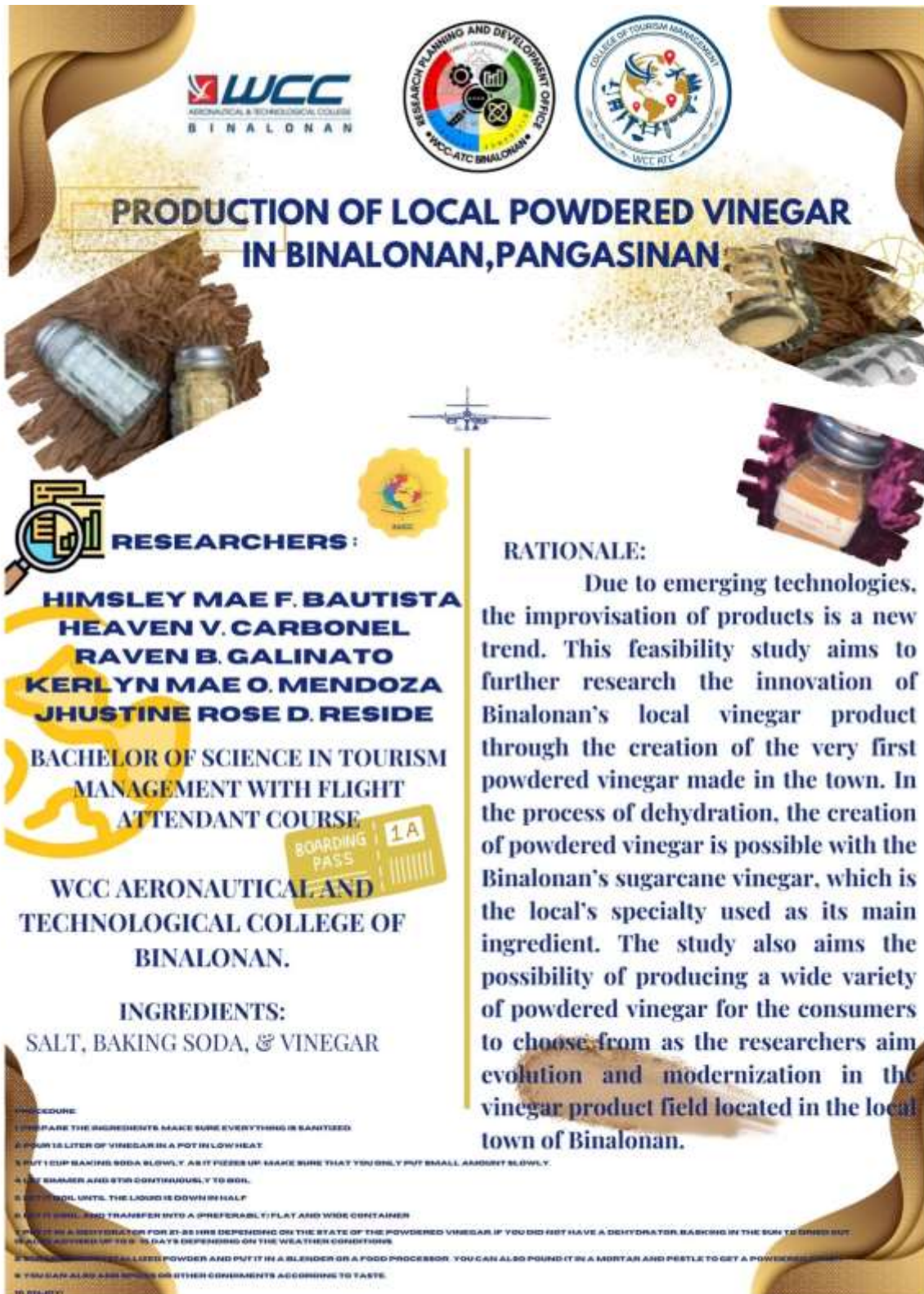
**Adviser:** Tamara Jane Ventanilla

**Rationale:**  
This study aims to become a tourist destination, support the local economy, and provide employment opportunities for the residents in the area. The study is called "Mount Paldingan (Fourteen Crosses): A Pilgrimage Tourism" because it wants to provide people the opportunity to do recreational activity while learning more about Him. We are planning to have visually appealing crosses with informative boards next to the crosses about what happened to Him on that station.

**Interconnecting with nature while doing religious activity would be a good exercise for many because they will also be entertained while knowing more of Him. Enhancing and maintain the natural beauty of Mount Paldingan is our focus, and we are planning to put up cement chairs, trash bins, providing parking spaces, and cemented roads for the visitors' comfortable and less hassle journey going to Mount Paldingan.**

**Keywords:** Mount Paldingan, Stations of the Cross, Pilgrimage, Tourism





**WCC**  
AERONAUTICAL & TECHNOLOGICAL COLLEGE  
BINALONAN

**RESEARCH PLANNING AND DEVELOPMENT OFFICE**  
WCC-ATC BINALONAN

**COLLEGE OF TOURISM MANAGEMENT**  
WCC-ATC

**PRODUCTION OF LOCAL POWDERED VINEGAR  
IN BINALONAN, PANGASINAN**

**RESEARCHERS:**

**HIMSLEY MAE F. BAUTISTA  
HEAVEN V. CARBONEL  
RAVEN B. GALINATO  
KERLYN MAE O. MENDOZA  
JHUSTINE ROSE D. RESIDE**

**BACHELOR OF SCIENCE IN TOURISM  
MANAGEMENT WITH FLIGHT  
ATTENDANT COURSE**

**WCC AERONAUTICAL AND  
TECHNOLOGICAL COLLEGE OF  
BINALONAN.**

**INGREDIENTS:**  
SALT, BAKING SODA, & VINEGAR

**PROCEDURE**

1. PREPARE THE INGREDIENTS MAKE SURE EVERYTHING IS SANITIZED
2. POUR 1.5 LITER OF VINEGAR IN A POT IN LOW HEAT
3. PUT 1 CUP BAKING SODA SLOWLY AS IT PUFFS UP MAKE SURE THAT YOU ONLY PUT SMALL AMOUNT SLOWLY
4. LET SIMMER AND STIR CONTINUOUSLY TO BOIL
5. LET COOL UNTIL THE LIQUID IS DOWN IN HALF
6. LET IT BOIL AND TRANSFER INTO A (PREFERABLY) FLAT AND WIDE CONTAINER
7. PUT IT IN A DEHYDRATOR FOR 21-25 HRS DEPENDING ON THE STATE OF THE POWDERED VINEGAR IF YOU DID NOT HAVE A DEHYDRATOR BASKING IN THE SUN TO DRYED BUT BE AWARE DRYED UP TO 2-3 DAYS DEPENDING ON THE WEATHER CONDITIONS
8. SIFT THE DRYED POWDER AND PUT IT IN A BLENDER OR A FOOD PROCESSOR. YOU CAN ALSO POUND IT IN A MORTAR AND PESTLE TO GET A POWDERED FORM
9. YOU CAN ALSO ADD SPICES OR OTHER COMPONENTS ACCORDING TO TASTE.
10. ENJOY!

**RATIONALE:**

Due to emerging technologies, the improvisation of products is a new trend. This feasibility study aims to further research the innovation of Binalonan's local vinegar product through the creation of the very first powdered vinegar made in the town. In the process of dehydration, the creation of powdered vinegar is possible with the Binalonan's sugarcane vinegar, which is the local's specialty used as its main ingredient. The study also aims the possibility of producing a wide variety of powdered vinegar for the consumers to choose from as the researchers aim evolution and modernization in the vinegar product field located in the local town of Binalonan.





**WCC**  
AERONAUTICAL & TECHNOLOGICAL COLLEGE  
BINALONAN

**1<sup>st</sup> Research Colloquium &  
Project Exhibits  
June 13&14, 2023**

## ECO-BINA-BAG ENTERPRISE IN BINALONAN PANGASINAN: A FEASIBILITY STUDY

**RESEARCHERS**

1. Angel Rose Opiala
2. Maricris Abila
3. Sophia Dumale
4. Jemimah Jael Meris
5. Elyiane Ortaleza

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**ADVISER**  
MRS. SUSHMITA SEN CHAN MONTANO

**RATIONALE**

Rice straw can be worked into the soil to provide a natural fertilizer that can be applied to plants. Studies have shown that rice straw can be improved.

Because of the high cost of chemical fertilizers, rice straw can be used in alternative to the bag once it has been utilized. It can also help the Binalonan farmers to earn extra income aside from farming.

**MATERIALS**

- Rice Straw
- Cornstarch
- Paper
- Water
- Glue
- Thread
- Paint
- Polishing Spray

**KEYWORDS**

Rice straw - is the residue left after rice grains have been harvested, with potential uses in biofuels, paper and building materials, and soil fertility

Binalonians - people who live in the Municipality of Binalonan, Pangasinan are called Binalonians.





**1<sup>st</sup> Research Colloquium &  
Project Exhibits**  
June 13&14, 2023

**Self-assessment Tool For Student Pilots' Flight Performance: A Quasi-Experimental Trial**

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The Aviation Instructor's Manual (2020) states that a collaborative postflight assessment includes two parts: the learner self-assessment and a detailed assessment by the flight instructor. While the flight instructor's assessment is present in the postflight assessment done by the WCC Pilot Academy, the problem is that the learner's self-assessment is not. Previous research was performed on whether the Learner-Centered Grading Debriefing Approach will demonstrate better performance in task management and single-pilot resource management-related skills than those debriefed using the traditional strategy. The research found that for skills linked to task management and single pilot resource management, the learner-centered grading method of instructional debriefing proved to be generally more effective than the traditional style. The researchers employed a quasi-experimental research design through the utilization of a researcher-made self-assessment tool and experimented if the researcher-made self-assessment tool can affect the Flight Performances of its users. The findings did not have enough evidence to suggest that the usage of the Self-Assessment Tool affected the flight performance of the pilot trainees based on their grades. However, despite no improvement in their grades, the experimental group found the activity of self-assessing and having collaborative talks with their flight instructors to be meaningful. It was also added by the experimental group that they became more aware of their mistakes in flight training.

**Keywords:** *Postflight Assessment; Self-Assessment; Learner-Centered Grading; Self-Assessment Tool; Flight Performance*







1<sup>st</sup> Research Colloquium &  
Project Exhibits  
June 13&14, 2023

## Influence of Having an Aviation and Non-Aviation Degree on the Ground School Performance of Fast Track Trainees

Patricia Nicole V. Doromal<sup>1</sup>, Angelica Lyca D. Kua<sup>2</sup>, and Erika Jill M. Tiangco<sup>3</sup>

<sup>1,2,3</sup> Student, College of Aviation, WCC Aeronautical and Technological College, Inc, Binalonan, Pangasinan 2436

The study was conducted to determine the influence of having an aviation and non-aviation degree on the ground school performance of fast track trainees as a requirement for completion of the subject on the A.Y 2022-2023. This study was conducted using a quantitative research method to discover how both aviation and non-aviation degree influence the ground school performance of the trainees. This study also aimed to find out if there is a significant relationship between the respondent's previous degree to their current overall ground school performance. A Closed Ended Survey questionnaire was used to gather data through online google forms to the respondents in other to accumulate the necessary information prior to the study. A total of thirty-one (31) trainees officially enrolled in Fast Track Program to participate in the study. Data were treated using Percentage and Frequency, Average Weighted Mean, and Analysis of Covariance (ANCOVA). Findings of the study revealed that there was no correlation between the demographics of the participants and their performance in their ground school.

**Keywords:** *Aviation Degree, Fast Track Trainees, Ground School Performance, Non-aviation Degree*







**1<sup>st</sup> Research Colloquium &  
Project Exhibits**  
June 13&14, 2023

**An Assessment of Cognitive Maps in Improving the Learning Process of Cross-Country Navigation**

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This study aims to investigate the effectiveness of learning material using cognitive maps in enhancing the learning process of student pilots in cross-country flights. The study examines the overall difficulty of the learning process and identifies areas where student pilots encountered significant difficulties. A prototype learning material was developed and tested against a controlled group without the material. While the results did not show statistical significance, there is an indication that the learning material has helped students, as evidenced by the difference in mean. This study contributes to the foundation of future research on the use of cognitive mapping in navigation and the development of learning materials to enhance the learning process of student pilots.

**Keywords:** *Cognitive maps; Cross-country*







**1<sup>st</sup> Research Colloquium &  
Project Exhibits**  
June 13&14, 2023

## **Adaptation of Cockpit Trainers for Bs Commercial Flying Students in WCC-ATC**

Jana Alecia T. Capulong<sup>1</sup>, and Edward Cody T. Cuyugan<sup>2</sup>

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The aim of this study is to aid the transition from flight simulator to actual flight training of BS Commercial Flying Students of WCC-ATC. The study was conducted to determine whether the adaptation of the cockpit trainer is beneficial to the student pilots. This study utilized a nonequivalent group design, a type quasi-experimental research wherein the researchers choose existing groups (controlled and experimental) that appear similar thru the use of pre-intervention (ALSIM), but where only one of the groups (experimental) experiences the use of cockpit trainer before actual flight training as post-intervention. The study hypothesized the use of proposed cockpit trainer whether it led to a positive transfer of familiarization with the cockpit layout and aircraft procedures. Moreover, experimental group used the cockpit trainer while the other did not. A Closed Ended Survey questionnaire was used to accumulate data regarding the experience in using the cockpit trainer prior to actual flight training. A total of ten (10) BS Commercial Flying Students participated in the study – five each group. Data were treated using Frequency and Percentage, Mean, Independent and Dependent Sample T-test, and Confidence Interval. The findings of the study indicated the findings of the study indicated that the cockpit trainer is an effective training aid which helps ease the difficulty in flight training transition.

**Keywords:** Cockpit Trainer, Simulator, Transition from Flight Simulator, Flight Training







## 1<sup>st</sup> Research Colloquium & Project Exhibits



### 1<sup>st</sup> Research Colloquium & Project Exhibits June 13&14, 2023

#### Entrepreneurial Needs of the Residents Barangay Canarvacanan, Binalonan, Pangasinan: Basis for Enhancing Their Business Abilities

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<sup>2</sup> Coordinator, Community Extensions and Services Office, WCC Aeronautical and Technological College, Inc, Binalonan, Pangasinan 2436

<sup>3</sup> Coordinator, Research Planning and Development Office, WCC Aeronautical and Technological College, Inc, Binalonan, Pangasinan 2436

This study aims to identify and analyze the entrepreneurial needs of the residents Barangay Canarvacanan in Binalonan, Pangasinan, and explore ways to enhance their business abilities. By employing a quantitative approach, data were collected through surveys administered to a representative sample of community residents. The study focused on assessing the current business abilities, identifying the gaps and challenges faced by the entrepreneurs, and determining the specific areas requiring enhancement. The study revealed that the community residents of Barangay Canarvacanan possess various entrepreneurial skills and aspirations such as cooking, farming and willingness to learn handicraft making, soap making and other ways to earn money for a living, but they face several hurdles hindering their business success. Key findings indicated a need for further training and education on topics such as business planning, financial management, marketing strategies, and customer service. Additionally, respondents expressed a desire for access to resources and support networks, including mentorship programs and financial assistance. Based on the findings, recommendations are provided for enhancing the business abilities of the residents. It is suggested that targeted training programs and workshops be conducted to address the identified gaps. Additionally, initiatives to improve access to resources, such as establishing microfinance programs and fostering partnerships with relevant organizations, are proposed. These recommendations aim to empower the community residents, promote entrepreneurship, and contribute to the overall socio-economic development of Barangay Canarvacanan and its residents.

**Keywords:** *entrepreneurial needs, community residents, Barangay Canarvacanan, Binalonan, Pangasinan, business abilities*







**1st Research Colloquium &  
Project Exhibits**  
June 13&14, 2023

## **Utilization of a QR Coded-Based Technology for Merit and Demerit System**

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This study aim to enhance the disciplinary and reward system of WCC Aeronautical & Technological College Binalonan. This application; can access information quickly and efficient as possible. QR code-based technology in educational merit and demerit systems is a valuable tool for motivating students and monitoring their progress. QR codes offer advantages by allowing easy scanning and recording of behavior data. This technology also improves efficiency, saves time, and reduces errors by eliminating manual data entry. Test and evaluate; QR codes can be customized to suit specific school needs, enabling the assignment of point values for different behaviors, thus, this will help the school employees to easily implement reward system and disciplinary actions with greater ease due to the use of current technologies like smartphones. Through this system will enhance student engagement and participation in doing positive, meaningful, and responsible behavior. Implementation; using QR coded-based technology for merit and demerit system, we can implement a streamlined and efficient method of tracking and rewarding individual achievements while also addressing areas of improvement.





## **Centralized Document Management System at WCC ATC Binalonan**

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A centralized document system acts as a single unified repository for storing, organizing, and accessing documents of different types within an organization. This overview examines how such a system streamlines the document management process, eliminates duplication, and reduces the time it takes to find information. Centralizing documents helps organizations establish consistent standards, version control, and access controls to ensure accuracy, security, and compliance.

According to Dhunna (2022), "an electronic document management system is a single, coordinated management process to control documents to help the organization provide continuity from the project and operational phase to preserve throughout its life cycle. It is a system that is implemented to store, organize, manage, circulate, edit, and track the files and documents within the organization ." Famous companies around the world have adopted this practice. They take care to ensure that records and assets are properly kept and managed, regardless of the type of employee. Despite the large budgets for this type of record keeping, these companies turned to electronic systems to emphasize their relevance and enormous benefits for smoother business operations.

Overall, the system highlight the value of a centralized document system as a strategic investment for organizations looking to streamline document management, foster collaboration, and maximize the potential of collective knowledge doing.

**Keywords:** Document System; Organization; Management; Centralized







## 1<sup>st</sup> Research Colloquium & Project Exhibits



### The Effectiveness of Aeronautical Engineering Faculty Members in their Related Field of Teaching in WCC ATC Binalonan Campus

Engr. Gilbert A. Alcantara Jr.<sup>1</sup> and Engr. Aries D. Hernandez<sup>2</sup>

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This study aimed to assess the level of effectiveness of Aeronautical Engineering faculty members in WCC Aeronautical and Technological College in Binalonan Campus. The study made use of a descriptive research design to establish the competencies of the teaching program. To answer the question, the researcher adopted a survey questionnaire from the manuals of Employment and Training Administration of Aeronautics of the United States of America (ETAAU).

The study focused on the five areas of effectiveness such as Aerospace Fundamentals, Design and Development, Product and Parts Manufacturing, Project Management and Quality Assurance, Aviation Maintenance.

Results showed that the Aeronautical Engineering faculty members of WCC Aviation and Technological College, Binalonan Campus are highly effective. The study further showed the common problems encountered in the training. Encompass attributes such as the ability to recognize and manage human performance limitations, make sound decisions, communicate effectively, perform effectively as a team, manage stress and fatigue, and maintain situational awareness. Aside from non-technical skills, a high level of expertise is needed to make sure that aircraft are serviced to rigorous quality and safety standards, the skills pertained to in this area are called teaching skills. The type of skills includes troubleshooting, repairing, and maintenance of all types of aircraft. The world is in a process of continuous change, innovations in Information Communications Technology (ICT) are constantly advancing and although companies have made huge progress, one must always remain at the forefront.







**1<sup>st</sup> Research Colloquium &  
Project Exhibits**  
June 13&14, 2023

## **Readiness of Healthcare Services of the Infirmary in the WCC-ATC Binalonan Campus**

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This study aimed to assess the readiness of healthcare services provided by the infirmary in WCC-ATC Binalonan Campus. A total of 403 respondents, comprising of 379 students and 24 instructors and staff, were surveyed to identify the level of satisfaction and implementation of the common health and safety services available. The study investigated the manpower, facilities and equipment, and health service programs available in the infirmary. Results showed that the level of implementation of the common health and safety services was perceived to be agreeable by both groups of respondents. However, the infirmary personnel's readiness in implementing the common safety resources received a relatively lower rating. The study also found a significant relationship between the level of satisfaction and the level of implementation of the common health and safety services. The study recommended an action plan to further improve the healthcare services in the infirmary which is in the form of proposal for creation of online or virtual presence through social media (facebook) page. The findings of this study can serve as a guide for schools to ensure the readiness and quality of healthcare services they provide to their students and staff.

**Keywords:** *Infirmary; healthcare services; readiness; satisfaction; aviation school*





## **Readiness Of Student Services In The WCC-ATC Binalonan Campus**

John Aldwin D. Delos Santos<sup>1</sup> and Liahona A. Gutierrez<sup>2</sup>

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<sup>2</sup> Head, Department of Student Affairs, WCC Aeronautical and Technological College, Inc, Binalonan, Pangasinan 2436

The study was conducted to determine the readiness of the ten student services in regards to the acquisition of the student satisfaction of each task provided by the personnel while also acquiring the level of availability for each task. Readiness will then be used to determine the significance of it with the satisfaction from the student body. This study aims to pinpoint specific departments that could possibly promote or bring down the establishment with them as a requirement for the completion of the subject on the S.Y 2022-2023. This study was conducted using a quantitative research method to discover how the three factors being availability, readiness and satisfaction will help in improving the system within the campus. Two sets of survey questionnaires were used to gather data through online google forms to the respondents to accumulate the necessary information prior to the study. A total of one hundred thirty nine (139) trainees officially enrolled in WCC participated in the study and a total of seventeen (17) heads and admins.

**Keywords:** *Student Services; Readiness; Availability; Satisfaction*





## **Development and Validation of CAG-EMBER Tool in WCC-ATC Binalonan**

Ashley Kate C. Embernate<sup>1</sup>, Hazel S. Caguin<sup>2</sup>, Liahona A. Gutierrez<sup>3</sup>, Marben M. Panlasigui<sup>4</sup>, and Jojo C. Quibrantos<sup>5</sup>

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The psychological state of student pilots is crucial in their flight training that needs to be assessed by authorized professionals to evaluate their behavior, strength, character, and safety during operations. This study aimed to develop and validate a tool to initially screen and know the psychological state of student-pilots, specifically, their depression and anxiety levels. The 300 chosen respondents were third and fourth year BS Aviation major in Commercial flying (COMFLY) and Airline Operations Management (AOM) students to which they are the ones who will be undergoing airborne. The proposed tool is an 18-item self-assessment questionnaire with the intention of pre-screening student-pilots if they are psychologically ready for airborne. Using the Cronbach's Alpha, the CagEmber assessment tool had a numerical value of 0.929, having an excellent internal consistency. Therefore, it can be used in pre-screening student-pilots to measure their psychological state in terms of depression and anxiety levels.

**Keywords:** *Psychological state; Psychological assessment; Assessment tool; Student-pilots; Reliability*

