EMILIO AGUINALDO COLLEGE CAVITE

JOURNAL OF MULTIDISCIPLINARY

RESEARCH

FACULTY RESEARCH JOURNAL

Emilio Aguinaldo College-Cavite

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EAC ORGANIZATIONAL CHART

Emilio Aguinaldo College-Cavite
Organizational Chart
AY 2020-2021

Brief History of Emilio Aguinaldo College

The beginnings of Emilio Aguinaldo College - Cavite are attributed to Dr. Paulo C. Campos, then President of the University Physicians Services Incorporated (UPSI), which acquired the Marian College in Manila in 1973. Eventually, the school became Emilio Aguinaldo College.

With the various socio-economic developments and related circumstances during the Marcos regime, UPSI decided to open a new campus in Dasmariñas, Cavite, which is the hometown of Dr. Campos. This is to support the government's policy on the dispersal and decongestion of the student population in Metro Manila, particularly in institutions of higher learning. The policy also aimed to introduce regional development and democratization of opportunities in the rural areas (Campos, 2008).

Emilio Aguinaldo College in Bagong Bayan, Dasmariñas, Cavite was opened on March 17, 1978. Its opening coincided with the efforts of the then President, Ferdinand E Marcos and wife Imelda Marcos, who was the Minister of Human Settlements and Community Development, to remove the slum dwellers from the streets and under bridges of Manila and relocate them to Cavite. Dr. Campos proposed to the government through the Secretary of Education, Juan L. Manuel, to offer a tertiary school in Dasmariñas, Cavite patterned after the Emilio Aguinaldo College that had been approved in Manila (Campos, 2008).

Consequently, a campus comprising 29 hectares was established. In 1976 to 1978, UPSI developed over a dozen school facilities including school rooms, laboratories, a library, social hall, an administration building, dormitories, an Olympic oval, a landscaped campus, and a man-made lake. They also built a network of roads that covered the whole campus and dormitories (Campos, 2008). A commitment to improve the lives of the underprivileged sectors of the community motivated EAC-Cavite to offer courses in Dressmaking, High Speed Machine Operation and Ceramics. All programs were structured either for six months or two years of intensive study and training.

In the following year, owing to the permit granted by Minister Juan Manuel of the Ministry of Education and Culture, EAC-Cavite opened the College of Criminology, listing among its students the police forces in Cavite as well as the members of the Philippine Constabulary and the security guards of the establishments in the vicinity. In addition, the Graduate Program leading to the degree of Master of Arts in Teaching was offered to provide the school teachers with professional and academic advancement and opportunities. Envisioned, too, were the programs for Master of Science in Nursing and Master of Arts in Education.

On October 21, 1979, General Emilio Aguinaldo Medical School Foundation Inc. (GEAMSFI) was established in Dasmariñas, Cavite, thus giving birth to the Emilio Aguinaldo College- Cavite of Medicine with Dr. Lourdes E. Campos as Dean. In its first year of operations, the College had 150 students. The University Medical Center (UMC), which was built in 1980 and opened in 1983, served as the training center for the health science students of the College of Medicine and other health science courses.

In 1980, UPSI formed the Yaman Lahi Foundation, Inc. (YLFI) to manage and operate both Manila and Cavite campuses.

In 1986, when Dr. Paulo Campos was not in perfect health anymore, Brother Andrew Gonzales of the De La Salle University (DLSU) expressed the University's interest in acquiring the EAC College of Medicine and the University Medical Center (UMC). Since his UPSI colleagues were not ready to take over, Dr. Campos decided to transfer the ownership and responsibility to this worthy and credible institution.

It was in June 1987 when De La Salle University finally took over the management and the administration of two campuses from UPSI: the 29-hectare campus in Bagong Bayan, Dasmariñas and the 1.5 hectare Health Science Campus along Congressional Avenue. Included in the transfer were the two big buildings which had a length of 100 meters, 17-meter wide and seven levels of floor area with two elevators, including a basement, ground floor, and rooftop for water tanks and for viewing purposes. The 29-hectare property in Bagong Bayan had a dozen buildings that included classrooms, two administrative units, Olympic oval, network roads and a landscape that included a lake, teaching facilities, hospital equipment, a modest library and a historical museum. After that, the EAC Administration focused on the development of EAC-Manila.

EAC-Cavite reopened in 1996-1997 as a vocational technical school – Center for Technical Education and Skills Training (CTEST)   - in a lot along Congressional Avenue (now Mangubat Avenue) which UPSI bought. In 1998, after the completion of five buildings, the voc-tech school became the EAC-Cavite campus and all academic courses were opened except medicine.

In 2001, under the leadership of Dr. Jose Paulo E. Campos, the first son of Dr. Jose Paulo E. Campos, the school administration strengthened the curricula of existing academic programs and opened new courses aligned with emerging trends. In 2003, the Commission on Higher Education (CHED) granted government recognition to AB Communication, Psychology, Business Administration, Accountancy, Computer Science, Secondary Education, and Hotel and Restaurant Management.

The other academic programs soon followed. In 2005, Elementary Education, Civil Engineering, Mechanical Engineering, and Diploma in Graduate Midwifery earned government recognition, followed by Nursing

and Criminology in 2006; Customs Administration in 2007; and Computer Engineering and Electronics and Communication Engineering in 2010.

In 2008, the Technical Education and Skills Development Authority (TESDA)-registered vocational-technical courses, namely, Automotive Servicing, Computer Hardware Servicing, Consumer Electronics Servicing, Machining, and Programming were offered. In response to the emerging trends on health sciences, real estate and tourism, the administration opened Medical Technology, Physical Therapy and Radiologic Technology in 2011, Doctor of Dental Medicine and Real Estate Management in 2012, and Bachelor of Science in Midwifery and Tourism Management in 2015.

In its quest to achieve excellent standards in higher education, the institution participated in the accreditation by the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA), thus, receiving Level 1 Accredited Status in Nursing, Psychology, Criminology and Hotel and Restaurant Management programs in 2015 up to 2018. Likewise, Elementary Education, Secondary Education and Business Administration programs were granted Candidate Status until 2017.

Along with the commitment to innovate, the institution inaugurated the *Bulwagang Aguinaldo* in 2012, which was the replica of the Aguinaldo Shrine in Kawit, Cavite making it the ideal venue for the annual Philippine Independence Day Celebration held by the city government of Dasmariñas. The modernization of Buildings 3 and 4 which house the Life Science Institute, Engineering Science and Technology Institute, and School Library were completed in 2014. These developments sought to meet the needs of the growing student population.

In adhering to the call of the Department of Education (DepEd) headed by Secretary Bro. Armin Luistro to enhance the basic education program in the country, the institution earned the permit to implement the Senior High School programs in April 2015. This paved way for the restructuring of Building 5 for Senior High School and Building 6 which housed the new canteen and multi-purpose hall. The Senior High School started its operations and welcomed its pioneer batch in June 2016.

The institution strives to explore more avenues to serve its community and undertake worthwhile development programs towards its continuous transformation as a responsive and competent institution, as its Founders envisioned it to be.

PHILOSOPHY

Emilio Aguinaldo College is a private, non-sectarian, co-educational institution of learning that fosters equal and fair opportunities for the holistic development of the persons conscious of their national identity and their roles in the global community.

VISION

Emilio Aguinaldo College envisions itself as an internationally recognized autonomous academic institution rooted in its nationalist tradition that consistently pursues the advancement and welfare of humanity.

MISSION

Emilio Aguinaldo College provides an outcomes-based education with relevant curricula geared towards excellent research, active industry cooperation and sustainable community extension.

CORE VALUES

Virtue

Emilio Aguinaldo College integrates knowledge and understanding among Emilians equipping them with wisdom to choose to do only the right thing.

Excellence

Emilio Aguinaldo College inculcates among Emilians the habit of doing only the best in all undertakings.

Service

Emilio Aguinaldo College develops among Emilians a strong sense of duty and   responsibility of helping others for the school, community, country and Mother Nature.

QUALITY POLICY

We, the Employees and other stakeholders of Emilio Aguinaldo College are committed to:

Provide our students an exceptional educational experience delivered within all statutory and regulatory standards;

Provide consistent quality service to our students, parents, and other stakeholders;

Develop responsible students through relevant and quality education, able to independently lead and enhance their lives, and contribute to the development of our country and humanity; and

Continuously improve the educational experience of our students and other stakeholders by communicating the needs of our students and stakeholders to the entire organization, standardizing our institution's processes, enhancing our employees' competence, periodically reviewing and continually improving the institution's systems, and providing our students an exceptional educational experience.

QUALITY OBJECTIVES
The objectives of Emilio Aguinaldo College are to:
- Offer opportunities for quality and relevant education to all qualified students;
- Cultivate the intellectual, spiritual, moral, social, and physical aspects of our students;
- Instill an appreciation and pride in our students of their national identity; and
- Prepare graduates of global quality equipped with world class competencies in their fields of expertise.

TABLE OF CONTENTS

AN ASSESSMENT OF THE NATIONAL SERVICE TRAINING PROGRAM: INPUT FOR COMMUNITY DEVELOPMENT PROGRAM

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KEYWORDS:

➢ **Assessment**
➢ **Community development**
➢ **Development Framework**
➢ **Community Service Delivery**
➢ **Sustainable and Progressive Development**

Abstract. This study adheres to the EACC Institutional Research Agenda priority areas which is embodied in the CMO Series 2016 CHED Research Agenda and Priorities. The focus of the study will relate to Community Development which is one of the research agenda and priority areas. The research study will assess the challenges and issues in implementing programs and projects geared towards community development. It will uncover gaps allowing NSTP implementers improve performance, outputs, and deliverables. This study will provide an opportunity to recalibrate the curriculum and capacitate the faculty. Descriptive-Qualitative and Quantitative is the methodology used in its intention of doing the phases of the study. Specifically, it will use descriptive qualitative in the Focus Group Discussion (FGD), and it will employ quantitative techniques to evaluate the profile of the respondents, to assess the NSTP framework for community development, strategies for community organizing, strategies for

community service delivery, strategies for sustainable and progressive community development program, and responses of the experts in the Focus Group Discussion.

It calls for the rethinking of the perceived challenges in community service after the two (2) long years of lock-down in communities during the COVID-19 pandemic. Other challenges also include drawing the attention to the enormous value of engaging with and empowering these young people for a better society in the future. NSTP programs must be geared toward the solutions of these challenges through better strategies that will lead towards community development. The researchers have arrived at a conclusion wherein the NSTP Community Development Program of EAC- Cavite is needed to be maintained while others are needed to be improved and realized. The other areas which need improvement are identified as follows: Community Organizing; Community Service Delivery; and Activities for Sustainable and Progressive Development.

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AN ASSESSMENT OF THE NATIONAL SERVICE TRAINING PROGRAM: INPUT FOR COMMUNITY DEVELOPMENT PROGRAM

This study adheres to the EACC Institutional Research Agenda priority areas which is embodied in the CMO Series 2016 CHED Research Agenda and Priorities. The focus of the study will relate to Community Development which is one of the research agenda and priority areas. The research study will assess the challenges and issues in implementing programs and projects geared towards community development. It will uncover gaps allowing NSTP implementers improve performance, outputs, and deliverables. This study will provide an opportunity to recalibrate the curriculum and capacitate the faculty.

METHODS AND PROCEDURES

This study is Descriptive-Qualitative and Quantitative in its intent of doing the phases of the study. Specifically, it will use descriptive qualitative in the Focus Group Discussion (FGD), and it will employ quantitative techniques to evaluate the profile of the respondents, to assess the NSTP framework for community development, strategies for community organizing, strategies for community service delivery, strategies for sustainable and progressive community development program, and responses of the experts in the Focus Group Discussion.

In the desire of the researchers to conduct effective, efficient, and economical research the study will employ simple random sampling technique Aguinaldo College- Cavite (EAC-C) students who are currently taking National Service Training Program (NSTP) during the academic school year 2022-2023. From this sampling frame, the researchers will take 10 percent of the enrolled students in NSTP (CWTS, LTS, and ROTC).In the

desire of the researchers to conduct effective, efficient and economical research, the survey was conducted via google form with target respondents of 10% of the total number of enrolled students.

The study will further employ systematic sampling procedure to get the unbiased sample size that will be included in the distribution of the research questionnaire during the survey. According to Cruz (2010) this sampling technique is resorted to when a researcher conducts a study in descriptive-qualitative technique and quantitative techniques. In doing so, the researchers eliminate the chances of getting unnecessary respondents and prevents bias in the distribution of questionnaire during the survey.

Data Analysis (Statistical Tool and Treatment of Data)

To evaluate the profile of respondents, the researcher will use percentage with the formula below:

Faculty members were able to adjust from the challenges before the implementation, during the implementation, and monitoring for the hybrid learning Percent = Number of student/Population of the study

$$\% = x/N \times 100\%$$

To calculate the weighted mean of the survey questionnaire response from students during the survey, the researchers will employ the Likert scale stated in the survey questionnaire with the formula:

Weighted Mean = Weight 5 x number of response… Weight 1 x number of response/Total number of respondents

$$WM = W_5 x_5 + W_4 x_4 + W$$

$$3 x_3 + W_2 x_2 + W_1 x_1/N$$

Research Instrument

Research Instrument to be used in this study are the following:

1. Audit of the profile of respondents who took the NSTP class during the two semesters in academic SY 2022-2023.

2. Survey questionnaire about the issues and concerns of NSTP program using the 5 Point Likert Scale to calculate the Weighted Mean of responses and to interpret the corresponding adjectival rating.

3. To evaluate the focus group discussion (FGD), the researchers will use qualitative data analysis using CATEGORIZING, INTERPRETING, DESCRIBING, AND ANALYZING the responses of the NSTP experts.

RESULTS

1. **What is the profile of respondents with respect to the following variables?**

Table 1.0. Demographic Profile of Respondents When Grouped According to Age (N=296)

Age	Frequency	Percentage (%)
18 years old and below	148	50
19-21 years old	138	46.6
22 years old and above	10	3.4
Total	296 students	100

Table 1.0 reflects the profile of respondents when grouped according to age. Based on statistics there are 148 students in the age group of 18 years old and below which corresponds to 50%, there are 120 students in the age group of

19-21 years old which corresponds to 46.60%, there are 10 students in the age group of 22 years old and above, which corresponds to 3.40%, respectively. These implied that minority are in the age group of 22 years old and above while the great majority are in the age group of 18 years old and above, respectively.

Table 2.0. **Profile of the Respondents per Course**

Course (As Per School/Cluster)	Frequency	Percentage (%)
Biomedical Sciences	145	49
Humanities	44	14.9
Management	43	14.5
Engineering	55	18.6
Criminology	9	3
Total	296 students	100

Table 2.0. reflects the profile of respondent when grouped according to course. Based on statistics, there are 145 students in the category of Biomedical Sciences which corresponds to 49%, there are 44 students in the category of Humanities which corresponds to 14.90%, there are 43 students in Institute of Management which corresponds to 14.50 %, there are 55 students in the category of School of Engineering which corresponds to 18.60% and 9 students in the School of Criminology which corresponds to 3%.

2. **How do the respondents assess the National Service Training Program with respect to: Acceptability of framework for community development, strategies for community organizing, strategies for community service delivery, and strategies for sustainable and progressive community development?**

National Service Training Program as a co-curricular program mandated by CHED to be completed by first year students in tertiary schooling is composed of three components: CWTS (Civic Welfare Training Service), LTS (Literacy Training Service) and Reserve Officers Training Corps (ROTC). Humanities and Social Sciences NSTP students focus on literacy programs while the rest of the courses focus on civic consciousness programs. Generally, students enrolled in Criminology are mandated to enroll in the ROTC component.

In EAC Cavite, courses are clustered into four: [1] Institute of Management (all courses pertaining to Management, Accountancy and others), [2] Humanities and Social Sciences (courses such as Psychology, BA Communication, Education and Criminology) . In this study, Criminology respondents were classified under ROTC, [3] School of Engineering (pertaining to all engineering courses) and [4] Biomedical courses (courses related to health sciences).

In this study the researchers devise strategies under Developmental framework (10 strategies), Strategies for Community Organizing (10 strategies), Strategies for Community Service Delivery (10 strategies) and Strategies for Sustainable and Progressive Development (10 strategies) which will help on the community development of the adopted barangays which is the main goal of the National Service Training Program. The results are as follows:

Table 3.0 Descriptive Statistics of NSTP Students enrolled in Biomedical courses.

	N	Minimum	Maximum	Mean	Std. Deviation
CWTS_DF (Civic Welfare Training Service- Developmental Framework Strategies)	145	2.5	5	4.2828	0.61985
CWTS_SFCO (Civic Welfare Training Service- Strategies for Community Organizing)	145	1	5	4.2759	0.68549
CWTS_SFCS(Civic Welfare Training Service- Strategies for Community Service Delivery)	145	1	5	4.2862	0.75218
CWTS_SSPCD (Civic Welfare Training Service- Strategies for Sustainable and Progressive Development)	145	1	5	4.3777	0.69449
Valid N (listwise)	145				

Table 3.0. shows that the lowest mean of 4.2828 implies improvement of developmental framework for community development in consideration of the COVID 19 pandemic. The highest mean which is 4.3777 exhibits high confidence of NSTP under Biomedical courses on the Strategies for Sustainable and Progressive Community Development.

Respondents sizes up the approaches to range from disagree to strongly agree (2.50-5.00) in Developmental Framework Strategies and disagree to strongly agree in the other categories in community development. (1.00-5.00)

Legend* DF-Developmental Framework
**SFCO- Strategies for Community Organizing
***SFCS- Strategies for Community Service Delivery
****SSPCD- Strategies for Sustainable & Progressive Community Development

Table 3.1. shows that among the ten (10) strategies for each category on community development those strategies above ranked the

lowest on each category which means these are the approaches which NSTP Biomedical respondents /students find to be weak or needed to be improved for community development in consideration of the COVID-19 pandemic.

TABLE 3.1 BIOMEDICAL COURSE

ASSESSMENT ON THE ACCEPTABILITY OF THE STRATEGIES FOR COMMUNITY DEVELOPMENT

LOWEST MEAN SCORES OF EACH STRATEGY FOR COMMUNITY DEVELOPMENT

* Plans to be the center as initiating body of NSTP programs through its student-faculty initiative.	4.0394
**Evaluates the acceptability of program in consultation with school administrators within the consensus of students, parents, and guardians.	4.189
***Develops poverty alleviation program that can be easily implemented & monitored.	4.1732
****Mobilizes local and community resources to meet current needs and ensure future requirements.	4.3228
****Funds sourcing for targeted community projects that can spur local & community future growth & sustainability.	4.3228

Legend* DF-Developmental Framework
**SFCO- Strategies for Community Organizing
***SFCS- Strategies for Community Service Delivery
****SSPCD- Strategies for Sustainable & Progressive Community Development

TABLE 3.2 BIOMEDICAL COURSE
ASSESSMENT ON THE ACCEPTABILITY OF THE STRATEGIES
FOR COMMUNITY DEVELOPMENT
HIGHEST MEAN SCORES OF EACH STRATEGY FOR
COMMUNITY DEVELOPMENT

*Develops its students to be future volunteers & leaders who are supportive to community development goals.	4.51
**Promotes educational campaign supportive to substance abuse prevention & control, disaster risk reduction management, safety & wellness, & others by way of campaign materials to target community neighborhood.	4.44
***Develops livelihood programs for women and people with disability.	4.44
****Adopts sustainable & community-based policies, approaches, & guidelines.	4.48

Table 3.2 shows that according to NSTP respondents/students under Biomedical courses, the best approaches on each category that are well applied for community development in consideration of the COVID-19 pandemic was the development of its students to be future volunteers & leaders who are supportive to community development goals.

Table 4.0 Descriptive Statistics of NSTP Students under Humanities and Social Sciences				
	N	Maximum	Mean	Std. Deviation
LTS_DF (Literacy Training Service Development Framework)	44	5	4.3223	0.55946
LTS_SFCO (Literacy Training Service Strategies for Community Organizing)	44	5	4.3591	0.58521
LTS_SFCS(LTS-SFCS- Literacy Training Service Strategies for Community Service Delivery)	44	5	4.3659	0.63793
LTS_SSPCD (Literacy Training Service Strategies for Sustainable & Progressive Community Development)	44	5	4.3773	0.50984
Valid N (listwise)	44			

Table 4.0 shows that the lowest mean of 4.3223 implies improvement of developmental framework for community development in consideration of the COVID 19 pandemic. The highest mean which is 4.3773 exhibits high confidence of NSTP

respondents/students under Humanities and Social Sciences courses on the Strategies for Sustainable and Progressive Community Development.

As evaluated from disagree to strongly agree (2.10-5.00) by the Humanities and Social Sciences students/respondents, all strategies pertain to be practical, do-able, and effective strategies for community development

TABLE 4.1 NSTP STUDENTS OF COURSES UNDER HUMANITIES & SOCIAL SCIENCES ASSESSMENT ON THE ACCEPTABILITY OF THE STRATEGIES FOR COMMUNITY DEVELOPMENT LOWEST MEAN SCORES OF EACH STRATEGY FOR COMMUNITY DEVELOPMENT

* Plans to be the center as initiating body of NSTP programs through its student-faculty initiative.	4.09
**Creates efficient mechanism to monitor funds to be allotted before and after school outreach activities.	4.26
***Mobilizes networking, partnership, and support for agri-business.	4.26
****Funds sourcing for targeted community projects that can spur local & community future growth & sustainability.	4.21

Legend* DF-Developmental Framework
**SFCO- Strategies for Community Organizing
***SFCS- Strategies for Community Service Delivery
****SSPCD- Strategies for Sustainable & Progressive Community Development

Table 4.1 exhibits that among all the approaches that the respondents assess to be improved more on community development, it is a contributory factor that there should be an initiative for planning for both students and faculty members.(4.09)

TABLE 4.2 NSTP STUDENTS OF COURSES UNDER HUMANITIES &
SOCIAL SCIENCES
HIGHEST MEAN SCORES OF EACH
STRATEGY FOR COMMUNITY
DEVELOPMENT

* Develops skills, competencies, and support to enhance volunteerism and programs for volunteer activities.	4.595238
**Promotes educational campaign supportive to substance abuse prevention & control, disaster risk reduction management, safety & wellness, & others by way of campaign materials to target community neighborhood.	4.604651
***Mobilizes partnerships to promote support, collaboration, & cooperation for community service delivery.	4.534884
****Develops monitoring and continuous improvement processes & practices.	4.488372

Legend* DF-Developmental Framework
**SFCO- Strategies for Community Organizing
***SFCS- Strategies for Community Service Delivery
****SSPCD- Strategies for Sustainable & Progressive Community

Table 4.2 exhibits the importance of promotion of educational campaign against drug abuse , disaster management, safety and wellness to community development.(4.604651) As we have experienced in the time of pandemic there were successive typhoons that have devastated the Philippines. Safety and wellness were the main focus against contraction of COVID-19 disease.

Table 5.0 Descriptive Statistics of NSTP Students under the Institute of Management

	N	Minimum	Maximum	Mean	Std. Deviation
CWTS_DF (Civic Welfare Training Service- Developmental Framework Strategies)	43	3	5	4.2535	0.60409
CWTS_SFCO (Civic Welfare Training Service- Strategies for Community Organizing)	43	3	5	4.2767	0.629
CWTS_SFCS(Civic Welfare Training Service- Strategies for Community Service Delivery)	43	2.6	5	4.2116	0.71288
CWTS_SSPCD (Civic Welfare Training Service- Strategies for Sustainable and Progressive Development)	43	3	5	4.2581	0.65981
Valid N (listwise)	43				

Legend* DF-Developmental Framework
        **SFCO- Strategies for Community Organizing
        ***SFCS- Strategies for Community Service Delivery
    ****SSPCD- Strategies for Sustainable & Progressive Community
    Development

Table 5.0. shows that NSTP respondents/students under the Institute of Management measures from moderately agree to strongly agree (3.00-5.00) on the Developmental Framework approaches, Strategies for Community Organizing and Strategies for Sustainable and Progressive Development.

Table 5.1. NSTP STUDENTS UNDER THE INSTITUTE OF MANAGEMENT COURSES
LOWEST MEAN SCORES OF EACH STRATEGY FOR COMMUNITY DEVELOPMENT

*Encourages the students to participate in local, regional, and national conferences that are supportive to the inter-agency (government, NGOs, institutions, and the like.) partnership in community development.	4.0238
**Undertakes community outreach activities aimed at identifying residents' difficulties, problems, risks, needs, and concerns.	4.1905
***Creates efficient mechanism to monitor funds to be allotted before and after school outreach activities.	4.1905
***Develops family planning and parenting programs.	4.0952
****Creates linkages & networking through purposeful partnership support towards sustainable & progressive community development.	4.1667

Legend* DF-Developmental Framework

**SFCO- Strategies for Community Organizing

***SFCS- Strategies for Community Service Delivery

****SSPCD- Strategies for Sustainable & Progressive Community Development

Table 5.1 shows that according to NSTP respondents/students under the Institute of Management evaluates that strategies on developing and family planning and parenting programs (4.0952) were needed in consideration to COVID-19 pandemic.

Covid-19 as a health issue branches out to other issues on mental health awareness of the youth that needed the support and guidance of the parents since during the COVID-19 lockdown family members have stayed more hours in their own homes.

Table 5.2. NSTP STUDENTS UNDER THE Institute of MANAGEMENT COURSES
HIGHEST MEAN SCORES OF EACH STRATEGY FOR COMMUNITY DEVELOPMENT

Develops skills, competencies, and support to enhance volunteerism and programs for volunteer activities.	4.4524
	4.4146
Builds student leaders intended for NSTP that can be activated anytime as the need & opportunity arises.	
Formulates clean-up drive and zero waste managements to communities.	4.3571
Develops project activities promoting sustainable community development.	4.4286

Legend* DF-Developmental Framework

**SFCO- Strategies for Community Organizing

***SFCS- Strategies for Community Service Delivery
****SSPCD- Strategies for Sustainable & Progressive Community Development

Table 5.2 exhibits the importance of skills development and competencies for volunteer activities, Respondents from the Institute of Management have assessed this strategy as the highest. (4.4524) Thus, it was evident that during the COVID-19 pandemic more volunteerism programs escalated in social media such as establishments of Community Pantries and volunteerism activities packaging of donations in evacuation centers.

Table 6.0 Descriptive Statistics of NSTP Students under the School of Engineering

	N	Minimum	Maximum	Mean	Std. Deviation
CWTS_DF (Civic Welfare Training Service-Developmental Framework Strategies)	55	3.2	5	4.3818	0.47183
CWTS_SFCO (Civic Welfare Training Service-Strategies for Community Organizing)	55	3	5	4.3275	0.48313
CWTS_SFCS(Civic Welfare Training Service-Strategies for Community Service Delivery)	55	3.2	5	4.3727	0.50091
CWTS_SSPCD (Civic Welfare Training Service-Strategies for Sustainable and Progressive Development)	55	3.1	5	4.3398	0.55712
Valid N (listwise)	55				

Table 6.0 shows Engineering NSTP respondents/students measures the strategies for community development from moderately agree to strongly agree with more confidence the approaches on Developmental Framework.

Table 6.0 Descriptive Statistics of NSTP Students under the School of Engineering

	N	Minimum	Maximum	Mean	Std. Deviation
CWTS_DF (Civic Welfare Training Service- Developmental Framework Strategies)	55	3.2	5	4.3818	0.47183
CWTS_SFCO (Civic Welfare Training Service- Strategies for Community Organizing)	55	3	5	4.3275	0.48313
CWTS_SFCS(Civic Welfare Training Service- Strategies for Community Service Delivery)	55	3.2	5	4.3727	0.50091
CWTS_SSPCD (Civic Welfare Training Service- Strategies for Sustainable and Progressive Development)	55	3.1	5	4.3398	0.55712
Valid N (listwise)	55				

Legend* DF-Developmental Framework
   **SFCO- Strategies for Community Organizing
   ***SFCS- Strategies for Community Service Delivery
   ****SSPCD- Strategies for Sustainable & Progressive
   Community Development

Table 6.1. shows that the respondents size up the need of the application of Alternative Learning System in consideration to COVID-19 pandemic. They believe that this system will be very much useful in community organization.

**Table 6.2. NSTP STUDENTS UNDER THE
SCHOOL OF ENGINEERING
HIGHEST MEAN SCORES OF EACH STRATEGY FOR COMMUNITY
DEVELOPMENT**

* Develops skills, competencies, and support to enhance volunteerism and programs for volunteer activities.	4.537
**Formulates effective community assessment that is safe and reliable.	4.519
***Formulates clean-up drive and zero waste managements to communities.	4.537
****Organizes potential local sustainable employment opportunities for community residents. Sustainable employment includes, turning wastes• into resources (e.g., recycling); improving efficiency about energy and materials; converting to greater reliance on renewable energy sources; increasing community self-reliance (e.g., food and energy production); and sustainable management of natural resources.	4.434

Legend* DF-Developmental Framework

**SFCO- Strategies for Community Organizing

***SFCS- Strategies for Community Service Delivery
****SSPCD- Strategies for Sustainable & Progressive Community Development

Table 6.2 emphasizes the importance of environmental education (4.5370) and enhancement of volunteerism programs in community development.

Table 7.0 Descriptive Statistics of NSTP Students under the School of Criminology

	N	Minimum	Maximum	Mean	Std. Deviation
ROTC_DF (Reserve Officers Training Corps- Developmental Framework	9	3	5	4.3556	0.61667
ROTC_SFCO (Reserve Officers Training Corps Strategies for Community Organizing)	9	2.8	5	4.3444	0.70907
ROTC_SFCS(Reserve Officers Training Corps Strategies for Community Service Delivery)	9	2.4	5	4.2889	0.85651
ROTC_SSPCD Reserve Officers Training Corps (Strategies for Sustainable & Progressive Community Development)	9	2.4	5	4.2889	0.82378
Valid N (listwise)	9				

Table 7.0 shows the responses ranges from disagree to strongly agree in the strategies for community development with the lowest mean score on strategies for Community Service Delivery and Sustainable & Progressive Community Development.

Table 7.1. NSTP STUDENTS UNDER THE SCHOOL OF CRIMINOLOGY
LOWEST MEAN SCORES OF EACH STRATEGY FOR COMMUNITY DEVELOPMENT

*Develops effective program to mobilize barangay residents in when community outreach is put to action.	4.22
** Creates efficient mechanism to monitor funds to be allotted before and after school outreach activities.	4.22
***Develops poverty alleviation program that can be easily implemented & monitored.	4.11
****Mobilizes local and community resources to meet current needs and ensure future requirements.	4.00

Legend* DF-Developmental Framework

**SFCO- Strategies for Community Organizing

***SFCS- Strategies for Community Service Delivery
****SSPCD- Strategies for Sustainable & Progressive Community Development

Table 7.1 shows that respondents suggest the need for mobilizing community resources in times of COVID-19 pandemic so that to meet the current need such as food and medicine.

Table 7.2. NSTP STUDENTS UNDER THE SCHOOL OF CRIMINOLOGY
HIGHEST MEAN SCORES OF EACH STRATEGY FOR COMMUNITY DEVELOPMENT

*Develops skills, competencies, and support to enhance volunteerism and programs for volunteer activities.	4.7778
**Promotes educational campaign supportive to substance abuse prevention & control, disaster risk reduction management, safety & wellness, & others by way of campaign materials to target community neighborhood.	4.7778
***Formulates outcome-based community service delivery for quality and efficiency.	4.4444
****Creates linkages & networking through purposeful partnership support towards sustainable & progressive community development.	4.5556

Legend* DF-Developmental Framework

**SFCO- Strategies for Community Organizing

***SFCS- Strategies for Community Service Delivery
****SSPCD- Strategies for Sustainable & Progressive Community Development

Table 7.2 exhibits that Criminology respondents/students believe that development in the skills and competencies together with promotion of information campaigns in disaster management plan are best strategies for community development.

Table 8.0 Summary of Results

DEVELOPMENTAL FRAMEWORK	
BIOMEDICAL COURSES	Plans to be the center as initiating body of NSTP programs through its student-faculty initiative (4.04)
HUMANITIES AND SOCIAL SCIENCES	Plans to be the center as initiating body of NSTP programs through its student-faculty initiative (4.09)
INSTITUTE OF MANAGEMENT	Encourages the students to participate in local, regional, and national conferences that are supportive to the inter-agency (government, NGOs, institutions, and the like.) partnership in community development (4.02).
SCHOOL OF ENGINEERING	Plans to be the center as initiating body of NSTP programs through its student-faculty initiative (4.24)
SCHOOL OF CRIMINOLOGY	Formulates plans and programs towards external fund sourcing & resources allocation for its services in the community neighborhood (4.00).

STRATEGIES FOR COMMUNITY ORGANIZING	
BIOMEDICAL COURSES	Evaluates the acceptability of program in consultation with school administrators within the consensus of students, parents, and guardians (4.19)
HUMANITIES AND SOCIAL SCIENCES	Creates efficient mechanism to monitor funds to be allotted before and after school outreach activities (4.26).

INSTITUTE OF MANAGEMENT	Undertakes community outreach activities aimed at identifying residents, difficulties, problems, risks, needs, and concerns. Creates efficient mechanism to monitor funds to be alloted and after school outreach activities (4.19).
SCHOOL OF ENGINEERING	Develops NSTP Alternative Learning System (ALS) plans and programs that can be translated to reality when the college moves forward to practical community development off-campus (4.19).
SCHOOL OF CRIMINOLOGY	Develops NSTP Alternative Learning System (ALS) plans and programs that can be translated to reality when the college moves forward to practical community development off-campus. Formulates effective community assessment that is safe and reliable. Clarifies NSTP relevant operational goals, aims, and objectives. Develops effective program to mobilize barangay residents in when community outreach is put to action. Creates efficient mechanism to monitor funds to be allotted before and after school outreach activities (4.22)

STRATEGIES FOR COMMUNITY SERVICE DELIVERY

BIOMEDICAL COURSES	Develops poverty alleviation program that can be easily implemented & monitored (4.17).
HUMANITIES AND SOCIAL SCIENCES	Mobilizes networking, partnership, and support for agri-business (4.26).
INSTITUTE OF MANAGEMENT	Develops family planning and parenting programs (4.10).
SCHOOL OF ENGINEERING	Adopts a community-based service delivery planning. Mobilizes networking, partnership, and support for agri-business (4.26).

22

SCHOOL OF CRIMINOLOGY	Develops poverty alleviation program that can be easily implemented and monitored (4.11).

STRATEGIES FOR SUSTAINABLE & PROGRESSIVE COMMUNITY DEVELOPMENT

BIOMEDICAL COURSES	Mobilizes local and community resources to meet current needs and ensure future requirements. (4.32)
HUMANITIES AND SOCIAL SCIENCES	Creates linkages & networking through purposeful partnership support towards sustainable & progressive community development (4.21).
INSTITUTE OF MANAGEMENT	Creates linkages & networking through purposeful partnership support towards sustainable & progressive community development (4.17).
SCHOOL OF ENGINEERING	Creates linkages & networking through purposeful partnership support towards sustainable & progressive community development (4.24).
SCHOOL OF CRIMINOLOGY	Mobilizes local and community resources to meet current needs and ensure future requirements (4.00)

Table 8.0 shows that NSTP respondents/students from Biomedical courses, Humanities and Social Sciences and School of Engineering assess that the center and the initiating body on community development are the plans that are executed by the students and faculty members. The respondents in the School of Criminology with the School of Engineering evaluates how Alternative Learning System plans can be utilized as an important vehicle towards a practical off-campus application on community development towards Community Organization. The NSTP respondents/students of the School of Criminology and Biomedical courses evaluated that to alleviate poverty, programs that are easily implemented and monitored must be applied to the

community to improve the delivery of community services. Hence, the creation of networking and purposeful partnership was evaluated by the respondents from the School of Engineering, Institute of Management and Humanities and Social Sciences as strategies needed for sustainable and progressive development of the NSTP adopted barangays. In addition, the respondents from the School of Criminology and Biomedical Sciences reiterated the importance of mobilization of the barangay resources to meet the needs of its residents.

3. What effective framework can be formulated that will lead to sustainable community development program based on Focus Group Discussion from panel of NSTP Experts?

CATEGORIES FOR EFFECTIVE FRAMEWORK OF SUSTAINABLE COMMUNITY DEVELOPMENT

1. STRATEGIES FOR DEVELOPMENTAL FRAMEWORK
2. STRATEGIES FOR COMMUNITY ORGANIZING
3. STRATEGIES FOR EFFECTIVE COMMUNITY SERVICE DELIVERY
4. STRATEGIES FOR SUSTAINABLE AND PROGRESSIVE DEVELOPMENT

Table 9.0 Questions for Focus Group Discussion-NSTP Experts responses on relevant question about Community Development

1. Considering the on-going risks of Covid 19, what do you think is the acceptable activities for community development to the students and parents. (Give at least 2 activities)?
2. Based on your actual experience and expertise, what are the practical, doable, and effective strategies for community organizing (Give at least 2)?
3. Based on your actual experience and expertise, what are the practical, doable, and effective strategies for community service (Give at least 2)?

4. Based on your actual experience and expertise, what are the practical, doable, and effective strategies for sustainable and progressive community development program (Give at least 2)?

5. Please recommend two (2) strategic statements for sustainable and progressive community development.

Examples:

1. A drug free community brings peaceful and safety environment.

2.A disaster risk reduction management program creates ready, prepared, & responsive volunteers and community members.

Categories for Effective Framework of Sustainable Community

	Source	**Extracted Data**	**Code**	**Themes**
Strategies for Community Development	Expert 1	Due to pandemic, onsite gatherings have been limited. Therefore, online webinars through various platforms Zoom, Google meet and other social media platforms are a great help to discuss different things about community development plan which can help people to show people and gain knowledge of other community development activities.	Virtual means of teaching and training	Building a strong community in a virtual room can be achieved through various strategies such as reaching out to students, parents, stakeholders, and community that enables the Emilian community to teach, train and provide opportunities for more accessible and engaging community development.

Expert 2	The eagerness to express awareness despite of the dangers brought about by COVID-19 has highlighted the need to reach out the communities has always been an effective way to help community through fostering community activities. However, any related activities that will strictly adhere to the COVID-19 protocols are still preferred by parents and guardians during these times.	Willingness to help without compromising the COVID-19 protocols	Volunteering and helping others can help people grow as individuals and as part of the community. Building confidence in individuals' ability to follow protocols may be an effective way to encourage their compliance and community involvement.
Expert 3	Parent and child initiatives are crucial during these times. It is crucial that parents are informed in terms of planning and execution of these activities.	Assessing available resources and readiness is a key part of the planning process	It helps to identify current conditions, desired services or outcomes, and accurately measure where the community is on various elements of readiness. Community assessment data can inform policies, programs, and practices, allowing resources to be allocated in ways that ensure equity and optimal outcomes.

Expert 4	Develop skills, competencies, and intensified support to enhance volunteerism and programs for volunteer activities.	Developing a volunteer leadership program framework	By recruiting and equipping volunteer leaders with the necessary skills and resources, organizations can create a solid and sustainable framework for developing leaders at the local level. Successful strategies for recruiting, training, and utilizing volunteers are necessary for a healthy and better community
Expert 5	The scheme of activities for parents and students must be based on the institutional policies of higher education institutions.	Activities consistent and align with institutional policies	Successful activities that align with institutional policies can help build trust, mutual confidence, and capacity among partners. They can also increase the partners' ability to attract outside resources. Community engagement by colleges and universities can lead to improved institutional commitment to the curriculum, improved student retention, enhanced community relationships.

Strategies for Developmental Framework		Conduct organization program for different places within the community and create an action plan.		It can increase the community's ability to work together towards achieving desired goals and outcomes.
	Expert 1		Leading the community in action planning	
	Expert 2	Building relationship and establishing rapport among the members of the target community.	Building mutual trust and establishing strong two-way connections	It also supports progress measurement and tracking, which encourages self-improvement and helps groups delineate the difference between short-term solutions and long-term solutions in helping the community.
	Expert 3	The conduct of research about the community through survey.	Utilizing survey data	
				Surveys can also be used to measure ideas or opinions about community issues related to an initiative. By using data, communities can make better decisions that will better serve their residents

Expert 4	The most practical or doable program for community organizing is The Alternative Learning System ALS.	Engaging and effective teaching strategies	
			Bringing real-world examples and tackling real-world problems in the classroom, students can learn more meaningfully and become excited about making a positive impact on their communities
Expert 5	Practical community organizing strategies "kwentuhan sa kanto", participation in the daily activities of community residents, engagement in community events and selected activities e. g. Fiesta, church activities viable strategies for community organizing activities	Building capacity to participate effectively	Building capacity focuses on enabling all members of the community, including the poorest and most disadvantaged, to develop skills and competencies that can make them more effective and sustainable. It promotes the capacity of local communities to develop, implement, and sustain their own solutions to problems through dialogue.

Strategies for Community Organizing	Expert 1	Conduct a project for community clean-up, getting a community involved in a neighborhood cleanup, and tree planting.	Participating in community service	Community service instills values such as selflessness, generosity, and kindness. It promotes sustainable decisions by recognizing the needs and interests of all participants. Community involvement is meaningful participation in activities that support social well-being.
	Expert 2	Beautification and cleanliness efforts like waste management initiatives, and activity for senior members of the community.	Safe, clean, and healthy communities	Keeping the community safe, clean, and healthy is essential for promoting well-being and improving the lives of residents living in a community.
	Expert 3	Teaching is the most practical way to deliver community services.	Community-based learning	It provides an opportunity for a community to shape students' values and prepare them for engaged citizenship, leadership, and community participation.

Expert 3	Farming and agri-business, funding and technical support	Essential community services	
			Community service provides many benefits, including connecting people to their community, raising social awareness, and fostering a sense of belonging and purpose. Essential community services are good and interesting because they provide opportunities for individuals to give back to their communities while also benefiting themselves.
Expert 4	Sustainability and training	Building a better community	Building a strong brand community is also helpful for business reputation, paving the way for strategies in helping the community without compromising its capacity and people.
Expert 5	Conducting a community plan that can support and guide a program conducted e.g partnership.	Leading the community in action planning	It can increase the community's ability to work together towards achieving desired goals and outcomes.

Strategies for Effective Community Service Delivery	Expert 1	Livelihood programs for community development projects like community garden.	Self-help group initiative for the community	This enables people with disabilities and other vulnerable populations to develop knowledge and skills to become contributors in their families and communities.
	Expert 2	Engaging in community service encourages students to become active community members while having a long-term, constructive influence on society and benefitting the entire community. Volunteering for community service gives learners life skills and knowledge while also helping those in need.	Support and community service	Strengthening the community by supporting families, community members, improving schools, and supporting youth by volunteering which enables community members to be skillful and knowledgeable.
	Expert 3	Hydroponics, production of organic fertilizers, Vertical Farming, etc. another by-product of agri-business and organic farming is the "therapeutic" effects on the participators, sense of accomplishment for the students, the instructors, and the institution's sense of altruism.	Essential community projects and initiatives	Community engagement increases the likelihood that projects or solutions will be widely accepted and creates more effective solutions which contributes to one's sense of accomplishments.

Expert 4	The school can organize educational trips, effective strategies, community development programs' practical, and promoting university-community partnerships to stakeholders, partner communities, and local governments for sustainable and progressive community development programs.	Promoting school and community partnerships	School and community partnerships can provide students and community member with a better intervention which can promote high-quality, engaging, and challenging development programs.
Expert 5	By partnerships of NGO's for effective community action plans can help each other and people for better program.	Identifying opportunities for partnership	Identifying strategic partnerships can help school assess whether it's a good fit and make pitches to potential partners that can help community develop sustainable programs.

Strategies for sustainable and progressive development	Expert 1	"Make a Difference!" and "Sama-Sama ang Pag-Unlad!"	Expanding capacity through volunteers	It involves developing strategies to improve volunteerism, mobilizing community resources, and measuring the impact of volunteer contributions. By this, school can increase its capacity to make change and attract more volunteers in the future in helping a community.
	Expert 2			
	Expert 3	"Unity is the Key" "Knowledge is Power!"	Community empowerment Initiative	Giving people power and making people part of the decision-making process.

Expert 4	Creating linkages and networking through the purposeful partnership supports sustainable and community-based development. Agri-business and organic farming must have identified and ready market for disposal of their products. Linkages with private and government agencies must be tapped to secure the market for the product and leaked to mainstream demands if possible.	Sustainability connections and linkages	Through partnerships, schools and communities can create high-performance learning environments by incorporating information about sustainability into the curriculum. Evaluating school-community participation in developing a sustainable education program can help analyze the nature of relationships formed between sustainability education schools and their communities
Expert 5	It is vital to define also the difference between community activities as the academic requirement and volunteer activities, but these must be aligned with the institution's objectives. The core values of EAC can be used as a basis for organizing student volunteer groups.	Strategic planning	Strategic planning can help the community in several ways. It provides a roadmap for short and long-term social and economic development strategies that can improve the quality of life and prosperity for residents

CONCLUSION

This study focused on how young people enrolled in National Service Training Program are being affected on the COVID-19 pandemic and its global challenges. It highlights issues on developmental framework, strategies in the delivery of community services, approaches in for community organizing and strategies in sustainable and progressive community development.

This study maps the importance of plans and strategies in community development which is instrumental in raising the standard of living of communities. Not only as an NSTP student but also as a youth of this generation, the youth of today plays an important role in the social change and economic development and emergence of new leadership in their local communities.

It calls for the rethinking of the perceived challenges in community service after the two (2) long years of lock-down in communities during the COVID-19 pandemic. Other challenges also include drawing the attention to the enormous value of engaging with and empowering these young people for a better society in the future. With this in mind, NSTP programs must be geared toward the solutions of these challenges through better strategies that will lead towards community development.

CONCLUSION FOR FOCUS GROUP DISCUSSION

The information drive to express the awareness of the dangers of the pandemic while at the same time, emphasizing the need to reach out to communities to be an agent of change for the better has still been an effective way to open opportunities for community development. However, any activity that will strictly adhere to the Covid 19 protocols is still preferred by parents during these times. Conduct organization program for different places within the community for people to know the plan and shall participate the program. Create an action plan that your team will

follow to effect change. Choose a manageable and impactful strategy depending on how many people you can mobilize and the kind of impact you want to achieve.

Engaging in community service encourages students to become active community members while having a long-term, constructive influence on society and benefiting the entire community. Volunteering for community service gives learners life skills and knowledge while also helping those in need. By partnerships of non-governmental organizations (NGOs) for effective community action plans can help each other and people for better program.

RECOMMENDATIONS

Based on the foregoing conclusions, the researchers arrived at the recommendations that follow:

1. The NSTP Community Development Program of EAC- Cavite is needed to be maintained while others are needed to be improved and realized. Parts to be improved are provision for linkages through purposeful partnership in strategies for action towards a progressive community, provision for plans and programs towards external fund sourcing & resources allocation for its services in the community neighborhood, provision for networking & strategic support to ensure effective community development, and provision for policies and practices which support quality community development.

2. *For Community Organizing*, there is a need for provision of community outreach activities aimed at identifying residents' difficulties, problems, risks, needs, and concerns, provision for acceptability of program in consultation with school administrators within the consensus of students, parents, and guardians, and provision of efficient mechanism to monitor funds to be allotted before and after school outreach activities.

3. *For Community Service Delivery*, there is a need for provision of partnerships to promote support, collaboration, & cooperation for community service delivery, provision of clean-up drive and zero waste managements to communities, provision of livelihood programs for women and people with disability, provision of trainings for organic farming, seed banking, and agribusiness, provision of entrepreneurial programs such as online business, agri-business, and Micro, Small and Medium Enterprises MSME, and provision of networking, partnership, and support for agribusiness.

4. *For Sustainable and Progressive Development*, there is a need for provision of training for sustainable community projects among students, provision of training for sustainable community projects among NSTP faculty members, provision of sustainable & community-based policies, approaches, & guidelines, provision of linkages & networking through purposeful partnership support towards sustainable & progressive community development, provision of monitoring and continuous improvement processes & practices, provision of local & community-based strategies for sustainable programs & projects, and provision of local and community resources to meet current needs and ensure future requirements.

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ANTI-INFLAMMATORY ACTIVITY OF VIRGIN COCONUT (*COCOS NUCIFERA L.*) OIL AGAINST CHRONIC CUTANEOUS INFLAMMATION

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KEYWORDS:

- **Allergicreaction**
- **Antihistamine**
- **Eczematous**
- **Lesions**
- **Medium-chainfatty acids**
- **Pruritus**

Abstract. The anti-inflammatory therapeutics of virgin coconut oil has long been documented in a number of literature. One of the obtained findings from several conducted studies has revealed that flavonoids are the most biologically active phenolic metabolite found in VCO. The high antioxidant and antiallergic activity of VCO have been attributed to its high phenolic content. Flavonoids, the biggest group of naturally occurring phenolic compounds, have been reported to inhibit histamine release. This study was conducted to determine

the significant difference in the anti-inflammatory activity of two orally taken dosages (0.6 mL/kg body weight and 1.2 mL/kg body weight) of VCO against chronic cutaneous inflammation. Two treatment groups were formed, each consisting of five participants recruited through a convenient sampling technique and in conformity with the inclusion criteria defined by the researchers. Qualified participants were randomly assigned to a certain group, whether group A or B. The anti-inflammatory activity of the two oral dosages of VCO was measured and evaluated through three variables namely, perceived improvement of lesion, intensity of pruritus, and objective changes in sizes of the lesions. Verbal rating scales were devised for the first two variables while lesion size was objectively quantified and expressed in a millimeter scale. The study period lasted up until 15 consecutive days and observation was conducted every three days. Through appropriate statistical tools, the results of this study suggested that there was no substantial difference between the two treatment groups in terms of the measured intensity of pruritus, improvement of the lesions, and objective size of the lesions. Thus, both two treatment groups were reliably the same in all three assed variables. Contrastingly, the results of the three assessed variables within thegroup indicated that there was a statistically substantial difference in the intensity of pruritus measured between days of the study period. Pruritus resolution can be elaborated through concomitant improvement in barrier function of the skin. The declining pattern of pruritus intensity was evident within the group. The obtained findings of this study have to be interpreted as preliminary due to the small number of participants.

Anti-Inflammatory Activity of Virgin Coconut (*Cocos nucifera l.*)Oil Against Chronic Cutaneous Inflammation

INTRODUCTION

Skin disease is a global public health concern inextricably linked to physiological, psychological, and social impacts. Nonetheless, uncertainties have prevailed as to how patients with skin disease can attune to these impacts (Zhang et al., 2019). As the largest organ of the human body, the skin is the main barrier that withstands the external environment. Chronic skin inflammation adversely affects psychological well-being and quality of life, thus causing an impairment not only on the skin's function as a barrier for infection but also on the ability of an individual to function. Research endeavors and funding, however, are not compatible with the relative disability of skin diseases (Seth et al, 2017).

The chronic cutaneous inflammation dealt with by this study is triggered when the immune system releases histamine that causes blood vessels to leak, and the skin to swell. This can leave anyone with itchy, red, and white bumps or welts that range in size and can be anywhere on the body, and last six or more weeks (Branco et al., 2018). This skin disorder characterized by pruritus and chronic eczematous lesions and inflammation has emerged as a result of a complex interplay between genetic and environmental factors (Otsuka et al., 2017). Unfortunately, there is a paucity of epidemiological data pertinent to this chronic skin disorder and its treatments in the Philippines. Current treatment regimen carried out by healthcare professionals and patients focuses on a set of guidelines for choosing and subscribing to efficacious therapeutic options such as antihistamines. Hence, there is a pressing need for intervention through exploratory options aimed at identifying safe, affordable, effective, and natural alternatives for chronic cutaneous inflammation which can provide essentially plausible savings that adequately outweigh the cost.

43

Suppressing inflammatory markers and protecting the skin by enhancing skin barrier function crucially characterized the anti-inflammatory activity of VCO as elucidated by Varma et. al (2019). This was the initial and fundamental conclusive documentation on the anti- inflammatory and skin protective benefits of VCO in vitro. Overall, the findings have rationalized and authorized the use of VCO in skin care formulations. The findings of Angeles-Agdeppa et. al (2021) suggest that VCO has been found to be effective in reducing inflammation and showed rapid symptom relief in suspected and probable COVID-19 subjects, through randomized clinical trials in the Philippines.

Guided by a number of published studies on VCO, this study employed the experimental research design to investigate the anti-inflammatory activity of the two oral dosages of virgin coconut oil (VCO) against chronic cutaneous inflammation for a period of 15 consecutive days. The VCO dosages for oral intake, 0.6 mL/kg body weight and 1.2 mL/kg body weight were patterned from Agdeppa et al (2021). Specifically, this study aimed to determine the significant difference in the anti-inflammatory activity of two VCO oral dosages. Anti-inflammatory activity of VCO was measured through appropriate variables namely, the participant's perception of the improvement of lesions, the intensity of pruritus, and the changes in the size of lesions. The significant difference in those assessed variables between treatment groups was determined across test periods within a group. The test periods were the following: day 1 (baseline), day 3, day 6, day 9, day 12, and day 15.

METHODOLOGY

Research Design and Participants

This study employed the quantitative experimental research design to address and elucidate the objectives of the study. A convenient sampling technique was employed due to the restriction on population mobility during the pandemic and the nature of this study itself. The purposively selected participants were randomly assigned to a group. Each of the two treatment groups consisted of five participants whose ages ranged from 16 to 35 years and who had chronic cutaneous inflammation due to histamine during the period of the study but were not under any

medication for allergic reactions. Written informed consent was obtained from the ten participants prior to the proper experimental phase. The VCO used in this study is a product of Prosource International and approved by FDA Philippines. Group A participants were administered individually with a VCO oral dose of 0.6 mL/kg body weight equally divided for 15 days as adapted from Angeles-Agdeppa et al (2021). Each participant of group B was given an oral dose of 1.2 mL/kg body weight divided by 15 days as well. The determined daily oral dose was divided into two, with the first half taken in the morning and the second half at night.

One of the variables assessed by this study was the subjective perception of improvement of lesions or rashes which was measured as no change, improved, or visually cleared. The second variable was pruritus intensity which was described using the verbal rating scale such as no itch, low itch, moderate itch, and severe itch. The last variable evaluated was the objective changes in lesion size measured in millimeters. Observation and data gathering was conducted every after three days.

Statistical Data Analysis

The assessed variables of this study included the significant difference in the perception of improvement of lesions between the two treatment groups, the significant difference in the intensity of pruritus between the two treatment groups, the significant difference in the changes in the size of lesions between the two treatment groups, and the significant difference in each measured variable between the test periods within a group. The gathered data pertinent to the assessed variables were statistically analyzed and interpreted through paired sample T-Test.

Ethical Consideration

The involvement of human participants in this study necessitated the acquisition of approval from the Institutional Ethical Review Board (IERB). After this research study had undergone through a review process and the study protocol was granted approval by the IERB of Emilio Aguinaldo College-Cavite, this quantitative experimental study was conducted given the assurance of strict compliance with ethical standards for human experimentation. Informed consent was secured from each participant that underscored voluntary participation, confidentiality, and anonymity. Voluntary participation indicates

that all research subjects are given the choice to freely participate without any coercion. Further, all participants were made to understand that they could withdraw from, or leave, the study at any point without negative repercussions if the need to do it would arise.

RESULTS

Table 1

The Three Assessed Variables Between The Two Treatment Groups

Comparison	p	t	Sig. (2-tailed)	Decision
Subjective Perception of Improvement of Lesions	<0.05	1.234	0.264	Accept Ho
Pruritus intensity	<0.05	1.673	0.137	Accept Ho
Objective changes in lesionsize	<0.05	1.359	0.241	Accept Ho

Table 1 shows the obtained p value for each of the three assessed variables of this study namely.perceived improvement of lesions, pruritus intensity, and objective changes in lesion size. The p values obtained are higher than the p=0.05 level of significance which means that the difference in mean scores between the two treatments groups A and B is statistically not significant at the 0.05 level of significance. Thus, all hypotheses of the study were accepted.

Table 2

The Subjective Perception of Improvement of Lesions for Five Periods Within Group A

Period	Mean	t score	P-value	Decision
Day 3	0.62	2.45	0.07	Accept Ho
Day 6	0.6	2.45	0.07	Accept Ho
Day 9	0.6	2.13	0.09	Accept Ho
Day 12	0.8	3.16	0.03	Reject Ho
Day 15	1.0	3.16	0.03	Reject Ho

Table 2 reveals that for the subjective perception of improvement of lesions within Group A participants who were administered with 0.6 mL/kg body weight. The observed results did not manifest a significant difference between day 1 and the 3 test periods namely, day 3, 6, and 9. But a significant difference was detected during day 12 and day 15 and the p-value = 0.03 showed a statistically significant difference within the treatment group which was orally administered with 0.6 mL/kg body weight.

Table 3
Subjective Perception of Improvement of Lesions for Five Periods Within Group B

Period	Mean	t score	P-value	Decision
Day 3	0.4	1.0	0.37	Accept Ho
Day 6	0.6	2.45	0.07	Accept Ho
Day 9	1.0	2.13	0.09	Accept Ho
Day 12	1.4	3.16	0.03	Reject Ho
Day 15	1.6	3.16	0.03	Reject Ho

The subjective perception of improvement of lesions within Group B participants who were administered with 1.2 mL/kg

body weight is presented in Table 3. The observed results suggest that there is no substantial difference between day 1 and the 3 test periods such as day 3, 6, and 9. But a significant difference was detected during day 12 and day 15, with the p value lower than the 0.05 level of significance.

Table 4

Intensity of Pruritus For Five Study Periods Within Group A

Period	Mean	t score	P-value	Decision
Day 3	1.6	1.86	0.11	Accept Ho
Day 6	1.2	2.36	0.06	Accept Ho
Day 9	1.2	2.36	0.06	Accept Ho
Day 12	0.4	4.24	0.01	Reject Ho
Day 15	0.4	4.02	0.01	Reject Ho

The intensity of pruritus within Group A participants who had the oral intake of 0.6 mL/kg body weight is presented in Table 4. The observed results suggest that there is no significant difference between day 1 and the 3 test periods (day 3, 6, and 9). But a significant difference was detected during day 12 and day 15.

Table 5

Intensity of Pruritus For Five Study Periods Within Group B

Period	Mean	t score	P-value	Decision
Day 3	2.2	0.37	0.72	Accept Ho
Day 6	1.6	1.71	0.13	Accept Ho
Day 9	1.6	1.71	0.13	Accept Ho
Day 12	0.4	4.26	0.004	Reject Ho
Day 15	0.4	4.26	0.004	Reject Ho

The intensity of pruritus among Group B participants who had an oral intake of 0.6 mL/kg body weight is presented in Table

5. The observed results suggest that there is no significant difference between day 1 and the 3 test periods (day 3, 6, and 9). But a significant difference was detected during day 12 and day 15.
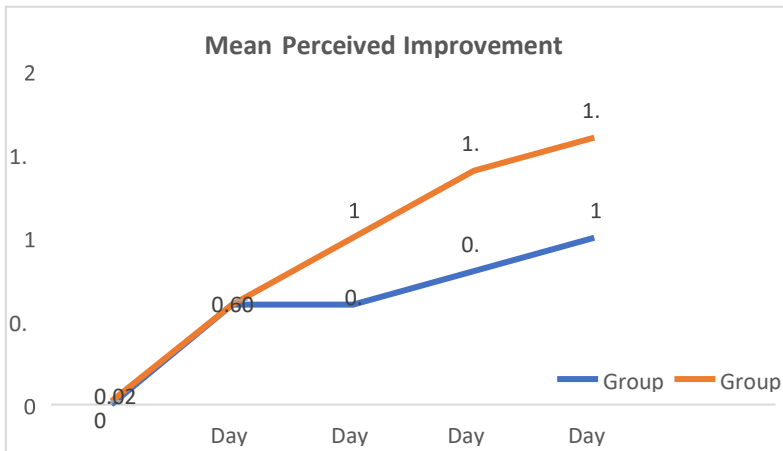
Figure 1. Graph showing the comparison of mean perceived improvementof lesion between the 2 treatment groups during the 15-day study period

Figure 1 presents the graph of the mean scores of the 2 treatment groups, A and B, which indicates an increasing pattern of perceived improvement of lesion during the 15-day duration of this study. Day 1 is the baseline period, and the difference in the perceived improvement of lesions were relatively the same from day 3 to day 9. A considerable difference was observed at day 12 up to day 15. Statistical analysis, however, did not generate a significant difference between the two treatment groups which supports the null hypothesis.
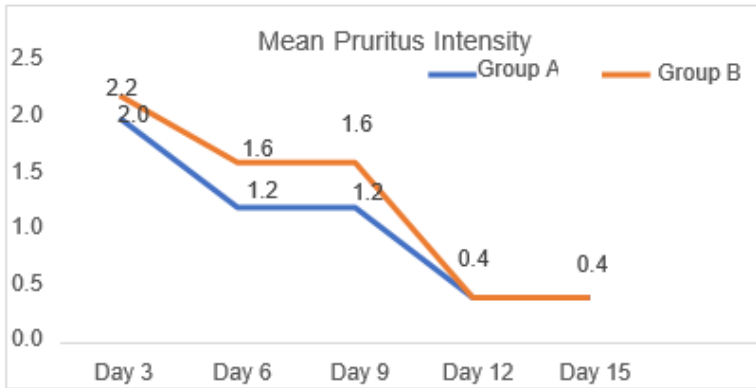
Figure 2. Line graph showing the comparison of mean pruritus intensity between the 2 treatment groups during the 15-day study period
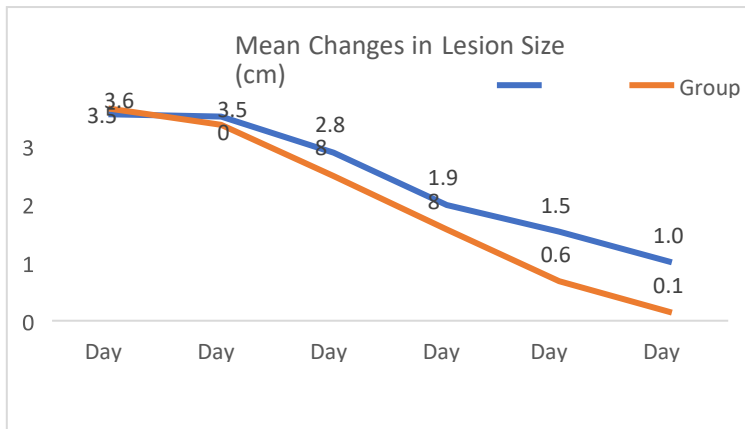
Figure 3. Graph showing the comparison of changes in size of lesion between the 2 treatment groups during the 15-day study period

Figures 1, 2, and 3 present the results of this study that indicate the absence of statistically considerable difference between the obtained means from the two treatment groups A and B. Group A consisted of five participants, each given 0.6 mL/kg body weight orally administered VCO divided in 15 consecutive

50

days. Whereas, each of the Group B participants was given 1.2 mL/kg body weight.

DISCUSSION

This study evaluated the anti-inflammatory activity of virgin coconut oil (VCO) in two dosages which were taken orally by the ten participants who had recurrent skin inflammation due to the secreted histamine by the body cells. The screened participants who passed the inclusion criteria were randomly assigned to either of the two treatment groups and the measured VCO intake was administered for 15 days in a row. The anti-inflammatory activity of the two dosages of VCO was measured and evaluated through three variables namely perceived improvement of lesion, intensity of pruritus, and objective changes in sizes of the lesions.

The perception of improvement of lesions was characterized by the morphological features described as no change, improved, and visually cleared. The results of this study revealed that there was no distinguished difference in the perceived improvement of the lesion described between the two treatment groups. Thus, the results support the null hypothesis. Examining the tabulated values makes it appear that 1.2 mL/kg body weight dose resulted in a more improved lesion condition but statistical analysis proved otherwise. This corroborates with the study of Adeyemi (2020) that there is no conclusive evidence on the optimal amount of virgin coconut oil (VCO) that could be of health benefit, although it is known to enhance lipid metabolism. It conclusively affirmed that VCO preferably at a low dose could be used to reverse hepatic structural alteration and some biochemical deviations following dietary modifications in obese conditions.

The second indicator of the anti-inflammatory activity of VCO is pruritus intensity that is elaborated using the Verbal Rating Scale (VRS) as no itch, low, moderate, or severe itch, as adapted from the study of Uyet al (2018). Several mediators triggering itch have been explored and identified.. Among them, histamine has been a persistent culprit and is the most thoroughly studied pruritogen for decades (Grundmann, 2011). A study on the measurement of itch intensity by Reich and Szepietowski (2016) explores and expounds the nature of this parameter.

Measurement of itch intensity reinforces the relevant details concerning inflammation.

The results of this study showed that there is no significant difference between the measured intensity of pruritus described by participants in two treatment groups who had an intake of 0.6 mL/kg body weight and 1.2 mL/kg body weight. Contrastingly, the results within the group show that there was a statistically significant difference in the intensity of pruritus measured between days of the study period. The declining pattern of pruritus intensity was evident within the group.

Measurement of itch continues to pose some challenging tasks due to the subjective sensation, and the evaluation of symptoms has compelling difficulty. The intensity of the itch must be assessed relative to its full length or time scale, localization, course of symptoms, presence and type of scratch lesions, and response to antipruritic treatment. Perception of itch may also be affected and perplexed essentially by different cofactors including but not limited to the patient's general condition and other coexisting ailments (Reich & Szepietowski, 2016).

Pitriani (2019) presents adequate proof of the reduction in itching felt by the patient as caused by VCO administration. Evangelista (2014) confers that VCO reduced scores in Atopic Dermatitis patients. VCO can also moisturize the skin and reduce pruritus scores without giving antihistamines. Pruritus resolution can be expounded by inextricably associated improvement in barrier function on the skin. Disorders of the skin barrier alter epidermal innervation and increase nerve density in the skin.

The third indicator of the anti-inflammatory activity of VCO is assessed by its ability to reduce the size of the lesions. The obtained results did not show any statistically substantial difference in the changes in the size of lesions between the two treatment groups. A different set of results were obtained, however, when statistical analyses were performed within the group during the days of trial periods. Both treatment groups consistently demonstrated a steady decline in the intensity of pruritus, improved condition of the lesions, and a marked reduction in the sizes of lesions.

Conclusion

The obtained findings of this study have to be interpreted as preliminary due to the small number of participants. The statistical analyses within each group showed a statistically substantial difference as measured from the three parameters during the study periods. The results that suggest a statistically not significant difference between the two treatment groups can essentially be attributed to the small sample size of subjects in this study that may not sufficiently represent the whole population.

Recommendations

Further studies are recommended to gather adequate confirmatory evidence on the anti- inflammatory benefits of VCO intake against chronic cutaneous inflammation caused by the release of histamines in the body. A randomized controlled trial with larger sample sizes has to be conducted to provide concrete evidence and substantiate the results. The dosage has to be evaluated whether an increase or reduction is warranted based on a systematic calculation and formulation especially obtained from conclusive and systematic research supporting veritable claims. Due to limited financial resources, the assessment was merely in conformity with the visual scores and morphological phenotypes of the skin. Immunological tests that provide a threshold for the expression of inflammatory and immune markers and serum-specific IgE would be more objective and systematic.

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Awareness and Readiness of Faculty Members on Instructional Modalities at Emilio Aguinaldo College- Cavite, Philippines

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KEYWORDS:
- **Hybrid Learning**
- **Blended Learning**
- **Post pandemic**
- **Face-to-face classes**

Abstract. The main objective of this research is to determine the level of awareness and the extent of readiness of Emilio Aguinaldo College-Cavite, Philippines (EAC) faculty members on the instructional modalities for the academic year 2022-2023.The researchers used the descriptive-survey method and the data revealed that majority of the faculty members are in the field of Education while most of them are between 0-5 years of teaching. The researchers determined the level of awareness on the institutional instructional modalities among the faculty members, and out of the 13 areas surveyed, 84.62% were rated that they are "fully knowledgeable" of the instructional

modalities the institution is implementing, while 15.38% of them are "very knowledgeable", with an over-all mean value of 4.35 which shows that faculty members are "fully knowledgeable" of the school's instructional modalities. For the faculty member's extent of readiness on the instructional modalities, which are classified into "Dispositions", Online Integration", "Data Practices", "Personalizing Instruction", and "Online and Onsite Interactions", the data showed the over-all mean ratings of 4.47, 4.32,4.33,4.25, and 4.40, respectively, which denotes a "Very High" extent of readiness. The level of awareness and the extent of readiness were also correlated, and the Pearson Product Moment Correlation "r" value of 0.71 is obtained which means that there is a marked relationship between the two variables. In summary, this research emphasizes the importance of readiness and adaptability in an ever-changing educational environment. Prioritizing faculty development and support can result in more effective and inclusive teaching practices, ultimately leading to improved student outcomes. The findings suggest a need for training programs to enhance faculty members' awareness and readiness in utilizing different educational modalities. Such training could include workshops or online courses covering lesson design, technology integration, and effective teaching strategies.

Awareness and Readiness of Faculty Members on Instructional Modalities at Emilio Aguinaldo College- Cavite, Philippines

INTRODUCTION

In March 2020, amid the first spike in COVID-19 just weeks before the end of the school year, UNESCO noted the suspension of face-to-face classes and switching to distance learning of most schools particularly higher education institutions. When schools finally reopened in October 2020, the immediate solution was to combine distance learning options such as online platform, educational TV, and radio, print module. However, social inequalities and a lack of domestic resources to support these approaches have taken a toll on many students and teachers (De Guzman, 2021).

Nevertheless, as the world slowly transitioned to post pandemic recovery, Emilio Aguinaldo College Cavite, Philippines (EAC) is one of the educational institutions who sought alternative ways of delivering quality instruction to students while strictly complying with the directives of the government. Hence, when the Commission on Higher Education issued CHED Memorandum Order No. 16 Series of 2022, instructing that at least 50% of the total contact time for all higher education institutions delivering their degree programs in blended or hybrid learning modalities must be spent on face-to-face or on-site learning activities (Hernando-Malipot, 2022), EAC provided students with a combination of face-to-face, hybrid, and/or online instruction, including existing online learning programs.

To emphasize the importance of the awareness and readiness on instructional modalities of college teachers, the

study of Romero-Hall et al., 2021 showed that faculty members feel well prepared to master the competencies associated with hybrid and flexible teaching that are very similar to the competencies required for face-to-face teaching but not prepared for the complexities inherent in hybrid and flexible modalities.

This study aimed to find out the readiness of the faculty members on instructional modalities namely blended learning, hybrid learning and face to face (onsite) especially now that most educational institutions are open to embracing the new normal as we recover from the impact of the pandemic to the education system. Moreover, it determined the extent of readiness of the faculty members on instructional modalities and what improvements maybe formulated about it.

Statement of the Problem
General: To determine the level of awareness and the extent of readiness of Emilio Aguinaldo College-Cavite, Philippines (EAC) faculty members on the instructional modalities for academic year 2022-2023.

Specific:
1. What is the demographic profile of the faculty members according to:
    1.1 Field of Specialization, and
    1.2 Years of Teaching Experience?
2. What is the level of awareness of the faculty members with regards to the instructional modalities?
3. What is the extent of readiness of the faculty members on instructional modalities
    based on the following categories:
    3.1 Dispositions,
    3.2 Online Integration,
    3.3 Data Practices,
    3.4 Personalizing Instruction, and
    3.5 Onsite and Online Interactions?
4. What is the degree of relationship between the faculty member's level of awareness
    and extent of readiness on the learning modalities?
5. What improvements maybe recommended in relation to the delivery of the learning

modalities of the faculty members?

Theoretical Framework
This research focused on the following inputs: profile of the respondents like field of specialization and years of service of faculty members, the respondent's level of awareness and extent of readiness on learning modalities.

 Researchers processed all the data and assessed the respondent's level of awareness and extent of readiness which will lead to the identification, formulation, and improvements in the delivery of learning and teaching modalities for the attainment of providing quality education among students.

Significance of the Study
This research is useful in the operation and implementation of the institutional teaching and learning modalities in support to the attainment of the institution's educational objectives like providing quality and relevant education to all students. Furthermore, it benefits both the students, faculty members and the institution as it will focus on the quality of utilizing learning modalities.

Scope and Limitation
This research is restricted all College faculty members of all programs. It's focused to determine the awareness and readiness of faculty members on learning modalities for teaching.

METHODOLOGY

Research Design/Research Methodology
The researchers used the descriptive-survey method to determine the level of awareness and the extent of readiness of EAC faculty members on learning modalities for Academic Year 2022-2023. Descriptive-Survey method of research is concerned not only with the characteristics of the respondents but with the characteristics of the whole sample thereof. Survey research allows the researchers to gather large volumes of data that can be analyzed for frequencies, and averages. It can be used for describing the demographic profile of the respondents and assess their perceived readiness on instructional modalities like Blended Learning, Hybrid Learning, and Face-to-Face Learning.

Research Locale

The researchers conducted this study in the province of Cavite, City of Dasmariñas where Emilio Aguinaldo College is located, and the faculty members are employed.

Research Participants/Research Instrument

The researchers used descriptive-survey method in determining the level of awareness and extent of readiness of faculty members on learning modalities. It was floated to all College faculty members, 86 of them responded to answer the survey instrument. The survey instrument was formulated, validated, and it consists of 3 parts: The Respondent's Profile, The Respondent's Level of Awareness and Extent of Readiness on Learning Modalities. Likert Scale is used to determine the weighted mean of responses to interpret respondents' level of awareness and extent of readiness on Instructional Modalities.

Data Analysis (Statistical Tool and Treatment of Data)

For optimal utilization of data to be processed, the following statistical treatments were adopted:

1. Percentage Distribution. The frequency and percentage distributions were used to determine the profile of the respondents like field of specialization and years of service of faculty members.
2. Weighted Mean. It is used to determine the level of awareness and extent of readiness on learning modalities.
3. Pearson Product Moment Correlation. To correlate the level of awareness and the extent of readiness of the faculty members on Learning Modalities.

Ethical Consideration

The identity of the research respondents is withheld to ensure confidentiality of their individual responses. They were informed of the objective of the research survey, and that their responses are used for research purposes only.

REVIEW OF RELATED LITERATURE

Only a few months after the pandemic was announced, teachers and students alike were taken aback by the potential impact on teaching and learning. Digital and online delivery modes mixed or versatile delivery modes, synchronous or asynchronous delivery modes, or a combination of all these alternative teaching delivery modes have largely replaced traditional face-to-face training. (Cabual, 2021). Nevertheless, higher education institutions in the Philippines are eager to adopt and implement e-learning to improve educational quality on a continuous basis. (Lucero et al., 2021).

The level of online learning is unknown as the new normal for the education system emerges, but it is likely to be higher than before COVID-19. Educational institutions must have a new layer of online learning infrastructure – technology and support – to ensure they support their students. Fundamentally, the investments schools made in tools and infrastructure during the pandemic will continue to be leveraged post-pandemic. Moreover, as teachers and students become more comfortable with learning with these tools, they are much more likely to continue using them post-pandemic (Barbour et. al, 2020).

Because of the recent coronavirus COVID 19 pandemic, many educational institutions adopted hybrid learning (HL), which is a hybrid of traditional and online learning. It combines the benefits of both and is a critical factor in ensuring ongoing learning. Technological innovations such as HL are altering the teaching process and the interactions between students, lecturers, and administrators (Shehab, 2021). But with all these transition and technological advancements, Yulia (2017) confirms that the readiness of students is a prerequisite for its successful implementation of which should be supported by both lecturers and the organization.

For starters, the use of technology in education is not an impediment to students. Second, four factors influence the ability

to follow blended learning: attitudes toward online learning, study management, online interaction, and learning flexibility. Third, students' attitudes toward classroom learning have a negative relationship with their readiness to participate in blended learning. Finally, student attitudes toward various aspects of learning can be useful in determining students' readiness for blended learning, which is required for successful implementation of blended learning. (Firdaus et al., 2020).

Furthermore, in a case study conducted by Washington et al., (2020), it was determined that "the absence of a policy; inadequate staff training; and limited access to the computer laboratory for students" were obstacles to its success. Teachers were primarily comfortable with technology but failed to integrate technology sufficiently to create an effective hybrid instruction model. Students desired more exposure to learning technology, believing that experience with emerging technology was required for current and future job opportunities.

According to Ebner et al., (2019), the synchronicity and modality of learning environments can be classified. To begin, synchronicity refers to the timing of interactions between students and lecturers. Asynchronous learning environments allow for temporally delayed and indirect interaction, whereas synchronous learning environments allow for simultaneous and direct interaction. Second, modality refers to the mode of delivery used in educational settings. Online environments provide technology-enhanced learning using the Internet or computer devices, whereas offline environments provide traditional instruction without the use of digital tools or infrastructure.

Consequently, the education literature is rife with discussions and debates about the online delivery of quantitative courses, particularly elementary statistics, and pre-calculus. Beemer et al., (2018) presented a meta-analysis of 41 online learning studies published between 2004 and 2008 (subjects included computer science, health care, languages, mathematics/statistics, science, and social science). The meta-

analysis compared the effect sizes of online and face-to-face course offerings. In terms of learning outcomes, the authors discovered that students performed better in well-designed online settings than in traditional face-to-face instruction environments. Additionally, Abbacan-Tuguic, (2021) stated that a "well-conceived" online learning set-up implies online courses where instructors focused attention on student engagement either by incorporating aspects of face-to-face instruction or creating instructor-directed or collaborative learning environments, as opposed to independent, self-directed instruction.

Although blended learning is one of the models proposed by various educationalists and research scholars as a viable and best-fit solution for educational institutes for at least a few months after the pandemic (Saboowala et al., 2021), in the study of Callo and Yazon (2020), it was emphasized that the faculty and student's familiarity and capability, preparation, device and access connectivity, self-efficacy, and technology experience all influence their readiness to conduct online teaching and learning.

Definition of Terms

Blended Learning –focuses primarily on combining distance learning with standard teaching, where at least 50% of the schedule per week is held onsite.

Hybrid Learning- is an educational approach where students choose between participating online or in person. It is an approach that favors individuals living in remote areas or overseas. A good example is when lectures are broadcast live for students to attend online.

Face to face (onsite) is an instructional method where course content and learning material are taught in person to a group of students. This allows for live interaction between a learner and an instructor. It is the most traditional type of learning instruction. Learners benefit from a greater level of interaction with their fellow students as well. In face-to-face learning, students are held accountable for their progress at the class's specific meeting date and time. Face-to-face learning ensures a better

understanding and recollection of lesson content and gives class members a chance to bond with one another.

RESULTS

Table 1:
Frequency table on field of specialization

Field of Specialization:	Frequency	%
Biological Sciences	2	2.33
BS Psychology	6	6.98
Business Management	6	6.98
Hospitality and Tourism	6	6.98
Nursing	3	3.49
Communication	2	2.33
Foreign Language	1	1.16
Criminology	3	3.49
Social Science	1	1.16
Doctor of Dental Medicine	1	1.16
Education	30	34.88
Engineering	8	9.30
Pharmacist	1	1.16
Optometry	1	1.16
Medical Technology	3	3.49
Social Science	8	9.30
Radiologic Technology	2	2.33
Respiratory Therapy/Health Science	1	1.16
Taxation Law	1	1.16

The data revealed that majority of the faculty members who participated in the research are from the Field of Education, contributing 34.88% of the total number of research participants. This can be attributed to the fact that the survey-research is done in an educational institution, and that majority of the population of the faculty members are handling General Education courses.

Table 2:
Frequency table on years of teaching

Years of Teaching	Frequency	%
0-5	35	40.7
10-Jun	17	19.77
15-Nov	12	13.95
16-20	12	13.95
21-25	4	4.65
26-30	1	1.16
31-35	2	2.33
36-40	3	3.49

The table shows the frequency and percentage distribution of the respondents according to the number of years of teaching. Majority of the respondents are from 0-5 years of teaching, followed by 6-10 years of teaching, while there were 3 of the total respondents who are teaching for 36-40 years.

Table 3:
Mean rating table on the level of awareness of the faculty members with regards to the instructional modalities

Areas	Mean	Interpretation
1. Current school year's institutional learning modalities in teaching	4.3	Fully Knowledgeable
2. CHED Memo Order No. 16 s. 2022: "For HEI's that will opt to deliver their degree programs in Hybrid Learning Modality, at least 50% of the total contact time should be spent on Onsite Learning experiences."	4.22	Fully Knowledgeable
3. The official Learning Management System of the institution is Brightspace-D2L	4.47	Fully Knowledgeable
4. The institutional Learning Management System is supported by Google Meet for the Online Delivery of Lessons	4.52	Fully Knowledgeable
5. Faculty Member's responsibilities in holding classes onsite and online.	4.6	Fully Knowledgeable

6. Familiar in the different features of the official Learning Management System of the institution and it's appropriate utilization	4.2	Very Knowledgeable
7. Instructional Materials must be uploaded to Brightspace Content	4.49	Fully Knowledgeable
8. Google Meet link for the whole semester per class must be posted in Brightspace Activity Feed	4.5	Fully Knowledgeable
9. Assessments like Quizzes and Exams can be done Onsite using Brightspace	4.24	Fully Knowledgeable
10. Necessary device/s must be provided for the delivery of lessons. Necessary device/s must be provided for the delivery of lessons.	4.22	Fully Knowledgeable
11. There are online Laboratory Simulation Apps that support learning and teaching.	3.92	Very Knowledgeable
12. Utilization of technology is essential in Blended Learning	4.5	Fully Knowledgeable
13. The institution aims to provide students quality education through different learning modalities	4.43	Fully Knowledgeable
Over-all Mean	**4.36**	**Fully Knowledgeable**

The researchers also determined the level of awareness of the faculty members with regards to the instructional modalities. Out of the 13 areas covered, the respondents are Fully Aware on these 11 areas: current school year's institutional learning modalities in teaching; CHED Memo Order No. 16 s. 2022: "For HEI's that will opt to deliver their degree programs in Hybrid Learning Modality, at least 50% of the total contact time should be spent on Onsite Learning experiences."; The official Learning Management System of the institution is Brightspace-D2L; The institutional Learning Management System is supported by Google Meet for the Online Delivery of Lessons; Faculty Member's responsibilities in holding classes onsite and online; Instructional Materials must be uploaded to Brightspace Content; Google Meet link for the whole semester per class must be posted in Brightspace Activity Feed; Assessments like Quizzes and Exams can be done Onsite using Brightspace; Necessary device/s must be provided for the delivery of lessons. Necessary

device/s must be provided for the delivery of lessons.; Utilization of technology is essential in Blended Learning; and the institution aims to provide students quality education through different learning modalities. All areas on the level of awareness on the learning modalities have an over-all mean rating of 436, which is interpreted as "Fully Aware".

Table 4:
Table on the mean rating of the extent of readiness of the faculty members on instructional modalities based on dispositions

Dispositions: Beliefs	Mean	Interpretation
1. Students will have better learning experiences when teachers and students participate in onsite and online discussions.	4.4	Very High
2. Onsite and Online technology are important to ensure that each student has learned the material before moving on to the next lesson.	4.51	Very High
3. Students learn better when technology allows them to adjust the speed of their own learning.	4.38	Very High
4. Students should use assessment results to guide their own learning progress	4.53	Very High
5. Students should gain experience with onsite and online collaboration.	4.62	Very High
6. Teachers should explore new teaching strategies that combine in-person and online learning	4.6	Very High
7. Onsite and Online activities can result in learning that would be difficult for students to achieve without educational technology	4.24	Very High
Over-all Mean	**4.47**	**Very High**

As regards the extent of readiness of the faculty members on instructional modalities based on Disposition, all areas are marked Very High, which can be proven by an over-all mean rating of 4.47. This implies that the respondents have a clear and firm dispositions on the above-mentioned areas leading them to a

high extent of readiness on the changes on the instructional modalities after years of under COVID pandemic situation.

Table 5:
Table on the mean rating of the extent of readiness of the faculty members on instructional modalities based on online integration

Online Integration: Beliefs	Mean	Interpretation
1. Provide clear instructions for moving between online and in person activities.	4.42	Very High
2. Decide if using online activities will improve student learning.	4.17	High
3. Provide clear instructions for how students should use devices (e.g., laptops, tablets, headphones).	4.35	Very High
4. Decide when it is better to interact with students in-person versus online.	4.35	Very High
5. Evaluate the strengths and limitations of specific online activities for your students.	4.36	Very High
6. Help students manage their online accounts and passwords.	4	High
7. Decide when to use computer-based assessments (e.g., online examinations, digital projects).	4.35	Very High
8. Develop instructions for how students should find help when they are using online technology.	4.33	Very High
9. Develop guidelines to help students use their time onsite and online well.	4.38	Very High
10. Develop steps to submit and manage student work onsite and online (e.g., projects, reports, assignments).	4.34	Very High
11. Find ways to combine online and in-person activities that help students control their own learning (e.g., when where and how they learn).	4.43	Very High
Over-all Mean	**4.32**	**Very High**

Beliefs on Online Integration, the general results show that majority of the areas were rated Very High with an over-all mean rating of 4.32, except for "Decide if using online activities will improve student learning" ; and "Help students manage their

online accounts and passwords" , which were rated High with a mean ratings of 4.17 and 4.00, respectively.

Table 6:
Table on the mean rating of the extent of readiness of the faculty members on instructional modalities based on data practices

Data Practices : Beliefs	Mean	Interpretation
1. Check student progress by using onsite and online assessments frequently.	4.4	Very High
2. Evaluate the effectiveness of instruction for students with disabilities using online and offline assessment results.	4.27	Very High
3. Use technology that organizes and displays student assessment results so you can make decisions about instruction.	4.35	Very High
4. See patterns in small group and whole class learning using online and offline assessments results.	4.28	Very High
5. Improve student learning experiences by using technology to collect information about students (e.g., interests, background, learning preferences).	4.33	Very High
6. Decide which groups or individual students need additional help using online assessment results.	4.28	Very High
7. Use digital tools to check student participation in online activities (e.g., attendance, logins, time on each activity).	4.35	Very High
8. Help students see their learning progress using online and offline assessments results.	4.37	Very High
Over-all Mean	**4.33**	**Very High**

On Data Practices, all areas were rated Very High, with an over-all mean rating of 4.33. This clearly implies that faculty members have a very high extent of readiness on the necessary practices related to online instructional modalities. An important

requirement for a faculty member in order to help attain institutional educational objectives.

Table 7:
Table on the mean rating of the extent of readiness of the faculty members on instructional modalities based on personalizing instruction

Personalizing Instruction: Beliefs	Mean	Interpretation
1. Use technology that gives students some choice in where they learn.	4.23	Very High
2. Develop a set of online and offline resources to give students a choice in how they learn.	4.26	Very High
3. Use technology that lets each of your students adjust the speed of their learning.	4.3	Very High
4. Combine individual or small group instruction with educational software to help each student succeed.	4.28	Very High
5. Use educational software that adapts how each student progresses through lesson materials.	4.17	High
6. Use online tools to make sure that students learn material before moving on to the next lesson.	4.26	Very High
7. Use technology that helps students see their progress towards goals that they have set.	4.22	Very High
8. Use technology that lets students choose how they show what they learned.	4.31	Very High
Over-all Mean	**4.25**	**Very High**

Beliefs on Personalizing Instruction, the data revealed that almost all areas were evaluated Very High except on the "Use educational software that adapts how each student progresses through lesson materials, with a mean rating value of 4.17, and is interpreted as "High". The over-all mean rating of 4.25 means that faculty members have a positive belief on personalizing instruction for the above-mentioned scopes online and offline resources necessary for students' learning.

Table 8:
Table on the mean rating of the extent of readiness of the faculty members on instructional modalities based on online interactions

Online Interactions: Beliefs	Mean	Interpretation
1. Help students learn to interact well in onsite and online discussions.	4.47	Very High
2. Help students to interact well with guest presenters through video conferencing.	4.26	Very High
3. Help students work well in small groups both online and in person.	4.41	Very High
4. Give students a chance to help each other using online technology (both inside and outside of class).	4.37	Very High
5. Communicate online with students while still maintaining professional student-teacher relationships.	4.42	Very High
6. Use online communication to help strengthen students' feeling that they belong to the class.	4.43	Very High
7. Teach students how to communicate online respectfully	4.49	Very High
8. Give quick online feedback to students in a variety of ways using text, audio, or video.	4.35	Very High
Over-all Mean	**4.4**	**Very High**

The researchers were able to determine the respondent's beliefs on Online Interactions. The data revealed that all areas evaluated got a "very High" extent of readiness on instructional modalities, which can be proven by mean ratings of 4.47, 4.26, 4.41, 4.37, 4.42, 4.43, 4.49, and 4.35, respectively. That different instructional modalities like the Blended, Hybrid, and Onsite will help students strengthen their communication skills to whatever platform they will be using.

Table 9:
Table on the correlation value between the faculty member's level of awareness and extend of readiness

Instructional Modalities	Level of Awareness	Extent of Readiness
Level of Awareness	1	0.7
Extent of Readiness	0.7	1

Pearson Product Moment Correlation Value = 0.70, Marked Correlation
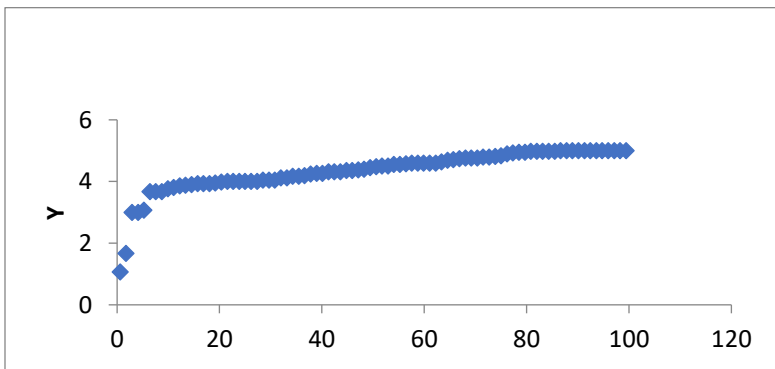
Figure 1.

Table 9 and figure 1 show a positive marked correlation between the faculty member's level of awareness and extend of readiness with a computed value Pearson Correlation r=0.70. This further implies that there is a significant relationship between the level of awareness on the official guidelines in the delivery mode of lessons and the extent of readiness on whether it is delivered on blended, hybrid or onsite instructional modalities. Very High level of awareness and Very High extent of readiness is a salient finding that may lead to the attainment of the educational objectives of the institution.

CONCLUSION

In summary, this research on Awareness and Readiness of Faculty Members on Instructional Modalities at EAC highlights the importance of readiness and flexibility in a rapidly changing educational environment.

Findings suggest that while many faculty are aware of the different teaching modalities available, they need training and support to fully integrate them into teaching practice. Additionally, this research underscores the importance of considering students' diverse needs when selecting and implementing teaching methods. As the education system continues to evolve, it is imperative that faculty and staff remain adaptable and equipped with the tools and resources necessary to meet the changing needs of the classroom.

Ultimately, prioritizing faculty development and support can lead to more effective and inclusive teaching practices and improved student outcomes.

RECOMMENDATION

The following points may be considered as recommendation of the researchers:

a. Provide extensive faculty training and development: Based on the findings, it may be necessary to provide training to faculty to increase their awareness and readiness to use educational modalities. Training can take the form of workshops or online courses and cover topics such as lesson design, technology integration, and effective teaching strategies.

b. Offer support: It is important to continue to support faculty as they introduce new educational modalities. This may include access to resources such as online tutorials, mentoring programs and peer-to-peer support networks.

c. Promote and encourage collaboration: Faculty members may be encouraged to work together to share their experiences and insights regarding the use of different teaching modalities. This can be facilitated through regular meetings, online forums, or professional development events.

d. Evaluate the impact: It is important to assess the impact of these initiatives on faculty awareness and willingness to use instructional modalities. This can be done through follow-up studies, classroom observations, and student feedback. Data collected from these assessments can be used to further improve faculty support and training programs.

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Challenges in the Business Administration Work Integrated Learning: Basis for a Specialized Practicum Implementation

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Abstract. This research aims to identify and comprehend the gap between Emilio Aguinaldo College-interns, Cavite's OJT coordinators, and industry partners in order to enhance processes and interactions between these parties. This was done utilizing qualitative methods, and structured interviews were used to get the data. The purposive sampling technique was employed in order to choose the sample for this investigation. This study uses the NVIVO12 software and the thematic analysis methodology. The results revealed that the challenges experienced by the mentioned participants are inadequate processes, misorientation, lack of adequate knowledge and skills, and low motivation. Researchers suggests to consider these themes for improving the Internship Program and conduct a comprehensive survey for upcoming researchers.

Challenges in the Business Administration Work Integrated Learning: Basis for a Specialized Practicum Implementation

INTRODUCTION

Internships provide an opportunity to apply the knowledge and skills acquired in an academic setting to real-world work situations. This hands-on experience allows interns to develop practical skills, industry-specific knowledge, and an understanding of professional work environments. It offers a chance to network and establish connections with professionals in your field of interest. Building relationships with experienced people can bring mentoring, guidance, and future work chances. Internships give a venue for developing and honing critical soft skills such as communication, teamwork, problem-solving, and time management. Employers across sectors respect these abilities because they are able to be carried (Gashaw, 2019; Sgroi & Ryniker, 2002).

The Commission on Higher Education (CHED) in the Philippines has mandated the establishment and promotion of policies, processes, procedures, and programs in higher education that address globalization, changing regulations, and trade liberalization. The commission requires student internships and the establishment of strong academic links by Higher Education Institutions (HEIs) with business, industry, and duly recognized government and non-government organizations, such as civil society organizations, to promote and provide students with competitive skills and attitudes for employment. (https://ched.gov.ph/wp-content/uploads/2018/03/CMO-NO.-104-S.-2017.pdf)

The CHED Memorandum Order No. 104 Series of 2017 states that an internship program gives students the chance to supplement their academic studies with real-world experience in accredited Host Training Establishments (HTEs) and develop transferable skills.

According to Zopiatis (2007), obtaining a job after graduation is the main benefit of internships for students. In contrast to academic achievement alone, Lee (2008) emphasized that companies lay greater emphasis on job seekers' communication and critical thinking abilities, both of which may be developed during an internship. The confidence of students is also boosted through internship opportunities (Hejmadi et al., 2011).

From the standpoint of the businesses, they may augment their workforce at a reasonable cost by hiring people with academic training. Employers can more thoroughly evaluate interns' work during an internship than they can during a job interview, which helps them hire enough employees (Yiu & Law, 2012). Because their expectations will be based on their experience and be more realistic as a result, full-time workers who previously worked as interns in the company are likely to have better job satisfaction (Hiltebeitel, 2000).

Academic institutions profit as well. Academic institutions that provide these chances have an advantage when it comes to student recruitment since parents and prospective college students think that internships make it easier to get employment after graduation (Yiu & Law, 2012). Furthermore, these organizations can establish credibility if their interns succeed (Cook et al., 2004).

The Office of External Linkages, Community Outreach, Alumni, and Placement Services of Emilio Aguinaldo College-Cavite forms a collaboration with Industry Partners on the deployment of Interns through a Memorandum of Agreement with a one (1) year contract. Once the Industry Partner decides to extend the MOAs granted by the Institution, creating a long-term partnership, the Office of External Linkages Community Outreach Alumni and Placement Services will revise the present contract.

Despite the benefits and incentives that those stakeholders have received, several difficulties and problems have emerged.

Designing an effective internship program involves careful planning and consideration of various factors (Wan et al., 2014). He added that some internship programs were lacking on the purpose and goals. These includes the specific skills, knowledge,

and experiences for the interns. Jenkins (2001) also said that internship programs without a specific structure or effective organization could make students feel dissatisfied with the internship quality. Students ask for the planned internship program to gain transferable and technical skills. In addition, the conducting area could follow some effective internship program planning to ensure students have development opportunities in the internship experience (Jenkins, 2001).

According to a piece written by Nepal Realistic Solution Pvt. Ltd. (2021), unethical workplace conduct may be seen since businesses frequently recruit interns who lack experience, which can have negative effects on any company's operations and undermine the workplace culture. while a result, businesses will have to spend money on training, and managers will have to push back their deadlines while they prepare and provide the training. Another reason for inconsistent attendance is a lack of comprehension and drive. Interns lack familiarity with the standards and degree of excellence that the organization demands. Both of these will produce ineffective and incorrect performance, which will have negative effects. Significant expenses must be incurred by the organization to train the intern students. They require some time to learn the organized way of living since they lack experience. These employees quit their jobs extremely soon, therefore the organization gains nothing from the training. As more employees join the organization, many current employees may feel that their job is being overtaken or that they are under pressure to finish it, which can cause employee turnover. The workplace and working environment of the company may be indirectly impacted by interns because they are new and it may take some time for them to form bonds with the present staff.

These are some of the reasons why the researchers had this view to know and understand the challenges the stakeholders' experiences on the internship program and have a proposed solution to the present predicament.

METHODOLOGY

The research for this study was primarily qualitative. In particular, the study applies a descriptive methodology to

qualitative research. Purposive sampling, a type of non-probability sampling that depends on the researcher's judgment when selecting people of the public to participate in surveys, will be used by the researchers. Participants included the 3 OJT Advisers, 8 chosen Business Administration students, 4 chosen industry partners who had signed MOAs with EAC-C during the pre-pandemic. The data was extracted through unstructured interview and was based on the PEACE Model which were reviewed and validated by an alumnus, an existing industry partner, and a former OJT coordinator. The interview was conducted online and recorded using google meet and their answers were recorded for better transcriptions. The recorded data was transcribed manually which then operated in NVivo provided by the Research and Development Office (RDO) and the results were reviewed, manually.

Ethical Consideration

Prior to having study participants complete the survey that was a part of the research instrument, the researchers obtained their consent. Before the researchers started the study, it was reviewed by a board.

RESULTS

The goal of this article was to explain difficulties in business administration work-integrated learning. The results are shown in the next section. Table 1 displays the outcome.

Table 1. *Themes and subthemes derived from the Stakeholders*

Themes	Subthemes
Inefficient processes	Late onboarding
	Late submission of documents
Misorientation	Poor communication
	Overloaded/underloaded work
Lack of adequate knowledge and skills	Insufficient technical skills
Low motivation	Lack of feedback
	Unappreciated work
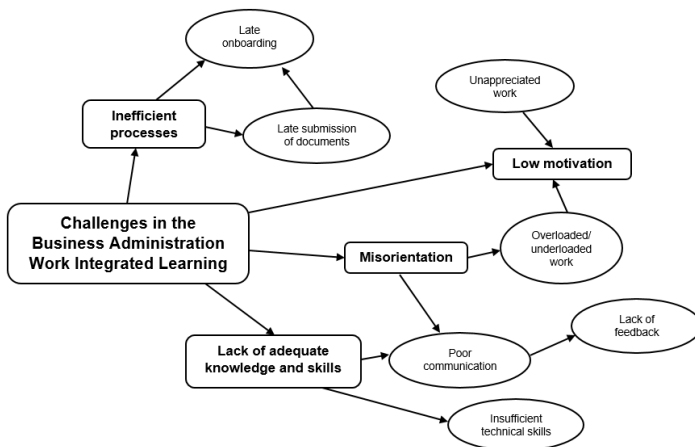
Figure 1. *Key connectors and relationships between themes and subthemes*

Insufficient processes. Interns were challenge with the OJT coordinator with longer than expected processing of documents ("*The issuance of a memorandum of agreement (MOA) takes the longest.*" - Intern 3). Some claimed that procedures of Industry Partners were time-consuming ("*I had to wait far too long to be accommodated during the screening procedure.*" – Intern 4). Industry Partners also claimed that they were challenge on the same document ("*It has taken longer than expected for the MOA to be submitted.*" – Industry Partner 2). The same document was highlighted by the OJT Coordinator ("*In some cases, MOAs were frequently amended at the request of the industry partner, which caused some interns' onboarding to be delayed.*" – OJT Coordinator 1). There is also confusion on the process based on the Work Integrated Practicum (PM-SBA-001) as the Office of the External Linkages and Placement Services (OLP) was not mentioned on the process *("I am really intrigued that OLP is not significantly involved in the process based on the manual and yet, they have the control on most of the processes plus, they were*

part of the Student's evaluation which I is think irrelevant" – OJT Coordinator 3).

Misorientation. Interns have claimed that they were not properly oriented and confused on some processes. ("*Too many instructions to follow. At the OJT orientation, this was not discussed."* - Intern 2). An example is the compilation of narrative report as a course requirement. ("…*I just wish it was mentioned earlier, or maybe during OJT orientation so that we can prepare."* – Intern 3). Industry Partners also mentioned they have difficulty on communicating with the OJT coordinator (*"I just don't know how to talk to the OJT coordinator in the right way. There was no prior dialogue between us."* – Industry Partner 1). OJT coordinators also voiced out their difficulty every after orientation *("Undoubtedly, some interns found the OJT orientation confusing. They frequently ask questions, which was also discussed during the OJT orientation. And because of this, I must reiterate what was said."* – OJT Coordinator 1).

Lack of adequate knowledge and skills. Despite their great experience in the Institution, some Interns reflected her lacking (*"I thought I was ready confident with the communication skills that I have so far. However, it took a while for me to find a better company that suits my capabilities."* – Intern 4). The industry Partners disclose the enhance of knowledge and skills of Interns ("*There were some applicants who have difficulty in answering some questions during the interview. Maybe they lack confidence to speak to other people."* – Industry Partner 1), *("There was a time when these interns keep asking the same thing they have done a few days ago. They lack basic technical skills to work in an office environment."* – Industry Partner 2).

Low motivation. Some Interns unveil of having too much work with no returns *("Maybe less work and more appreciation and recognition so that the intern will feel more motivated."* – Intern 1, "*Perhaps the intern will feel more motivated if there are allowances, praise, and acknowledgment for the work that they have done."* – Intern 2). OJT coordinators wish to have their workloads be lesser *("The challenge I experienced so far during*

the internship program with the interns was their bulky submission of weekly reports and the need to meet them one-by-one." – OJT Coordinator 1) as they were earning inequitably ("*I have to accommodate them all like more than 30 Interns and yet, I am only paid up to 15 Interns*." – OJT Coordinator 2)

DISCUSSION

This research revealed certain problems notwithstanding the advantages internship programs have for parties concerned.

Insufficient processes are a challenge to all stakeholders participated in this research. They mentioned the delayed on the documents, frequent modifications of MOA, longer screening phase, delayed onboarding, etc. Also, confusion in the process such as the person/office-in-charge was evident making it hard to know the right authority between the OJT coordinator the OLP. As Indeed (2023) mentioned, this challenge affects businesses, their employees and their clients, which might lead to decrease morale, lower profits and decrease client satisfaction. If this trend continues, there will be fewer possibilities to innovate and achieve progress.

Participants claimed that they were misoriented, a state or an instance of being improperly or incorrectly oriented (Merriam-Webster.com). The term was not widely used in business terminologies but the definition captured the subthemes identified. Being misoriented may have a detrimental effect on their work output (Krauze, 2019) which may lead on increased misunderstanding, less accountability and empowerment (PEEPSHR, 2019). This can be avoided by adopting excellent communication practices to maximize performance and maintain their competitive.

The lack of adequate knowledge and skills is a challenge for both Interns and Industry Partners. This is still evident based on the findings of Madinah et al. (2017) and Yusof et al., (2018) who suggested that Interns being able to carry out their assigned tasks using their skills honed by Schools would increase their marketability. The outcome corroborated research by the Society for Human Resource Management (2019), which polled its members and found that 51% of them believed the education system had made little to no progress in closing the skills gap. The

top soft skills that are now lacking, according to these individuals, are communication, problem-solving, critical thinking, innovation, and creativity. In order to promote and provide students with competitive skills and attitudes for employment, this call for Higher Education Institutions (HEIs) to forge stronger academic ties with business, industry, and legally recognized government and non-government organizations, such as civil society organizations.

Having little or not getting paid contributes to low motivation (McKinley, 2023). It should have been considered as a basic need that is expected to satisfy both Interns and OJT coordinators as it was a common challenge voiced out in this research. Additionally, working more or working less contributes to this theme. The demands and expectations made on workers must be closely monitored. A person who feels overburdened by a big, insurmountable task may become disenchanted, disillusioned, and tense very fast (Page, n.d.). A worker also runs the danger of losing interest quickly if their task is too light or not diverse enough.

Conclusion

Four (4) themes emerged from the findings: inadequate processes, misorientation, lack of adequate knowledge and skills, and low motivation.

Recommendations

The researchers would like to suggest reviewing the current internship manuals and policies in light of the study's findings in order to explain the amount of time that must pass before documents can be released and new interns are on boarded, as well as to make any necessary amendments that would speed up this process and minimize delays. To fully inform all parties, a process flow chart with detailed information on each stage of the internship program would be ideal. It should include the exact activity, the persons/office in charge of it, and the overall time (minutes, hours, days, etc.) required to complete it. This will

reduce confusion to all parties involved and the program would become more valuable to them.

The researchers would like to suggest that the institution update the curriculum based on industry standards in line with the CMO No. 104 Series of 2017. The curriculum's intended learning outcomes ought to be capable of conforming to and/or surpass the expectations of the intern and the industry partner. By doing this, a discourse highlighting the ILOs in a timely manner should be conducted amongst all parties involved.

This research recognizes the limitations of utilizing a single approach on a limited sample. So, to better understand the challenges faced by all parties, comprehensive surveys should be done for upcoming researchers. This work's results are contextually aware, as is characteristic of qualitative research. The only context in which it should be used is the social, cultural, and educational environment of this research.

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Design of An Internet of Things-Based Customer Satisfaction Survey System Applying Multi-Factor Authentication Methods

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- **Customer satisfaction survey**
- **IoT-based**
- **Multi-factor authentication**

Abstract. The primary objective of the study is to create an IoT-based customer satisfaction survey system that will provide more valid findings to help offices in academic institutions discover areas that need to be improved. The research's specific objectives were to: use various authentication techniques, including passcodes, quick response codes, and fingerprint biometrics, to respond to the survey; automatically generate a report of the results of the stakeholders' satisfaction level of the institution's offices from the developed system; assess the perceived satisfaction of the participants in using the developed system; and establish a list of the benefits and costs of the system. An android-based mobile application that serves as the primary mechanism for an institution's IoT-based customer satisfaction survey was created to help achieve these goals. For easy tracking

of the stakeholders' level of satisfaction with the services provided, the system will also automatically provide a results summary report of the monthly performance review of the offices. To assess the qualities of the application and gauge the participants' perceived satisfaction with the generated project, a researcher-made evaluation form was sent to the participants, applying the ISO-25010 standards for software product quality. While the security features received a "Satisfied" rating, the portability features received a "Very Satisfied" rating. Nevertheless, the project's overall mean rating of perceived satisfaction obtained an "extremely satisfied" grade. To create a benefit-cost analysis of having an IoT-based customer satisfaction survey system, the researcher also asked the participants about the pros and downsides. Implementing additional authentication methods in addition to the pass code, quick response code, and fingerprint biometric for more security features; adopting a more modern mobile device to keep up with technological advancements; developing an iOS-based feedback system for non-android users; and implementing the design project institution-wide would make the project improved through a series of assessments.

Design of An Internet of Things-Based Customer Satisfaction Survey System Applying Multi-Factor Authentication Methods

INTRODUCTION

Creating a customer satisfaction program involves more than just conducting customer service surveys. Surveys give the reading that identifies the areas that need attention, although this is often the simple part. Major, long-lasting improvements frequently need fundamental changes to the business, which almost always entail personnel training and perhaps a shift in the company's culture. The outcome should be profitable with lower customer turnover, more market shares, premium prices, stronger brands and reputations, and contented employees. For these advancements, there is a cost, though. The market research survey will cost money. A period will be devoted to developing an action plan. To improve customer service, training could be necessary. Studies on customer satisfaction have ramifications that extend far beyond the survey itself, and they will only be successful if they have the full backing of senior management.

For this project, the researchers selected a private, non-sectarian, co-educational academic institution in the southern Luzon region of the Philippines that offers challenging professional degree programs open to local and international students as the main beneficiary of this design because the institution offers a wide variety of high-quality extracurricular activities and teaching that has been acknowledged by various government and private organizations. To better serve its stakeholders, including the children, parents/guardians, staff, and

outside partners, continuous development is necessary in this regard. One of them is enhancing how the organization conducts its customer satisfaction survey throughout all its offices.

A design specification was determined by the researcher that follows the design of the project that comprises an application system normally consisting of a user interface, business logic and a database into a computer system. The design project also provides financial benefits to the institution in terms of control improvement, better reports, good documentation and among others. This would indeed serve as an opportunity to shift the office processes to digitalization towards the quality of service of the institution.

As the main source of information for the project, the Customer Satisfaction Survey results from the school's faculty, staff, visitors, and students were used. The IoT-based Customer Satisfaction Survey System, which uses a variety of authentication techniques, is the mechanism used to input stakeholder responses to the survey items. Through this intervention, a more accurate and trustworthy customer satisfaction survey result is produced, and it is utilized as a benchmark by the institution's offices to satisfy their clients by providing high-quality service.

1.1 Objective of the Study

The general objective of this project is to design and develop an IoT-based customer satisfaction survey system for more reliable and valid results to identify the areas to be improved by the offices in the institution. The project's specific objectives are as follows: (1) To apply various authentication methods such as pass code, quick response code, and fingerprint biometric to respond to the survey. (2) To automatically generate reports of the results of the stakeholders' satisfaction level of the offices from the digital customer satisfaction survey system. (3) To evaluate the perceived satisfaction of the participants in the use of the

digital customer satisfaction survey system. (4) To set up a list of the advantages and disadvantages of the digital customer satisfaction survey system that considers benefits against costs.

1.2 Conceptual Paradigm

Figure 1 shows the conceptual paradigm of the study to visualize the design of the project. The answers of the stakeholders such as the students, visitors, faculty, and staff members of the school in the Customer Satisfaction Survey questions will be used as the primary input for the design project. The Digitalize Customer Satisfaction Survey System using different authentication methods will serve as the mechanism to key-in the responses of the stakeholders to the survey items. Through this intervention, more reliable and valid customer satisfaction survey results will be generated and will be used as reference by the college's offices to meet the customers' satisfaction in achieving the quality of service of the institution.

Input	Process	Output
Stakeholders' responses in the survey items	IoT-based Customer Satisfaction Survey System Applying Multi-Factor Authentication Methods	More reliable and valid customer satisfaction survey results
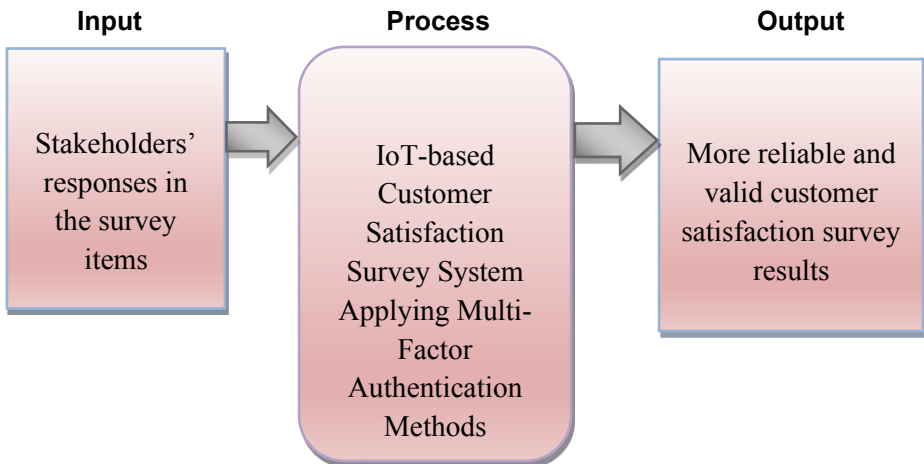
Figure 1. The Conceptual Framework of the Design Project

METHODOLOGY

This part discusses the research design, the methods, population, statistical treatment used and analysis, systems procedures, ethical considerations, and system process flow.

2.1. Research Methods

As part of the continual improvement of the institution towards the quality management system, the institution mandates both academic and non-academic offices to have customer satisfaction survey to its stakeholders. A researcher-made evaluation form adopting the ISO 25010 standards for the software product quality evaluation was formulated to measure the perceived satisfaction of the developed software and to diagnose the advantages and disadvantages of it to formulate its benefit-cost analysis.

2.2. Research Design

This descriptive-developmental study focused on the development of a mobile application using the Java Programming Language and Android Studio (Android 6 - 10) for the client-side of the system and a local host web using the JavaScript, C# Programming Language and Visual Studio (.Net Framework) and MySQL as the back end for the server-side of the digital customer satisfaction survey system.

2.3. Participants

Stakeholders are well represented and were chosen as the evaluator-participants in this study. A student, a parent, a visitor, an alumnus, a school administrator, a college dean, a faculty member of the computer engineering program, a research office assistant, a management information system director, and an IT support officer who evaluated the developed digital customer satisfaction survey system.

2.4. Data Gathering Procedures

(1) For every service transaction provided by the school office to a stakeholder, the attending office personnel will ask the stakeholder to answer the five-item customer satisfaction survey using the available mobile phone or tablet with the developed mobile application installed in it. (2) A two-factor authentication will be made to cast the stakeholder's responses to the customer survey. For students, parents/guardians, alumni, and guests; QR code and pass code; and for the employees (teaching and non-teaching personnel), pass code and fingerprint biometric. (3) A message will be prompted to the screen of the mobile device assigned to the office once the survey is successfully completed. (4) Data entries for each office will be transferred to a repository and will be generated in the developed system.

2.5. Analysis and Statistical Treatment

The Research Office classified the evaluation results of the IoT-based customer satisfaction survey system into two data types, quantitative data for the numerical responses in the characteristics and sub-characteristics; and qualitative data for the advantages and disadvantages provided by the research-participants in the use of the IoT-based customer satisfaction survey system. Quantitative responses of the participants in

evaluating the customer satisfaction survey system are consolidated and computed its overall mean per characteristics and sub-characteristics.

Table 1. Four-point Likert Scale

Numerical Value	Verbal Interpretation
3.25 – 4.00	Very Satisfied
2.50 – 3.24	Satisfied
1.75 – 2.49	Somewhat Satisfied
1.00 – 1.74	Not Satisfied

Table 1 shows the four-point Likert scale used by the participants in evaluating the digital customer satisfaction survey system as well as in responding to the questions in the customer satisfaction survey.

Mean formula. The arithmetic average of scores:

$$X = (\Sigma X)/N$$

Where:

$\bar{X}$	=	mean
X	=	a row score in a set of scores
Σ	=	sum of
N	=	total number of scores in a set

Weighted mean was used by applying a categorical scale. The categorical scale controlled the evaluation of the selected respondents as a part of accumulating the evaluation's respondents. On the other hand, qualitative data was collected and imported to NVivo12 Plus software in coming up with a word

cloud that displayed the most frequent terms gathered from the evaluation of the participants and were used as bases of the IoT-based customer satisfaction survey system's advantages and disadvantages.

2.7. Systems Block Diagram

Figure 2 illustrates the block diagram of the system. The figure explains the mechanism on how the application software works. The quick response code and the fingerprint biometric of the stakeholder are both scanned using the built-in scanner of the mobile device. The stakeholder's responses are transferred to the database and transmitted to the web server.

Figure 2. The Systems Block Diagram of the Design Project.

2.8. Systems Flowchart Diagram

Figure 3 shows the step-by-step procedure to be done to successfully execute the developed digital customer satisfaction survey system.
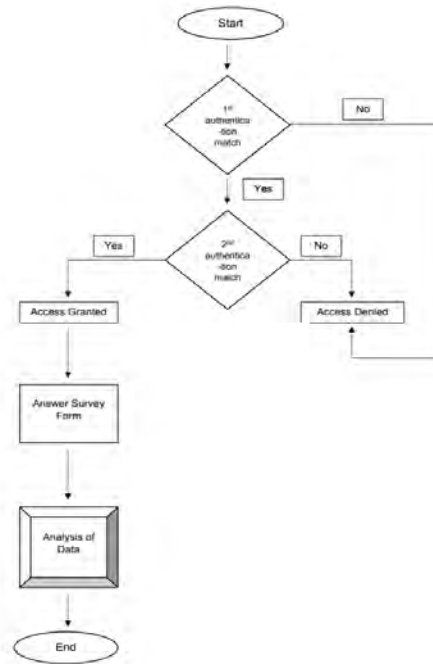
Figure 3. The Systems Flowchart Diagram of the Project.

2.9. Hardware Component

Android phones or any device with Android operating system are compatible with the mobile application system. The Android phone/tablet must have a version of at least 6.0 or higher and should have at least 512MB RAM to store various records. The camera of the device with at least five megapixels which has an auto-focus feature will be used to scan the QR Codes of some of the stakeholders. Fingerprint sensor is used too to detect and identify the accessibility of the registered end-users in the device. Wi-Fi module is also considered as part of the hardware to achieve wireless connection to the internet in the design project.

2.10. Software Component

For developing the Android-based application, Java Programming Language, Android Studio IDE using the Android 6.0 or higher version are used. For the web development, JavaScript, C# Programming Language and Visual Studio (.Net Framework) and MySQL as the back end for the server-side of the digital customer satisfaction survey system.

2.11. Testing Process

The developed application testing is a process conducted to identify design issues, performance obstacles, and bugs in each app. In this process, participants evaluated the developed application software by testing its functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability.

2.12. Evaluation Process

Evaluation is a process that critically examines a program. It involves collecting and analyzing information about a program's activities, characteristics, and outcomes. Its purpose is to make judgments about a program, to improve its effectiveness, and/or to inform programming decisions (Patton, 1987). In this study, the research-participants examined the developed mobile application using the software quality characteristics and its sub-characteristics presented in the ISO 25010 such as the functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability to determine the acceptability of the developed software application.

Compliance with the institution's guidelines pertaining to research involving the use of human subjects/participants technical and social/behavioral activities is observed. A proper review procedure by the Institutional Research Committee such

104

as the Technical Review Committee and Ethics Review Committee as duly mandated is adhered and review certifications from the certifying committees to conduct the study were secured.

Ethical Consideration

Compliance with the institution's guidelines pertaining to research involving the use of human subjects/participants technical and social/behavioral activities is observed. A proper review procedure by the Institutional Research Committee such as the Technical Review Committee and Ethics Review Committee as duly mandated is adhered and review certifications from the certifying committees to conduct the study were secured.

RESULTS AND DISCUSSION

3.1. Software Applications in the System

The developed system has two software applications, a mobile application that will serve as the client and a web application that will serve as the server. The web application is the administrator's platform to navigate and maintain the IoT-based customer satisfaction survey system. Figure 4 presents the dashboard of the system in the web where the other components in tab sections are presented.

Figure 4. The home page dashboard of the system.

3.2. Application of the Multi-factor Authentication Methods in the System

Since the tool to be used by the stakeholders to cast their responses in the customer satisfaction survey system is through mobile devices, all the authentication methods are done through the developed mobile application. Figure 5 shows the home screen of the mobile application of the IoT-based customer satisfaction survey system where the respondents are set to key-in their responses.

Figure 5. Home screen of the mobile application

Figure 6 shows the survey log-in of a stakeholder as the first authentication method to key-in his/her responses in the digital customer satisfaction survey system. All stakeholders are required to key-in the passcode provided to them.

Figure 6. Pass Code authentication method screen.

Figure 7 shows the survey log-in of a stakeholder (student, parent/guardian, guest/visitor, and alumni) as the second authentication method to key-in his/her responses in the digital customer satisfaction survey system. These above-mentioned stakeholders are requested to use a quick response code assigned to them.

Figure 7. Quick Response Code authentication method screen.

Figure 8 shows the survey log-in access for both teaching and non-teaching personnel of the institution as the second authentication method to cast-in his/her responses in the digital customer satisfaction survey system. For this part, only the fingerprint biometric of the assigned and authorized personnel of the department/office will be considered since not all mobile devices have multiple fingerprint biometric registration and some have fingerprint limitations too. Personnel in the department/office are considered also as process-owners.

Figure 8. Fingerprint biometric authentication method screen.

Figure 9 shows the survey log-in of a stakeholder to key-in his/her responses in the indicated department/office that he/she must evaluate based on the entered pass code generated for a specific department/office.
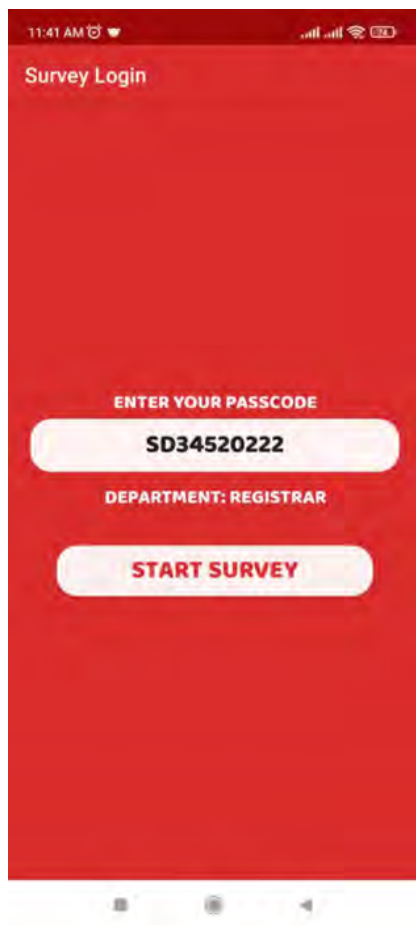
Figure 9. Start screen of the IoT-based customer satisfaction survey system.

3.3. Report Generator in the System

The developed system software provides a report generator to easily view and determine the summary of the monthly performance results of the departments/offices of the institution. With this feature, it would lessen the time of the personnel who are collating the survey responses and come up with a separate results summary.

Figure 10 shows the report dashboard in the web containing the department/office' names and its monthly average rating with the equivalent verbal interpretation.
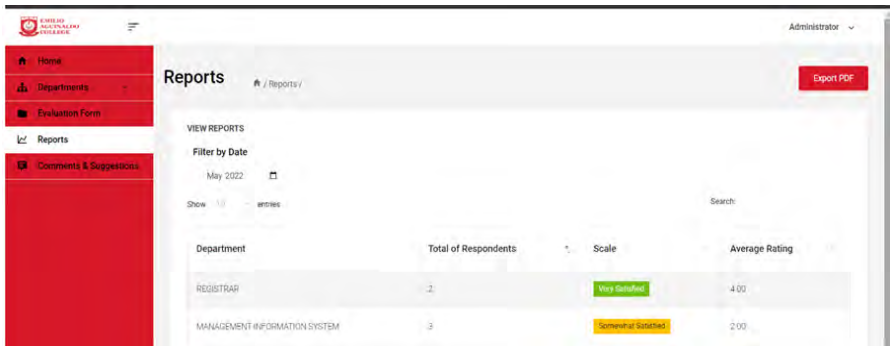
Figure 10. Report dashboard of the departments in the web.

Figure 11 shows a sample generated and printable report of the evaluation ratings of the departments/offices for a specific month.

REPORT

OFFICE	# OF RESPONDENTS	VI	MEAN RATING
MANAGEMENT INFORMATION SYSTEM	3	Somewhat Satisfied	2.00
REGISTRAR	2	Very Satisfied	4.00

Figure 11. Sample generated report in the digital customer satisfaction survey system.

3.4. Statistical Data Results

The use of the ISO 25010 instrument for Software Product Quality was adapted to determine the perceived satisfactions of the research-participants in using the digital customer satisfaction survey system.

Table 2. Perceived satisfactions of the research-participants in the use of the digital customer satisfaction survey system.

Characteristics	Mean	Verbal Interpretation
Functional Suitability	3.33	Very Satisfactory
Performance Efficiency	3.33	Very Satisfactory
Compatibility	3.30	Very Satisfactory
Usability	3.47	Very Satisfactory
Reliability	3.42	Very Satisfactory
Security	3.20	Satisfactory
Maintainability	3.56	Very Satisfactory
Portability	3.70	Very Satisfactory
OVERALL MEAN	**3.42**	**Very Satisfactory**

Table 2 shows the evaluations of the research-participants in the use of the digital customer satisfaction survey system. The portability characteristics gained the highest mean score of 3.70 which is "Very satisfied" while the security characteristics gained the lowest mean score of 3.20 which is "Satisfied." However, the overall mean rating of the perceived satisfaction level for the digital customer satisfaction survey system still received a "very satisfied" rating with the mean score of 3.42.

3.5. Advantages and Disadvantages of the Digital Customer Satisfaction Survey System

Apart from the characteristics and sub-characteristics evaluations using the Software Product Quality standards adopted from the ISO 25010 instrument, research-participants were also queried to indicate the advantages as well the disadvantages of having the digital customer satisfaction survey system in the institution. Responses were gathered and imported using the NVivo12 Plus software to come up with a word cloud reflecting the most frequent terms answered by the research-participants. These words or set of keywords are used in identifying the possible gains and losses of the institution in acquiring a digital customer satisfaction survey system. Figure 12 displays the word-cloud generated from the NVivo12 Plus showing the identified advantages of the digital customer satisfaction survey system given by the research-participants.

Figure 12. Keywords identified by the research-participants as the advantages of the digital customer satisfaction survey system.

Figure 13 displays the word-cloud generated from the NVivo12 Plus showing the identified disadvantages of the digital customer satisfaction survey system given by the research-participants.

Figure 13. Keywords identified by the research-participants as the disadvantages of the digital customer satisfaction survey system.

With these generated word-clouds, the researcher used these as bases of formulating the possible gains and losses of the institution in having a digital customer satisfaction survey system which are used later in recognizing the benefits as well potential costs for the institution. Report, analysis, time, control, documentation, and man-hours are the most frequent terms answered by the research-participants as advantages in the use of the developed system while the words; hardware, software, customization, investment, technology, and time are the most frequent terms answered by the research-participants as disadvantages of the developed system.

114

3.6. Benefit-Cost Analysis

A benefit cost analysis is a process by which organizations can analyze decisions, systems, or projects, or determine a value for intangibles. The model is built by identifying the benefits of an action as well as the associated costs and subtracting the costs from benefits. When completed, a cost benefit analysis will yield concrete results that can be used to develop reasonable conclusions around the feasibility and/or advisability of a decision or situation. In the software selection phase, a comparative analysis of business intelligence solutions by Airinei and Homucianu (2007), matching organizational needs and constraints with software features is the key to success. One of the best ways to do this is to set up a list that weighs benefits against costs.

Table 3. Benefit-cost analysis of acquiring the IoT-based customer satisfaction survey system.

Benefit	Score	Cost	Score
Offers better report/analysis	+10	Hardware and Software expenses	-10
		Might be replaced by new technology in a few years thus requiring new investment	-8
Saves time in report distribution	+9		
Improves Control	+8	Additional days of training/customization needed	-7
Saves man-hours for end-users	+8	Takes time away from other tasks	-3
Comes with good documentation	+5	Unfamiliar user interface	-2
Total	**+40**	Total	**-30**
TOTAL SCORE			**+10**

Scoring is from 10 to -10 for each item, where 10 is the highest score and -10 is the lowest score. A total score above zero shows that the company most likely will achieve an overall benefit by going with a new software solution(s). As shown Table 3, the result of the total score is +10, generally, the institution would more likely benefit in using the application software in facilitating the customer satisfaction survey.

Conclusion

Based on the results, the following conclusions were derived: (1) Applying multi-factor authentication methods through a mobile device to respond to the customer satisfaction survey is viable as an innovate way to solicit feedback from the stakeholders of the institution; (2) the system automatically generates summary of results of the level of satisfaction of the stakeholders to the services given by the offices in the institution. This would eliminate the human-error in encoding the customer satisfaction responses; (3) the use of the digital customer satisfaction survey system is very satisfying as gauged by the research-participants that is well-represented by the all stakeholders of the institution and (4) the institution would more likely benefited in using the application software in facilitating the customer satisfaction survey based on the advantages and disadvantages that balances potential benefits and costs recognized by their stakeholders which may use to improve the institution's service and quality management.

Recommendations

Implementing additional authentication methods in addition to the pass code, quick response code, and fingerprint biometric for more security features; adopting a more modern mobile device to keep up with technological advancements; developing an iOS-based feedback system for non-android users;

and implementing the design project institution-wide would make the project improved through a series of assessments.

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Detection and Enumeration of Heterotrophic Bacteria and Fecal Coliforms in Drinking Water from Selected Commercial Food Establishments in Dasmariñas, Cavite

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- **water analysis**
- **medical laboratory science**
- **most probable number**
- **drinking water quality assessment**
- **total coliform**

Abstract. Access to safe drinking water is a basic human right but 1/3 of the global population do not have access to safe drinking water. This study aimed to evaluate the potability of drinking water collected from commercial food establishments in Dasmariñas, Cavite using the Most Probable Number (MPN) index, Heterotrophic Plate Count (HPC), and detection of fecal coliforms from water samples. Fifty-five percent (n=11) of the

samples were positive in MTT which is indicative of the presence of total coliforms. Forty percent (n=8) of the water samples had unacceptable HPC at >6,500 CFU/mL. Thirty percent (n=6) of the drinking water samples were confirmed positive for fecal coliforms (*Escherichia coli*) as manifested by dark pink colonies in VRBA. In summary, only 45% (n=9) of the collected drinking water samples were considered as potable.

Detection and Enumeration of Heterotrophic Bacteria and Fecal Coliforms in Drinking Water from Selected Commercial Food Establishments in Dasmariñas, Cavite

INTRODUCTION

Safe and reliable drinking water is a fundamental necessity for maintaining public health. Access to safe drinking water is a basic human right but 1/3 of the global population do not have access to safe drinking water (UNESCO, 2019). Between homes with money and those without, there is a difference in access to clean water. Families with low incomes are more likely to consume contaminated water that has coliforms in it (Alfonso et al., 2022). In addition, unclean water and poor sanitation can lead to a multitude of diseases that could endanger the community's health (UNESCO, 2019). Therefore, both developing and developed nations share the need to have access to clean drinking water.

Since they might reveal the presence of possible pathogens, coliform bacteria are frequently used as indicators to evaluate the microbiological quality of water sources (Momba et al., 2012). In the intestinal tracts of both humans and animals, coliforms are a category of bacteria that are naturally found in the environment (World Health Organization [WHO], 2011). Indicators of fecal contamination and the possible danger of waterborne infections include the presence of coliforms in drinking water (Sow et al., 2017). Consequently, it is essential to monitor and comprehend the frequency and distribution of coliforms in drinking water in order to ensure the security of water sources.

Numerous investigations into the prevalence and traits of coliform bacteria in drinking water sources have been carried out globally. These investigations have identified a variety of coliform contamination sources, including soil and vegetation as well as human and animal waste (Brettar et al., 2012; Monteiro et al., 2015). Inadequate sanitation techniques, outdated infrastructure, and inadequate treatment procedures can also be blamed for the prevalence of coliforms in drinking water (Rajal et al., 2014; Xu et al., 2022). For the creation and implementation of efficient water management plans and public health interventions, it is crucial to comprehend the factors influencing coliform contamination in drinking water.

Coliforms and the heterotrophic plate count (HPC) of bacteria are important markers of hygiene and food safety in food operations. *Escherichia coli* and other coliforms are frequently utilized as a sign of fecal contamination and as a sign of pathogenic bacteria (Saxena et al., 2018). Contrarily, HPC bacteria cover a wide spectrum of environmental bacteria and may provide information on the overall microbial load and food and water quality (Sule et al., 2020). Fast food chains need to be closely watched because they are well-known eateries with lots of customers and frequent handling of food in order to maintain the quality and safety of their offerings.

There is little research on the identification of coliforms and counting of HPC bacteria in fast food establishments in the Dasmariñas, Cavite area. If suitable hygiene procedures and sanitation precautions are not followed, these facilities could serve as a source of foodborne illnesses, hence it is crucial to evaluate their microbiological quality. Previous studies have emphasized the necessity for ongoing monitoring and intervention due to the prevalence of coliforms and high HPC counts in a variety of food businesses (Karunasena et al., 2016; Ramrez-Castillo et al., 2016).

124

By looking into the detection of coliforms and the counting of HPC bacteria isolated from fast food chains in Dasmariñas, Cavite, this research piece seeks to close the existing knowledge gap. To conduct the study, drinking water samples from a few different fast-food chains will be collected, and their microbiological quality will be assessed in a lab. The results of this study will help to build useful food safety protocols and treatments by offering important new insights into the local fast food chains' existing microbial status.

Objectives of the Study

This study specifically aimed to:

1. Determine the Most Probable Number (MPN) index of drinking water samples
2. Determine the Heterotrophic Plate Count (HPC) of drinking water samples
3. Detect and isolate fecal coliforms from drinking water samples

Scope and Limitations of the Study

This study involves the collection and testing of drinking water samples from selected fast-food chains in Dasmariñas, Cavite where the researchers have access to. Samples were limited to service water provided by the commercial establishments, and the water sources whether piped water connection, treated piped water, hand pumps, dug wells, rainwater, water vendors, or filtered water were not specified in this study. Other physico-chemical parameters such as pH, biological oxygen demand (BOD), electric conductivity (EC), total dissolved solids (TDS), free and total chlorine, color, turbidity, odor, and taste of drinking water were not determined, analyzed or corelated with the results of the bacteriological tests and the indicator organisms. Detection of pathogens such as *Salmonella* sp. or other Enterobacteriaceae, apart from *Escherichia coli* and

other fecal coliforms, were not the focus of this study. This study is a preliminary study to the detection of the presence of antibiotic resistant bacteria in drinking water.

METHODOLOGY

Research Design

This study utilized experimental-quasi research design. Drinking water samples (n=20) were collected from commercial food establishments using sterile collecting bottles. Water samples were tested for total coliforms using the Multiple Tubes Techniques (MTT) with triple strength Lauryl Tryptose Broth. Heterotrophic plate counts (HPC) were determined using spread plate method with R2A Agar that had been incubated for 24 hours at 37°C. Fecal coliforms were confirmed by observing dark pink colonies in Violet Red Bile Agar (VRBA) through pour plate method. The study protocol was approved by the IRB and ERB of the institution.

Study Area: Dasmariñas, Cavite

Dasmariñas City is the second largest city in CALABARZON in the Philippines, with an area of 90.13 km^2. According to the 2020 population census it is the second most populous city in CALABARZON, with 703,141 inhabitants. Among the 20 municipalities and three cities comprising Cavite, the largest and most populous place was Dasmariñas with 18.4 percent share to the total population of the province. It is also the wealthiest Local Government Unit (LGU) in Cavite (PSA, 2021).

Selection of Commercial Establishment

As it is not possible to collect service and drinking water available in all commercial establishments in Dasmariñas, Cavite, 20 were randomly selected from different locations as part of the

population enough to determine the possibility of determining the feasibility of the study.

Water sampling from various sources and water quality analysis

A total of 20 samples from various commercial food establishments using sterile collecting bottles with a minimum of 500 mL each location. Collected water samples were then brought to the laboratory for analyses and were analyzed immediately. MTT and HPC procedures and the discussion on the detection of pathogens using VRBA were described in Standard Methods for the Examination of Water and Wastewater (APHA, 2017).

Determination of Total Coliforms using MTT

Broth was prepared by suspending 106.8 mL Lauryl Sulphate Broth (triple strength) powder in 1L distilled water. It was dissolved by gently heating. Ten milliliter of broth was distributed in tubes containing inverted Durham's tubes. The media was sterilized by autoclaving at 121 °C for 15 minutes. Tubes were cooled down at room temperature prior to use. Twenty milliliter water sample was inoculated aseptically in each tube. Tubes were incubated at 37 °C for 24 days. Turbidity with gas production was noted as positive for coliforms. See Figure 1.

Figure 1. Determination of Total Coliforms (r-l: MTT, Incubation, Interpretation)

Enumeration of Heterotrophic Bacteria using R2A Agar

HPC, also known as standard plate count (SPC), is a procedure for estimating the number of live, culturable heterotrophic bacteria in water. Colonies may arise from pairs, chains, clusters, or single cells—all of which are included in the term colony-forming units (CFU). The final count also depends on interaction among developing colonies. R2A agar was prepared by dissolving 18.12 g R2A powder in 1L distilled water; and sterilized by autoclaving at 121 °C for 15 minutes. Molten R2A was pre-poured in Petri dishes and used for spread plating. The agar was inoculated with 0.1 mL water sample and spread plated in triplicates. Plates were incubated at 35 °C for 24 days at an inverted position. Colonies were counted and the absence of colonies was reported as <10 CFU/mL. See Figure 2.
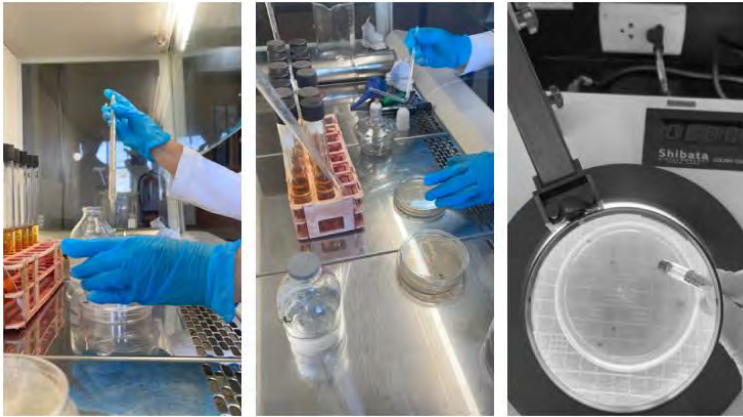
Figure 2. Enumeration of Heterotrophic Bacteria (r-l: Inoculation on R2A Agar, Spread Plating, Colony Counting)

Determination of Fecal Coliforms and Total Coliforms using VRBA

Fecal coliforms were determined using VRBA. VRBA was prepared by dissolving 41.5 g powder in 1L distilled water. Suspension was mixed and dissolved by heating with frequent agitation and brought to boil until all powder is completely dissolved. It was cooled to 45 °C prior to pour plating. One mL of water sample was inoculated first in Petri plate and 15 to 20 mL molten VRBA was poured. Samples were mixed by swirling and allowed to solidify. Pour plating was done in triplicates. Plates were incubated at 37 °C for 18 to 24 days at an inverted position. Colonies were counted and the absence of colonies was reported as <10 CFU/mL. Fecal coliforms were confirmed by observing dark pink colonies surrounded by reddish precipitation zones with 1-2 mm diameter. Colorless to pink pin-point colonies were lactose-negative Enterobacteriaceae. See Figure 3.

Figure 3. Determination of Fecal Coliforms and Total Coliforms (r-l: Preparation of VRBA, Pour plating, Interpretation)

RESULTS

Table 1

MPN Index of the Drinking Water Samples (n=20)

MPN Index	Number of Positive Samples	Percentage
<1.1*	9	45.0%
1.1	3	27.3%
2.6	0	0
4.6	1	9
8.0	4	36.4%
>8.0	3	27.3

Table 1 shows consistency with the findings of Duressa and Assefa (2019) that coliforms may be present in countries with poor water delivery systems.

Table 2

Heterotrophic Bacteria of the Drinking Water Samples (n=20)

HPC (in CFU/mL)	Number of Samples	Percentage
>6,500	8	40%
500-6,500	0	0
<500*	8	40%
No Growth*	4	20%

Table 2 shows high heterotrophic plate counts are indicative of water contamination in processing system, even, from industrial sources (Rygala and Berlowska, 2020)
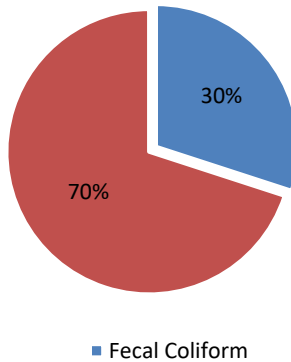
■ Fecal Coliform

Figure 4. Positive Fecal Coliforms from Drinking Water Samples (n=5)

Figure 4 shows consistency with the findings of Castro and Obusan (2023), Sy et al. (2023), that coliforms may be present in Philippine drinking water.

DISCUSSION

Only 45% (n=9) of the collected water samples were bacteriologically safe for drinking. Fifty-five percent (n=11) of the samples were positive in MTT which is indicative of the presence of total coliforms. Forty percent (n=8) of the water samples had unacceptable HPC at >6,500 CFU/mL. Thirty percent (n=6) of the drinking water samples were confirmed positive for fecal coliforms (*Escherichia coli*) as manifested by dark pink colonies in VRBA. In summary, only 45% (n=9) of the collected drinking water samples were considered potable.

MPN Index of the Drinking Water Samples

The most probable number (MPN) index used in this study to estimate the potability of the drinking water samples studied yields insightful findings. Only 9 of the 20 samples, or 45% of the total, had an MPN index of 1.1, it was discovered. This shows that these samples have low levels of microbial contamination and meet the requirements for potability.

It's interesting to note that three of the 20 samples, or 27.3% of them, also had an MPN index of 1.1. Given that these samples also comply with the permissible requirements for microbiological contamination, this discovery strengthens the case for the existence of potable water.

It is crucial to remember that one sample out of the 20 had an MPN index of 4.6, which represents 9% of the total. This greater score could indicate a bigger risk to the public health because it shows a higher microbial load in that specific sample. To locate the causes of contamination and put in place the necessary safeguards to guarantee the security of the water supply, more research is required.

Furthermore, the MPN index was 8.0 in four out of the 20 samples, or 36.4% of the total. This suggests a high level of microbial contamination in these samples, raising the possibility of waterborne diseases. To maintain the safety and potability of the water, it is critical to investigate potential sources of contamination and implement the necessary corrective measures.

Additionally, three of the 20 samples, or 27.3% of them, had MPN indices above 8.0. This suggests that there is a significantly larger microbial load in these specific samples, raising the possibility of waterborne diseases. To lower the microbiological count and ensure that customers have access to clean drinking water, it is crucial to address the causes of pollution and adopt efficient treatment and disinfection techniques.

Overall, the findings show that MPN indices are significantly higher than the permitted limits in a substantial majority of the drinking water samples examined in this study. These results highlight the significance of ongoing monitoring and quality control procedures to guarantee the safety of drinking water. Protecting the public's health requires locating and eliminating the sources of microbial contamination.

It is extremely concerning to find total coliforms and high MPN indices in drinking water samples. In order to assure the safety and quality of drinking water, it is crucial to monitor these characteristics (Ray, I., and Smith, K. R. 2021; Johnson & Brown, 2019).

A group of bacteria known as total coliforms operate as markers for potential fecal contamination in water sources. These bacteria's existence raises the possibility of the presence of other dangerous infections that could endanger the health of consumers (Ray, I., and Smith, K. R. 2021). Total coliforms were found in the drinking water samples used in this investigation, which indicates a possible violation of the water quality regulations.

The investigation also discovered high MPN indices in a few drinking water samples. The MPN index measures the amount of microorganisms in water and sheds light on any potential health problems brought on by microbial pollution. Increased MPN values imply a higher level of microorganisms in the water, including harmful bacteria (Johnson & Brown, 2019).

Drinking water samples with high MPN indices and total coliform counts raise questions about the security of the water supply. Total coliforms are a sign of potential fecal matter contamination in water, which may contain dangerous bacteria and viruses (Ray, I. and Smith, K. R. 2021). The large microbial load further suggested by the high MPN index raises the risk of waterborne illnesses.

These results underline how crucial it is to put in place efficient water treatment procedures and monitoring programs. The microbial load can be decreased, and hazardous pathogens can be eliminated or rendered inactive with the use of adequate treatment procedures, such as disinfection and filtration (Johnson & Brown, 2019). Total coliforms and MPN indices must be routinely monitored in order to spot possible problems and take immediate corrective action.

Heterotrophic Plate Count

The findings of this investigation show that the HPC of the 20 drinking water samples examined varied. 40% of the samples had an HPC of more than 6,500 colony-forming units per milliliter (CFU/mL), according to the results (Rygala, 2020). This high count indicates a considerable bacterial load in those samples, which may be caused by several elements including the quality of the source water or insufficient treatment procedures.

It's interesting to see that 40% of the samples all had an HPC of under 500 CFU/mL. This lower count suggests that the heterotrophic bacterial population in those samples was relatively low, pointing to higher water quality and a more efficient water treatment system.

The study also discovered that 20% of the samples exhibited no bacterial growth (Rygala, 2020). This lack of bacterial growth in those samples may be due to the water treatment system's efficient disinfection or treatment procedures.

The disparities in HPC counts between samples demonstrate the diversity of the bacterial load in drinking water sources. These variances may be affected by elements including the quality of the source water, the treatment procedures, and the disinfection techniques.

High HPC counts that are above the permitted level can raise questions about the water's microbiological quality. Increased HPC counts could be a sign of opportunistic infections or ineffective treatment methods, both of which put customers' health at risk.

On the other hand, it is encouraging that some of the samples had low HPC numbers and no bacterial growth. It implies that efficient treatment and disinfection procedures produce drinking water that is safer and of greater quality.

For the purpose of guaranteeing the security and caliber of water supplies, regular monitoring and evaluation of HPC counts in drinking water are essential. High HPC counts can pose hazards, but they can be reduced and safe drinking water can be provided by regularly monitoring disinfection, implementing efficient treatment procedures, and continuously evaluating the quality of the source water.

The study's findings point to a worrying rise in HPC levels in samples of drinking water. A large proportion of samples with HPC counts that above the permitted limits were found in the study's analysis of a representative sample of drinking water sources (Rygala, 2020). High HPC counts may be a sign of opportunistic infections or insufficient treatment methods, which pose a risk to the public's health.

There are many reasons for the high HPC counts seen in this study. The caliber of the source water is one potential influencing element. Organic waste can act as a source of nutrients for bacterial development, making surface water sources like rivers and lakes more vulnerable to contamination (Jones & Johnson, 2018). Moreover, the existence of additional microorganisms

The effectiveness of water treatment procedures is another aspect that could contribute to high HPC concentrations. Remaining germs in the finished drinking water can result from inadequate disinfection or inefficient organic matter removal during treatment (Gupta et al., 2017). This emphasizes how critical it is to adopt reliable and effective treatment procedures to guarantee the microbiological safety of drinking water.

High HPC counts in drinking water samples have important consequences. In especially for susceptible groups like children, the elderly, or people with weakened immune systems, elevated bacterial burdens can raise the risk of waterborne diseases (Smith et al., 2020; Rygala, 2020). High HPC concentrations can also affect the water's flavor, odor, and overall aesthetic quality, which can decrease consumer satisfaction and

Monitoring and evaluating the water quality on a regular basis is crucial to addressing the problem of excessive HPC numbers. High HPC counts in drinking water can be reduced with the implementation of strict control measures, such as better source water protection, optimized treatment methods, and routine disinfection monitoring (Williams et al., 2019).

In conclusion, this study emphasizes the alarming discovery of elevated HPC levels in drinking water samples. The findings highlight the need for ongoing surveillance and sensible management techniques to guarantee the drinking water's microbiological safety and purity. To protect the public's health, it is essential to address the causes of high HPC counts, such as source water quality and treatment procedures.

Fecal Coliform

The formation of dark pink colonies on VRBA agar revealed the presence of fecal coliforms in 30% (n=5) of the samples investigated in this investigation. This discovery highlights the requirement for ongoing evaluation and enhancement of the water treatment and disinfection procedures in order to guarantee the security of the drinking water supply.
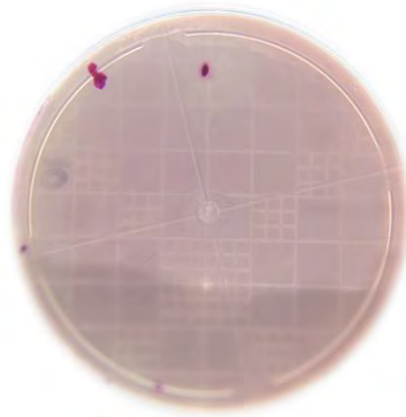
Figure 5. Dark Pink Colonies on VRBA

Coliforms seen in feces (Figure 5). are a subclass of coliform bacteria frequently discovered in the intestines of warm-blooded creatures, such as humans. Their presence in water samples suggests a possible weakness in the system's defenses that could let in microbial pollutants derived from feces. The dark pink colonies seen on the selective fecal coliforms' detection medium VRBA agar (see Figure 5) further support the presence of these bacteria in the tested samples.

A potential source of fecal contamination in the water supply is suggested by the discovery of fecal coliforms in 30% of the samples. Fecal coliforms are a sign of potential fecal-borne pathogens like Escherichia coli and Salmonella, which can infect the gastrointestinal tract when consumed. This result emphasizes the significance of ongoing surveillance to guarantee the microbiological safety of drinking water.

Contrarily, the research discovered that 70% of the samples tested negative for coliforms, meaning they were non-coliforms. A wide range of microorganisms known as non-coliform bacteria lack the distinctive traits of coliforms. The lack of coliforms indicates acceptable water quality, although it does not ensure it.

The necessity for more research into the potential sources of contamination is highlighted by the discovery of fecal coliforms in several of the samples. Inadequate sewage treatment, defective septic systems, agricultural runoff, or cross-contamination during distribution are a few potential sources. The safety of the drinking water supply and the prevention of waterborne illnesses depend on locating and eliminating these sources of pollution.

A probable fecal contamination in the drinking water supply is indicated by the presence of fecal coliforms in 30% of the samples that were examined. This finding emphasizes the significance of thorough monitoring methods for water quality and

efficient treatment procedures. To protect public health and maintain the drinking water's microbiological safety, it is essential to identify and eliminate probable sources of contamination.

In order to keep ecosystems and people healthy and happy, high-water quality must be maintained. The type of bacteria known as fecal coliforms, which is often present in the intestines of warm-blooded animals, is frequently utilized as a sign of fecal contamination in water sources. We can learn more about potential dangers, environmental effects, and the demand for effective mitigation solutions by looking at these results.

Coliforms found in feces, such as *E. coli*, According to the USEPA (2012), are frequently used as indicators of fecal pollution in water sources. Fecal coliforms are indicators of the probable presence of dangerous enteric infections linked to fecal material (WHO, 2017). Although not necessarily harmful, these bacteria operate as fecal contamination markers since their presence suggests the possibility of pathogens that could cause disease.

The discovery of 70% non-coliforms and 30% fecal coliforms in the water sample has important ramifications for determining water quality. Fecal contamination from warm-blooded animals, including humans, is possible when fecal coliform levels are over tolerable limits, raising the risk of contracting waterborne infections (Smith and Carbone, 2019).

It is notable that there were more non-coliform bacteria in the sample since it shows how diverse the bacterial communities were in the water source. It is important to understand that other non-coliform bacteria may also be present in substantial numbers even though fecal coliforms are frequently utilized as markers. While some of these non-coliform bacteria may be benign, others might be harmful or point to sources of pollution (Olyphant and Ehrlich, 1999).

The presence of 30% fecal coliforms suggests that immediate action is required to ensure the safety of the water supply. To decrease fecal contamination and safeguard the

public's health, effective water quality management and mitigation techniques should be put into place. This may entail locating and removing pollution sources, enhancing hygienic procedures, and putting in place the proper water treatment procedures to get rid of or render microorganisms inactive (Geldreich, 1990).

The prevalence of non-coliform bacteria further emphasizes the significance of thorough water quality monitoring systems that take a larger variety of microbial indicators and factors into account. To ensure a complete evaluation of water quality, monitoring programs should include a variety of bacterial, viral, and protozoan markers (Bonadonna and Briancesco, 2019).

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The status of drinking water in commercial establishments is important in determining the health risk of diarrheal diseases which is caused mainly by pathogenic *E. coli* and other fecal coliforms. Foodborne and waterborne transmission of diseases can lead to simple diarrhea to fatal hemolytic uremic syndrome and even death (Olsen et al., 2002; Wittler, 2023; Stephen, Kennedy and Anthony, 2021; Travert et al., 2021).

This study may be as simple as determining water quality by the presence of total coliforms and fecal coliforms but if follows

the trend on how these water quality indicators can be health hazard once they achieve multidrug resistance in the environment. This ability of the microorganisms to acquire antibiotic resistance from biofilm (Salcedo et al., 2014), from transformation (Kim et al., 2014), from wastewater treatment (De Sotto et al., 2016) and from conjugation (Pak et al., 2016) were described previously and could be of consideration in terms of developing new strains of multidrug resistant bacteria coming from waterborne pathogens in drinking water.

Conclusion

Based on the findings of study, drinking water samples from selected commercial establishments could potentially be hazardous to its consumers. The presence of *Escherichia coli* from water samples is indicative of fecal contamination. The results of the study show that coliform contamination is the key problem with drinking water safety. Hence, strict regulation and educational awareness among food handlers and owners may be warranted.

Recommendations

The following are the researchers' recommendations:

1. It is recommended to determine the genotypic characterization of the different fecal coliforms using molecular methods and to understand whether the microbiological examination could reveal multidrug resistance in drinking water in commercial establishments.
2. It is recommended to study the physico-chemical properties of drinking water which can have underlying relationships with the presence of coliforms.
3. It is recommended to study the other components of service water in commercial establishments (i.e.,

disposable cups, ice, source, piping system) which could also be sources of contamination of the drinking water.
4. It is recommended to provide and foster educational awareness about the results of this study through various platforms in social media to reduce the high incidence of diarrheal diseases caused by unsafe drinking water.

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146

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Different Friendship Function that affects the Academic Achievement

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KEYWORDS:
- **Academic performance**
- **Mathematics in the Modern World**
- **Friendship function**

Abstract. The aim of the study is to investigate the extent to which of the friendship functions is a predictor of the academic performance in Mathematics in the Modern World. The study will use descriptive-correlation design. The researcher will gather data through survey to determine the level of friendship of EAC students. The participants were purposively selected and non-proportional quota sampling were used for First-year students in EAC-Cavite enrolled in Mathematics in the Modern World First semester, school year 2022-2023 The researcher used the McGill Friendship Questionnaire –Friendship Functions (MFQ-FF) by Mendelson, M. J. & Aboud, F and the statistical tools used is descriptive statistics and chi-square for the association of friendship functions and academic performance in Mathematics in the Modern World. Most of the respondents' demographics are female (175 out of 192 or 75.5%), with an age group between 17-19 (171 out of 192 or 89.1%) and came from radiologic course (34 out of 192 or 17.7%). The average academic performance in Mathematics in the Modern World of the respondents is 75.31 and has an interpretation of a passing score. A friendship group preferred to have functions of help ($\bar{x} = 3.45$ and $sd = 0.54$), self-

validation ($\bar{x} = 3.212$ and $sd = 0.632$), and stimulating companionship ($\bar{x} = 3.20$ and $sd = 0.63$). : Academic performance of the respondent is dependent on friendship function of stimulating companionship ($p_{computed} = 0.194 < 0.05$), emotional security ($p_{computed} = 0.0203 < 0.05$), and self-validation ($p_{computed} = 0.0163 < 0.05$).

Different Friendship Function that affects the Academic Achievement

INTRODUCTION

Adolescent academic achievement is a crucial factor of future educational and career success. Friendship is essential in the educational process. They offer assistance and resources, and they may both encourage and discourage academic achievement. Arora, N. N. Singh (2017) discovered that educator teaching efficacy, study habits, distracting variables, and student home environment are all important predictors of academic achievement in college students. Moreover, Razak et al. et al., (2021), noted that focus and quality study time have a substantial association to student academic success. This suggests that students' mathematical performance is influenced by internal elements such as study habits, concentration or distracting issues, quality study time, and external ones such as educator instructional efficacy and family environment. The limitation of these articles is that no peer variables were shown to be a significant predictor of academic achievement. However, numerous studies have only determined the association between friendship and academic success. For example, Jacobson and Berdsal (2012) provided a correlation between adolescent academic achievement and favorable peer relationships. Furthermore, Ziteman (2005) found that favorable peer relationships, such as reciprocal friendships, peer acceptability, and group membership, were related to greater levels of academic success. However, the problem on these literatures is that it is not stated whether the level of friendship of the peers in the study.

What is friendship? How can it help in the academic performance of the students?

A friendship is a two-person interpersonal connection that is mutually beneficial and marked by respect for one another. (Hartup and Steven, 1995). It must have involved interactions and communication between persons to qualify as an interpersonal

connection. It is mutually productive because they must enhance the potential talents of each person. Moreover, Pahl (2000) define friendship is a relationship built upon the whole person and aims at a psychological intimacy. It means that the two person choose to be friends and be able to transcend to a higher level of friendship such as best friends or boyfriend or girlfriend. However, Crosnoe, Cavangh and Elder (2003) shows that friendship at school is beyond psychological intimacy. They show several ways how friends can have a positive impact on student's educational performances such as friends can offer help with homework, may provide positive endorsement of one's academic efforts, willing to give advice, and may offer encouragement. These set of activities were categorized by Mendelson, M. J. & Aboud, F. who developed Friendship Questionnaire â€"Friendship Functions (MFQ-FF) to identify the function of friendship. The objective of this questionnaire is to determine how well a friend satisfies the six friendship functions of stimulating companionship, assistance, intimacy, dependable partnership, self-validation, and emotional security.

In line with the teaching methodologies, there is no direct studies that shows that friendship function has a relationship to the academic performance of the studies. However, some teachers were able to use Peer-Tutoring as part of the learning strategies. Moliner, L., Alegre, F., & Lorenzo-Valentín, G. (2022) conducted an experiment on peer tutoring and the use of technology in teaching middle school. The outcome demonstrates that there is a statistically significant difference between the experimental group's pretest and posttest compared to the control group. It shows that seeking the help of their peers can help them to learn the subject. But the underlying question is that which Peer-tutoring method should be used? Moliner, L., Alegre, F., & Lorenzo, G. (2020) from their meta-analysis shows that the reciprocal peer tutoring is more effective than fixed tutoring in producing psychological improvements in elementary school students in the subject of mathematics. It shows that a tutor and tutee can be interchanged and giving the other peers the opportunity to express his learning to the other peers. Lastly, Arco-Tirado, J.L., Fernández-Martín, F.D., & Hervás-Torres, M. (2019) recommended that a continuous participating in the peer-tutoring program has a positive and statistically significant effect on most of the key high-quality outcomes for freshmen. In accordance with

this, the researcher wishes to deduce the cause and predict academic performance from the friendship functions.

METHODOLOGY

The study used descriptive-correlation design. The researcher gathered data through survey to determine the level of friendship of EAC students. The study took place in Emilio Aguinaldo College – Cavite. The participants of the research are the First-year students in EAC-Cavite enrolled in Mathematics in the Modern World Second semester, school year 2022-2023. The participants were purposively selected and used proportional stratified sampling for each school of EAC-Cavite.

The researcher used the McGill Friendship Questionnaire â€"Friendship Functions (MFQ-FF) by Mendelson, M. J. & Aboud, F. This questionnaire was designed to assess the degree to which a friend fulfills the six friendship functions such as stimulating companionship, help, intimacy, reliable alliance, self-validation, and emotional security. Each item is a positive statement about a specific friend fulfilling a friendship function.

The data will analyze using JASP software. The demographic profile and the level of friendship will use descriptive statistics such as frequency table and mean. Moreover, chi-square test of independence was used for the relationship between the friendship function and academic performance.

Ethical Consideration

The respondents were given a consent form before answering the Google form questionnaire. Moreover, the researcher assured the respondents that personal information will be kept confidential and will only be used in research purposes.

RESULTS AND DISCUSSION

The following are the results of the study. This sought to answer the following objectives:
1. Determine the demographic profile of the students in terms of:

a. Age

Table 1

Gender of the respondents

Gender	Frequency	Cumulative Percent
Female	145	75.5
Male	47	24.5
Total	192	100

Table 1 shows that female has 145 (75.5%) while male has 47 (24.5) from the total respondents. In general, there are more female students than male students in science related courses.

b. Gender

Table 2

Age of the respondents

Age Interval	Frequency	Cumulative Percent
17-19	171	89.1
20-22	16	8.3
23-25	4	2.1
29-31	1	0.5
Total	192	100

Table 2 shows that most of the students age is between 17-19 with the frequency of 171 (89.1%) and next to it is between 20-22 with the frequency of 16 (8.3%). In general, most of the college students' age interval is between 17-19 years old.

c. Course

Table 3

The course of the respondents

	Frequency	Cumulative Percent
DMED 1-1	20	10.4
MMLS 1-1	24	12.5
MMLS 1-2	21	10.9
MMLS 1-3	22	11.5
MMLS 1-5	20	10.4
NURS 1-6	22	11.5
OPHT 1-1	29	15.1
RDTC 1-1	34	17.7
Total	192	100

Table 3 shows that most of the respondents are coming from RDTC 1-1 with a frequency of 34 (17.7%) and the least number of respondents is DMED 1-1 and MMLS 1-5 with a frequency of 20 (10.4%). In general, radiologic courses have the greatest number of students per section.

d. Academic performance

Table 4

Academic performance in Mathematics

Descriptions	Mean	Std. Deviation	Interpretation
Prelim Examination score	77.452	10.878	Fair
Midterm Examination score	72.498	12.571	Pass
Overall average	75.310	9.669	Pass

154

Table 4 shows that the academic performance of the students in the Prelim examination score obtained the highest mean of 77.456 with the standard deviation of 10.878 while the Midterm examination score has the highest mean of 72.498 with the standard deviation of 12.571. This implies that the students perform Fair during the Prelim examination score, and they perform a Passing score during the Midterm examination score. This affirms to the study of Guinocor, et. al. (2020), states that majority of the college students are very good in their academic performance in Mathematics. Overall, the students' academic performance in Mathematics has a passing score.

2. Determine the common friendship function of the students in terms of:

   a. stimulating companionship.

Table 5

Descriptive Statistics of Stimulating Companion

Statements	Mean	Std. Deviation	Interpretation	Rank
1. He/she has good ideas about entertaining things to do while making the project.	3.339	0.635	Agree	1
2. He/she makes me laugh during the group meeting.	3.094	0.820	Agree	4
3. He/she is exciting to talk to about the project.	3.167	0.740	Agree	3
4. He/she is exciting to be with while making the project.	3.198	0.761	Agree	2

Table 5 shows that item number 1 has the highest mean of 3.339 with the standard deviation of 0.635. This implies that the students' agreed that a friend has good ideas about entertaining things to do while making the project. While item number 2 has the lowest mean. The mean is 3.094 with a standard deviation of

0.820. This implies that the students' agreed that a friend makes me laugh during the group meeting. Moreover, it has a highest standard deviation. This implies that students have different opinion on item number 2.

b. help.

Table 6

Descriptive Statistics of Help

Statements	Mean	Std. Deviation	Interpretation	Rank
1. When I need it, he or she assists me.	3.53	0.59	Strongly Agree	1
2. He/she aids in my work.	3.47	0.58	Agree	2
3. He/she lends me items that I require.	3.38	0.62	Agree	4
4. When I'm working really hard to accomplish the job, he or she assists me.	3.42	0.61	Agree	3

Table 6 shows that item number 1 has the highest mean of 3.53 with the standard deviation of 0.59. This suggests that a buddy supports me when I need it, and the students overwhelmingly agreed with this. The lowest mean, 3.38, and lowest standard deviation, 0.62, are found in item number 3, nevertheless. Furthermore, the standard deviation for this is the largest. This suggests that the opinions of the students towards a buddy who loans me items that I need are varied.

c. intimacy.

Table 7

Descriptive Statistics of Intimacy

Statements	Mean	Std. Deviation	Interpretation	Rank
1. He/she is someone I can tell private things to after the group meeting.	2.807	1.007	Agree	1
2. He/she knows when I'm upset.	2.536	1.002	Agree	4
3. He/she is someone I can tell secrets to.	2.578	1.020	Agree	2
4. He/she knows when something bothers me.	2.563	1.026	Agree	3

Table 7 shows that item number 1 has obtained the highest mean. The mean of 2.807 with the standard deviation of 1.007. This implies that the students' agreed that a friend is someone I can tell private things to after the group meeting. On the other hand, item number 2 has the obtained the lowest mean of 2.536 and standard deviation of 1.002. This implies that the students' agreed that a friend knows when I'm upset. In line with this, item number 4 has the highest standard deviation of 1.026. This implies that the student has different opinion on item number 4.

d. reliable alliance.

Table 8

Descriptive Statistics of Reliable Alliance

Statements	Mean	Std. Deviation	Interpretation	Rank
1. He/she would want to stay my friend if we didn't see each other for a few months.	3.057	0.857	Agree	3
2. He/she would still want to be my friend even if we had a fight.	3.010	0.831	Agree	4
3. He/she would stay my friend even if other people criticized me.	3.078	0.831	Agree	2
4. He/she would stay my friend even if other people did not like me.	3.120	0.767	Agree	1

Table 8 shows that item number 4 has the highest mean of 3.120 with the student deviation of 0.767. This implies that students agreed that a friend would stay my friend even if other people did not like me. On the other hand, item number 2 obtained the lowest mean of 3.010 with the student deviation of 0.831. This implies that the students agreed that a friend would still want to be my friend even if we had a fight. However, item number 1 obtained the highest standard deviation. This implies that the student has different opinion about a friend would want to stay my friend if we didn't see each other for a few months.

e. self-validation, and

Table 9

Descriptive Statistics of Self-validation

Statements	Mean	Std. Deviation	Interpretation	Rank
1. He/she makes me feel smart.	3.167	0.674	Agree	3
2. He/she points out things that I am good at.	3.245	0.729	Agree	2
3. He/she compliments me when I do something well.	3.365	0.696	Agree	1
4. He/she makes me feel special.	3.073	0.853	Agree	4

Table 9 shows that item number 3 has the highest mean of 3.365 with the student deviation of 0.696. This implies that students agreed that a friend compliments me when I do something well. On the other hand, item number 4 obtained the lowest mean of 3.073 with the student deviation of 0.853. This implies that the students agreed that a friend makes me feel special. However, it also obtained the highest standard deviation. This implies that the students have different opinion on item number 4.

f. emotional security

Table 10

Statistics Descriptive of Emotional Security

Statements	Mean	Std. Deviation	Interpretation	Rank
1. He/she would make me feel comfortable in a new situation.	3.260	0.734	Agree	1
2. He/she would be good to have around if I were frightened.	3.089	0.791	Agree	4
3. He/she would make me feel better if I were worried.	3.146	0.772	Agree	2
4. He/she would make me feel calmer if I were nervous.	3.094	0.787	Agree	3

Table 10 shows that item number 1 has the highest mean of 3.260 with the student deviation of 0.734. This implies that students agreed that a friend would make me feel comfortable in a new situation. On the other hand, item number 2 obtained the lowest mean of 3.089 with the student deviation of 0.791 and the highest standard deviation. This implies that the students have different opinion about a friend would be good to have around if I were frightened.

3. Determine the student's friendship function preferences in a friendship group.

Table 11

Friendship function preferences in a friendship group

Factors	Mean	Std. Deviation	Interpretation	Rank
Stimulating Companionship	3.20	0.63	Preferred	3
Help	3.45	0.54	Preferred	1
Intimacy	2.621	0.908	Preferred	6
Reliance Alliance	3.066	0.775	Preferred	5
Emotional security	3.147	0.687	Preferred	4
Self-validation	3.212	0.632	Preferred	2

Table 11 shows that help, self-validation, and stimulating companionship are the top 3 preferred friendship function in a friendship group. This implies that a friend in this group is someone that helps me when I need it, compliments me when I do something well, and has good ideas about entertaining things to do while making the project is a must preferred friendship function. While emotional security, reliance alliance, and intimacy is the least 3 preferred friendship function in a friendship group. This implies that a friend in this group that is someone who would make me feel comfortable in a new situation, would stay my friend even if other people did not like me, and someone I can tell private things to after the group meeting is the least preferred friendship function. This affirms the study of Karali, Y and Aydemir, H. (2018), states that cooperative learning develops the values of help and cooperation and is highly effective in ensuring social development and formation of peer groups. Moreover, Hussain, et. al. (2013) concluded that the values of help and assistance to each member increase the values and worth of the peer group which leads to more active participation in academic activities.

4. There is a significant relationship between the friendship functions and academic performance of the students.

Table 12

Academic performance and Friendship function

Demographic Profile	Chi-square statistic value	Df	p-value	Interpretation/Implication
Stimulating companionship	40.397a	24	0.0194	Significant / Academic performance depends on stimulating companionship function.
Help	16.428a	16	0.4235	Not Significant / Academic performance does not depend on help function.
Intimacy	18.597a	24	0.7731	Not Significant / Academic performance does not depend on intimacy function.
Reliable alliance	17.655a	24	0.8194	Not Significant / Academic performance does not depend on reliable alliance function.
Emotional security	40.217a	24	0.0203	Significant / Academic performance depends on emotional security function.
Self-validation	41.095a	24	0.0163	Significant / Academic performance depends on self-validation function.

* - significant is p < 0.05

Table 12 shows that there is a significant difference between stimulating companionship, emotional security, and self-validation and academic performance in Mathematics. This implies that academic performance in Mathematics depends on stimulating companionship, emotional security, and self-validation. The students wanted a group member or a friend that has good ideas about entertaining things to do while making the project, would make me feel comfortable in a new situation, and would compliments me when I do something well. This affirms the study of Hussain, et. al. (2013) states that peer groups have significant effect on the academic achievement. Specifically, a student who belongs to a support group have strong and positive correlation to students' academic achievements. This implies that if a student spends more time with his or her group of friends, there is a tendency to achieve a better grade in Mathematics with the condition that friends should help one another in academic difficulties and always encourage each other, and motivate one another.

Conclusion

Based on the above results, the following are the conclusions of the study. First, most of the respondents' demographics are female, with an age group between 17-19, and came from radiologic course. Second, the average academic performance in Mathematics in the Modern World of the respondents is 75.31 and has an interpretation of a passing score. Hussain, et. al. (2013), stated to his study that students with the background studies of sciences perform well in their academic performance. Third, a friendship group preferred to have functions of help, self-validation, and stimulating companionship. The students should consider their member as someone who helps me when I need it, compliments me when I do something well, and has good ideas about entertaining things to do while making the project. Lastly, academic performance of the respondent is dependent on friendship function of stimulating companionship, emotional security, and self-validation. It implies that when someone in a group has good ideas about entertaining things to do while making the project, would make me feel comfortable in a new situation, and would compliments me when I do something

well could increase the chance to improve the students' scores in the major examinations.

Recommendations

Based on the above findings, the following are the recommendations of the study. First, this study can be replicated with demographics with equal number of male and female respondents and more diverse age group. Moreover, a mathematics-aligned course is a highly recommended. Second, a method can be an experimental design to determine the effectiveness of the friendship group with pre- and post-assessment in Mathematics in the Modern World. Third, in formation of groups, the students should be given a chance to choose their friends as their member of the group. Lastly, the professor should include friendship group in the student-based learning activities. Moreover, the activities must be aligned in the learning outcomes from the syllabus.

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Digging deeper in Tourism and Hospitality Management: Determining Industry Demands for the Current Generation of Graduates

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KEYWORDS:

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- **Recruitment Advantages**
- **Industry and Academia**
- **Tourism and Hospitality Standards**
- **Curriculum and Instruction Development**

Abstract. This study investigates the expectations of the tourism and hospitality industry regarding graduates from tourism and hospitality management programs. It aims to identify the competencies and employability factors that industry professionals seek, considering the changes brought about by the COVID-19 pandemic. Guided by a descriptive research design taking on quantitative-qualitative research approach, the researchers have successfully determined the importance of the graduates' school and grades in the recruitment process and the industry's preferences regarding graduates' knowledge, skills, and attitudes. Findings indicate that while the school

and grades of graduates are important to some extent, other factors such as school reputation and internships can influence their employability, establishing the need for Higher Education Institutions to create a positive image in the eyes of the community, and to ensure that the internship experience acquired by their students are aligned to their anticipated careers, hence, actual exposure to the operations. Moreover, specific knowledge, skills, and attitudes, including standard operating procedures, customer service, managerial skills, and positive attitudes, are vital for graduates to be considered competitive and employable in the industry. Based on these findings, the study suggests that tourism and hospitality management schools should incorporate these factors into their curriculum and training programs. By doing so, they can better prepare graduates to meet the industry's demands and enhance their employability prospects.

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Digging deeper in Tourism and Hospitality Management: Determining Industry Demands for the Current Generation of Graduates

INTRODUCTION

Issues in the tourism sector have a direct influence on industry expectations for specialized knowledge and abilities of managers and staff (Zehrer et al. (2006). This is because the tourism industry is service industry, whereas, it is the quality of service delivered by employees that determines the level of customers' satisfaction and loyalty. Quality of service is so important; the tourism sector requires graduates with practical and transferrable abilities (Shakeela et al., 2012). According to Tsai (2017) the essential features of graduate employment include generic skills, disciplinary skills, professional attitude, and career planning skills in reference to her study on the perspective of tourism sector employability in the setting of travel agency operations. Meanwhile, Kimeto (2021) have found out that information technology and digitalization, critical thinking, and multi-tasking were the top three most relevant abilities and competences necessary for providing excellent tourist services in the perspective of tourism managers and supervisors, therefore, what are sought in a tourism graduate. Makelin-Theron et al (2019) have developed a tourism employability model in reference to the tourism industry in South Africa, which shows four skills categories that make a graduate employable; professional skills, personality skills, knowledge skills, and operational skills. In the Philippines, the study conducted by Laguador & Ramos Jr. (2014) in support to the curriculum development of the Lyceum of the Philippines University – Batangas discovered that their industry partners choose graduate to hire based on their technical skills, knowledge in research, communication skills, computer skills, and leadership.

Employees in the service sectors should possess different types of skills enough to produce a high-quality product and

convince the customers to afford it; their success should be based on their technical and soft skills in satisfying the customers. Elshaer and Marsouk (2020) argued that they should have a range of skills, knowledge, and attitudes that affect a major part of their jobs which impacts on service quality excellence. It was further discussed that interactive service jobs depend upon skills located within each employee, especially emotional skills that can be appeared in the quality of the verbal communication that are often exploited as an "invisible" skill, hence, confidence and one's ability to socially interact are skills that are highly important. Personality is also an aspect considered as critical in the tourism and hospitality industry, as it has been consistently referred to as a "people industry" where employees represent the organization in the eyes of service consumers (Kim and Spears, 2021), hence, the relationship established between consumers and the employees determine the quality of service. Traits among employees that are considered important include dependable, organized, reliable, ambitious, hardworking (Brice, 2004; Major et al., 2006; Zhao & Seibert, 2006; Zhao et al., 2010), as well as being kind, cooperative, sympathetic, helpful, courteous, and warm (Brice, 2004; Zhao & Seibert, 2006; Zhao et al., 2010). However, traits that are unacceptable fall under the category of emotional instability such as being nervous, moody, emotional, insecure, and having an unstable character (Zhao & Seibert, 2006; Zhao et al., 2010; Méndez Picazo et al., 2012).

Clearly, there the tourism and hospitality industry have certain qualifications for graduates who to be a part of it, however, most studies in this area that are published in journals and available to the public are conducted outside the Philippines, as most research conducted by institutions in the country were tracer studies that have introduced a research gap of knowing why there were graduates who after working for a very long period time remained to be unsuccessful in entering their field of specialization. It is also noticeable that the studies cited have only provided vague information on what specifically are knowledge, skills, and attitude that a graduate must possess in order to land a job in the tourism and hospitality industry. With this, it has been determined that there is dearth of studies in Philippine setting and that has discussed specific qualities of graduates sought after by employers in the context of knowledge, skills, and requirements in each relevant area of operations, hence, research gaps that this

study will be attempting to fill. Specifically, this study aimed to address the following objectives:

1. To determine to what extent the school where a tourism and hospitality management graduate obtained his/her degree matters as perceived by the industry.
2. To determine to what extent grades obtained by a tourism and hospitality management graduate matters as perceived by the industry.
3. To learn what specifically does the industry looks for in tourism and hospitality management graduates to see them as employable and competitive in terms of knowledge, skills, and attitude.

METHODOLOGY

Guided by a descriptive research design and a quantitative -qualitative research approach, the researchers successfully collected data from purposively selected respondents. The instrument created using Google form was composed of a mix of objective questions following a Likert Scale and Open Ended ones, and was disseminated through electronic mail. Respondents were limited to human resource managers, department manager, and operations managers of establishments that operate under the tourism and hospitality industry under the following sectors: Accommodation, Food and Beverage, and Travel Service, located in the province of Cavite, Philippines. Qualitative coding or theme analysis has been performed to treat the data collected through open ended questions. This is a technique for studying qualitative data that involves scanning across a data collection to find, evaluate, and review on duplicating patterns (Braun and Clarke, 2006). Meanwhile, frequency, percentage, and mean scores were computed to interpret numerical data.

RESULTS

Table 1

The level of importance of the schools where tourism and hospitality graduates graduated from as perceived by the tourism industry in the recruitment process

	Travel Service		Accommodation		Food and Beverage		Overall
Statements	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation	Interpretation
Graduating from a university and not a college	3.00	Moderate Importance	3.67	High Importance	2.00	Low Importance	**Moderate Importance**
Graduating from an HEI that is named by CHED as Center of Excellence/Development in Tourism and Hospitality Management	3.00	Moderate Importance	2.67	Moderate Importance	2.50	Low Importance	**Moderate Importance**
Graduating from HEIs that are popular and the hiring manager is familiar of such as but not limited LPU, EAC, DLSU, and UP	2.00	Low Importance	2.67	Moderate Importance	2.00	Low Importance	**Low Importance**
Graduating from a private HEI	2.00	Low Importance	2.00	Low Importance	2.00	Low Importance	**Low Importance**
Overall	**2.50**	**Low Importance**	**2.75**	**Moderate Importance**	**2.12**	**Low Importance**	**Low Importance**

Results show that the travel service and food and beverage sectors composed of travel agencies and restaurants respectively perceive the school where tourism and hospitality students graduated to have low importance in the recruitment process. However, it is noticeable that though this is the case overall, these establishments see graduates of universities are moderately more competent than those of colleges with data showing that graduating from universities than colleges, and those that are named by CHED as Center of Excellence/Development in Tourism and Hospitality Management, are moderately important for them. Meanwhile, in regards to the accommodation sector, hiring managers perceive schools where students graduated with moderate importance, whereas, students from universities are seen more highly employable than those who have finished their studies in colleges, and those students who have graduated from HEIs named as COE/ COD by CHED and are popular among people as slightly more employable than those without such recognition and less popular, while, being able to

graduate from private education institutions than in state HEIs records low importance.

Table 2

Opinions of industry managers on the importance of the schools where tourism and hospitality graduates graduated from, in terms of recruitment

| Statements | Travel Service | Accommodation | Food and Beverage | Overall | |
	Responses	Responses	Responses	Themes	Statements
Graduating from a university and not a college	"It is highly important because graduates of universities has more experience than those who graduates from colleges" "It does not matter as schools, whether university or college, offer the same curriculum"	"When it comes to learning most probably they teach the same curriculum" "I strongly agree, because I think those who are from Universities are more capable to do their specific task related to the work" "Not much of a big deal, they all offer identical curriculum"	"It really depends on the person. Just have to find out if he or she can handle the job. It really does not matter"	Higher Competence among graduates of universities Same curriculum	Graduating from a university and not a college
Graduating from an HEI that is named by CHED as Center of Excellence/Development in Tourism and Hospitality Management	"It matters a lot because such recognition reflects on the quality of its education being given to students" "It not important for me, I am not biased in hiring in terms of this, there must be inclusivity in the recruitment process"	"yes, I prefer them case to case basis, I believe that these schools offer better quality education" "I disagreed because all CHED accredited schools are more likely to offer the same lessons, hence, graduates could be equally competitive and prepared in the industry that they are belong"	"Graduates from these institutions are trained more, hence, more competent" "schools does not matter, as long as he or she can handle and manage the task given"	Higher Education Quality offered in COE/COD Schools Equal Competence among graduates despite difference in schools Same curriculum	Graduating from an HEI that is named by CHED as Center of Excellence/Development in Tourism and Hospitality Management

(Table 2 continued)

Graduating from HEIs that are popular and the hiring manager is familiar of such as but not limited LPU, EAC, DLSU, and UP	"I give graduates of other schools in regards to this"	"I strongly agree because in my opinion I think that those from a well-known universities and colleges are industry ready" "Regardless of the colleges or universities an applicant came from, they should be give equal opportunities. No to discrimination" "I think that those students from popular HEIs are very skilled and very familiar to the career that they are going to pursue" "schools that are not heard of but accredited or licensed to run, follow the same teaching standards of the other known universities, so it is not that important for me"	"If a person or graduate can handle the task, school does not matter" "It's just more of branding for me. There are graduates from not popular schools that are more capable of handling the job well"	Higher Education Quality offered in popular schools Higher Competence among graduates of popular schools Same curriculum	Graduating from HEIs that are popular and the hiring manager is familiar of such as but not limited LPU, EAC, DLSU, and UP
Graduating from a private HEI	"I give graduates of other schools in regards to this" "I disagree because I believe that those who are graduated from state HEIs are also skilled and career oriented the same to those who graduated from private" "I think they follow the same standard of teaching so either they graduated from private HEIs or state HEIs, it doesn't matter at all" "I don't evaluate applicants based on this aspect, as there are graduates from public schools that are more competent than others who are from private ones, and the other way around"		"It does not matter, the student is more important than the type of school where he graduates from"	Equal Competence among graduates despite difference in schools Same curriculum	Graduating from a private HEI

Table 2 shows that those who perceive schools where students graduates with low importance argue that despite differences, whether a school is private or public, university of college, popular or less known, they all offer the same curriculum. Meanwhile, those who see it with moderate to high importance argue that being a university and designated as a Center of Excellent/Development by CHED, means the school offers higher quality education, hence, more likely to train students better and make them competent in their field of specialization. Nevertheless, overall, the tourism industry perceives schools where students graduated with low importance in the recruitment process.

Table 3

The level of importance of the grades obtained by tourism and hospitality graduates as perceived by the tourism industry in the recruitment process

Statements	Travel Service		Accommodation		Food and Beverage		Overall
	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation	Interpretation
Higher overall grade point averages	2.50	Low Importance	3.34	High Importance	2.50	Low Importance	**Moderate Importance**
Higher grade point averages in tourism and hospitality core courses/subjects	2.50	Low Importance	3.00	Moderate Importance	2.50	Low Importance	**Moderate Importance**
Latin honours	2.50	Low Importance	2.33	Low Importance	2.50	Low Importance	**Low Importance**
Higher grades in Internship	2.00	Low Importance	3.67	High Importance	2.50	Low Importance	**Moderate Importance**
No Incomplete (INC) grades	3.00	Moderate Importance	2.67	Moderate Importance	2.00	Low Importance	**Low Importance**
Overall	**2.50**	**Low Importance**	**3.02**	**Moderate Importance**	**2.40**	**Low Importance**	**Moderate Importance**

It was clear on the data gathered that travel agencies and restaurants perceive the grades obtained by tourism and hospitality graduates to have low importance in the recruitment process. However, it is noticeable that though this is the case overall, travel agencies see having no Incomplete (INC) grades as moderately important, sharing the same view with hotels. On the other hand, hotel hiring managers perceive grades obtained by students graduated with moderate importance overall, whereas, students who have higher overall grade point averages and higher grades in their internship are seen to be highly more employable than those with lower grades, and those students with higher grade point averages in tourism and hospitality core courses/subjects and has no INC record as slightly more employable than others. Surprisingly, Latin Honors are not seen as a big deal by these establishments.
Table 4

Opinions of industry managers on the importance of the schools where tourism and hospitality graduates graduated from, in terms of recruitment

	Travel Service	Accommodation	Food and Beverage	Overall	
Statements	Responses	Responses	Responses	Themes	Statements
Higher overall grade point averages	"This does not matter to me much as skills and experienced is better to consider"	"I consider it a little because it reflect how active the applicant in school" "I consider it because discipline starts from thyself, if they value enough of their grades/points, same as when they are already employed, they will also value the money that they are going to earn" "I tend to consider graduates who have higher overall grade because I think that they can perform well and excel during their job application and also in their performance"	"Students tend to have higher intellect if they have a higher grade" "Each has their own expertise, which is not reflected on grades"	Grades as reflection of students intellectual capacity and skills Grades a sign of discipline	Higher overall grade point averages
Higher grade point averages in tourism and hospitality core courses/subjects	"I base my preference on the skills and performance rather than grades"	"Interest in studies, means interest in job" "for me everybody is trainable so it doesn't matter if they have higher grades or lower, once you are in the real hospitality world, you will monitor the way they perform" "I strongly agree because in my opinion those students who have higher grade point averages in tourism and	"Students who have high grades in major courses are more likely to possess the intellectual capacity and skills needed to perform well at work" "It does not matter, they will learn everything once they are already working"	Grades as reflection of students intellectual capacity and skills Grades as sign of discipline Preference towards skills over academics	Higher grade point averages in tourism and hospitality core courses/subjects

(Table 4 continued)

Latin honours	"I don't see it as a big deal as it is not needed in the industry where skills and performance are more important"	hospitality core courses are those who have a great potential when it comes to their field of expertise" "It is an advantage" "It does not matter to me much as sometimes those who graduated without honours performed well than those have graduates with such" "Based on my experience, there are a lot of applicants that are more resourceful than who have graduated with Latin honours"	"No need for this"	Latin honours as an advantage Latin honours are not indication of competence	Latin honours
Higher grades in Internship	N/A	"I strongly consider this because grades obtained from actual practices is more credible than academic studies only" "Internship performance is a reflection of how will students do in the industry that they choose after graduating" "Grades obtained from internship are hard earned to have a good background on their employment in the future"	"High grades in internship do matter, as it just shows that they're great employees/workers" "It does not matter to me"	Competence of students in the actual workplace Internship grades as more credible than academic courses"	Higher grades in Internship
No Incomplete (INC) grades	N/A	"It is great measure of a student's interest and willingness" "It matters to me but I do give chance to students who have INCs to prove themselves" "I disagree because not all the students who have INCs are not dedicated to their subjects; maybe there is a deeper reason behind that"	"Grades are just for measuring your activities in school, and it do not indicate how you will perform in the industry"	"No INCs as reflection of students' dedication"	No Incomplete (INC) grades

     Responses from industry managers also revealed that those who perceive grades as something to consider in the recruitment process believe that grades could be used as an indication of students' intellectual capacity and skills, as well a sign whether a student has discipline and dedication or does not, most specially in terms of having no INCs. On the other hand, those who perceive grades as not a big deal in recruiting applicants think that grades cannot indicate how a person would do in the workplace as there is huge difference between school

and the actual work environment. Additionally, receiving low grades or INCs do not necessarily means the students were not dedicated, it could have been caused by other circumstances, though; they stated that having good grades is still an advantage. Overall, the tourism industry perceives grades obtained by graduates with moderate importance in the recruitment process.

Table 5

Knowledge, Skills, and Attitude that the industry looks for in tourism and hospitality management graduates to see them as employable and/or competitive

Variable	Travel Service Consolidated Response	Accommodation Consolidated Response	Food and Beverage Consolidated Response	Overall Interpretation
Knowledge	• Knowledge on general standard operating procedures observed in the department that he/she will be working at. • Knowledge on functions of each department in the establishment and how they are interconnected. • Critical thinking and knowledge on ways to respond in various scenarios such as but not limited to customer complaints. Knowledge on risk mitigation activities.	• Knowledge on general standard operating procedures observed in the department that he/she will be working at. • Knowledge on functions of each department in the establishment and how they are interconnected. • Critical thinking and knowledge on ways to respond in various scenarios such as but not limited to customer complaints. • Knowledge on risk mitigation activities. Knowledge on Key Performance Indicators of Different Departments	• Knowledge on general standard operating procedures observed in the department that he/she will be working at. • Knowledge on functions of each department in the establishment and how they are interconnected. • Critical thinking and knowledge on ways to respond in various scenarios such as but not limited to customer complaints. • Knowledge on risk mitigation activities.	Tourism establishments basically demands the same sets of knowledge from tourism and hospitality graduates, with the exception of the accommodation sector that also consider knowledge towards KPIs in various departments as important.
Skills	• Technological savviness • Fluency in speaking in English • Effectiveness of writing in English • Administrative and managerial skills Ability to work in a team	• Technological savviness • Fluency in speaking in English • Effectiveness of writing in English • Administrative and managerial skills • Ability to work in a team • Flexibility in different types of work and being able to adapt in sudden changes	• Administrative and managerial skills • Ability to work in a team	There are sets of skills that all sectors see as important for tourism and hospitality graduates to have, particularly administrative and managerial skills, and the ability to work in a team. Some skills that other sectors see as important are not a big deal in others such as technological savviness, fluency in speaking and writing in English, which translates to communication skills. Additionally, only the accommodation sector looks for as flexibility in graduates.
Attitude	• Cheerfulness • Self-esteem/ high level of confidence Extremely driven	• Cheerfulness • Self-esteem/ high level of confidence • Extremely driven • Eagerness to learn	• Cheerfulness • Humbleness • Extremely driven	Tourism establishments basically demands the same attitude from tourism and hospitality graduates, with the exception of the accommodation sector that also consider "eagerness to learn" as important. Additionally, the food and beverage sector prefer graduates who are humble, while the accommodation and travel service sectors favours those who have displayed high level of confidence.

Results revealed that tourism establishments basically demands the same sets of knowledge from tourism and hospitality graduates, with the exception of the accommodation sector that also consider knowledge towards KPIs in various departments as important. These knowledge areas includes: general standard operating procedures observed in the department that he/she will

be working at, the functions of each department in the establishment and how they are interconnected, the ways to respond in various scenarios such as but not limited to customer complaints, and various risk mitigation activities. In terms of skills demanded by the industry, there are sets of skills that all sectors see as important for tourism and hospitality graduates to have, particularly administrative and managerial skills, and the ability to work in a team. However, some skills that the accommodation and travel service sectors see as important are not a big deal in the food and beverage sector such as technological savviness, fluency in speaking and writing in English, which translates to communication skills. Additionally, only the accommodation sector looks for as flexibility in graduates. Lastly, when it comes to the attitude or personality of students preferred by the industry, tourism establishments basically demands the same attitude from tourism and hospitality graduates, with the exception of the accommodation sector that also consider "eagerness to learn" as important. These traits include: cheerfulness and having an extremely driven personality. Additionally, the food and beverage sector prefer graduates who are humble, while the accommodation and travel service sectors favor those who display high level of confidence.

Conclusion

This study provides novel insights into the perception of the tourism and hospitality industry regarding the importance of the school from which graduates of tourism and hospitality management programs originate. The findings challenge conventional wisdom by revealing that the industry, as a whole, considers the school of graduation to have low importance in the recruitment process. This challenges the notion that the reputation or prestige of the school alone significantly impacts employability. Instead, factors such as curriculum, teaching quality, and industry exposure during internships are deemed more important by hiring managers. The study also highlights the importance of factors beyond grades in determining graduates' employability. While travel agencies and restaurants perceive grades to have low importance, hotel managers consider them with moderate importance. However, the absence of incomplete grades and higher overall grade point averages, internship grades, and grades in core courses are seen as indicators of competence and

dedication. Ultimately, the industry recognizes that grades do not fully reflect an individual's potential to succeed in the workplace and emphasizes the importance of practical skills, problem-solving abilities, and a positive attitude. Furthermore, the study identifies common knowledge, skills, and attitudes demanded by the tourism and hospitality industry. Administrative and managerial skills, teamwork, and customer service are universally valued. However, there are sector-specific differences, with the accommodation sector emphasizing flexibility, the travel service sector valuing confidence, and the food and beverage sector prioritizing technological savviness and communication skills.

These findings have significant implications for tourism and hospitality management schools. They suggest the need to align curriculum and training programs with industry demands. Incorporating practical training, internships, and exposure to real-world scenarios can better prepare graduates for the industry, while collaboration and partnerships with industry stakeholders can ensure that graduates possess the desired competencies. By considering the perceptions and preferences of industry professionals, educational institutions can enhance the employability of their graduates and bridge the gap between classroom learning and workplace requirements. Overall, this study sheds light on the complex factors that influence the perception of graduates' competence and employability in the tourism and hospitality industry and by understanding these perceptions, educational institutions can adapt their programs to meet industry expectations and equip graduates with the necessary skills and knowledge for successful careers in the field.

Recommendations

Based on the research findings, here are five recommendations:
- Collaboration between industry and academic institutions: To bridge the gap between what the industry demands and what academic institutions provide, it is recommended that both parties work together. This can be done by creating an industry-academia partnership where industry representatives can provide feedback to academic institutions on the skills, knowledge, and attitudes

that are needed for graduates to be successful in the tourism and hospitality industry.

- Emphasis on internship programs: Since the industry places moderate to high importance on the grades obtained during internship programs, academic institutions should place greater emphasis on these programs. They should provide students with opportunities to gain practical experience and learn about the industry first-hand through internships. Academic institutions should also work to ensure that internships are well-supervised and that students receive constructive feedback during their placements.

- Strengthening the curriculum: The research findings suggest that the industry sees little difference in the quality of education provided by different schools, regardless of whether they are public or private. To enhance the quality of education provided by academic institutions, it is recommended that they revisit and strengthen their curriculum. This can be done by incorporating courses that focus on areas such as KPIs, risk mitigation, and customer service, and by integrating more opportunities for students to develop their administrative and managerial skills.

- Soft skills development: The industry places great importance on soft skills such as communication, teamwork, and flexibility. To ensure that graduates possess these skills, academic institutions should prioritize their development. This can be done through experiential learning opportunities that allow students to develop these skills in a practical setting.

- Encouraging Academic Excellence: While Latin Honors were not seen as a big deal by industry managers, it is still recommended that academic institutions encourage students to strive for academic excellence. This can be done by offering incentives such as scholarships, recognition ceremonies, and other forms of public acknowledgement for students who achieve high academic performance.

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Factors Influencing Faculty Members and Students' Utilization of the Learning Management System

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KEYWORDS:

- **Learning Management System (LMS)**
- **Technological Acceptance Model**
- **Behavioral intentions**
- **Facilitating conditions**
- **Perceive enjoyment, service quality, value and satisfaction**

Abstract. The utilization of Learning Management System (LMS) like Brightspace has been given much emphasis especially during the COVID-19 pandemic period and has become a common phenomenon during the new normal. This study will examine the factors that influence LMS adoption among college students. Drawing upon the model of technological acceptance (TAM), five factors have been identified such as facilitating conditions (FC), perceived enjoyment (PE), perceived service quality (SQ), perceived value (PV), and satisfaction (SAT) in successful acceptance of LMS as an observational viewpoint from the of students at Emilio Aguinaldo College-Cavite. The purposes of this study were to examine the behavioral intentions of faculty

members and students' behavioral intentions; to provide comprehensive insights and understanding about learning management system adoption; and to provide recommendations based on the findings as to the success of learning management system adoption. The research is conclusive since it aims to show how the identified factors relate to the goals of the students and faculty. Given that it used numerical method, this research is quantitative-correlational. The study employed stratified sampling as its sampling technique. There is a moderate positive correlation between perceived service quality, perceived satisfaction, perceived value, perceived enjoyment, and behavioral intentions. Perceived service quality predicts perceived value, satisfaction, and behavioral intentions. Service quality has a positive impact on behavioral intentions and has a direct influence on perceived value and satisfaction with the quality of service. Faculty members and students perceive that the conditions are favorable for them to use a particular service, they are more likely to be satisfied with it, find it valuable, and enjoy using it just like in the of faculty members and students at Emilio Aguinaldo College towards the utilization of learning management system. This proves that perceived enjoyment is an important factor in determining behavioral intention towards a particular activity or technology. The perceived value has a high positive correlation with perceived enjoyment and behavioral intention when it is associated with an increase in the likelihood of electronic word of mouth, usage intentions and acceptance of the learning management system. This suggests that when perceived value is high, users are more likely to have a positive perception of the service and be more likely to use it. The utilization of Learning Management System (LMS) has been given much emphasis especially during the COVID-19 pandemic period and has become a common phenomenon during the new normal.

Factors Influencing Faculty Members and Students' Utilization of the Learning Management System

INTRODUCTION

Utilizing learning management systems (LMS) like Brightspace has received significant attention, particularly during the COVID-19 pandemic phase, and has spread throughout society under the new normal. The factors influencing LMS adoption among college students will be looked at in this study. From an observational perspective from the students at Emilio Aguinaldo College-Cavite, five factors have been identified that include facilitating conditions (FC), perceived enjoyment (PE), perceived service quality (SQ), perceived value (PV), and satisfaction (SAT) in the successful acceptance of LMS.

METHODOLOGY

The research is comprehensive since it seeks to demonstrate how the factors that have been identified relate to the objectives of the staff and students. It is quantitative and descriptive-correlational in nature. A survey is used by the study as part of its data collection method. To ascertain the degree to which nurturing a behavioral intention for LMS adoption has taken place, a structured and adopted questionnaire was employed.

This study is conducted in the Philippines, mainly in the province of Cavite, where Emilio Aguinaldo College Cavite is located. The researchers chose to pursue this study in this locale since the college faculty members are employed in the institution and the students are enrolled in the same institution and reside in the said province. Furthermore, many schools had to adjust to the new standard during the COVID-19 pandemic. To make it happen, they invested in a learning management system that could support students' academic activities by giving learners access to a wide array of integrated services (Zanjani et al., 2017).

A total of 563 participants participated in this study, composed of one hundred eighty-two (182) college faculty members and three hundred eighty-one (381) college students. The college faculty members are employed at Emilio Aguinaldo College Cavite whether full time or part time and students are officially enrolled during the first semester of 2022-2023. Emilio Aguinaldo College had been using Brightspace, an innovative learning management system that supports learning and training. This platform is both used by the college faculty and students in implementing distance education and ensures that no one is left behind and the teaching and learning process works well with sustainability (Yamani et al., 2022).

For statistical analysis, the data were collected from faculty members and students who has an account and open access with Brightspace. The researcher used descriptive statistics specifically the mean to get the level of faculty and students' perceived enjoyment, service quality, perceived value, and perceived satisfaction in connection to the behavioral intentions of the users. At the same time, inferential statistics was utilized for correlation analysis and hypothesis testing. Pearson r was used in examining the direction and strength of the relationship between the variables and test the hypothesis with 0.01 or 0.05 level of significance. Every variable in the survey was tested and the scale reliability was assessed using Cronbach's Alpha with a results of 0.89. SPSS was used as a statistical analysis tool to support the quantitative nature of this study.

Ethical Consideration

This study had been approved by the Institutional Ethics Review Board. This study maintained the utmost credibility and confidentiality of the participants including a voluntary participation in this study. The personal information of the participants were not been disclosed as an individual but rather as an anonymous for the entire presentation of the results; potential for harm, where all types of harm including but not limited to physical, social, and psychological are kept to a minimum and lastly is the results of communication where the researchers ensures that this study is an original work without any form of research misconduct (Bhandari, 2021).

RESULTS

Table 1

Students and Faculty Members Perceived Level

Indicators	Faculty		Students		Interpretation
	Mean	SD	Mean	SD	
Service Quality	3.44	0.51	3.25	0.53	Very High
Facilitating Conditions	3.53	0.40	3.35	0.49	Very High
Perceived Satisfaction	3.45	0.47	0.47	3.21	Very High
Perceived Value	3.55	0.47	0.47	3.27	Very High
Perceived Enjoyment	3.42	0.48	0.48	3.19	Very High
Behavioral Intentions	3.48	0.48	0.48	3.27	Very High

Table 1 indicates the outcomes based on the overall model the relationship of the variables. Based on the perception of the factors by the faculty members, it reveals that Perceived Service Quality (mean = 3.44, SD = .512); Perceived Facilitating Condition (mean = 3.53, SD = .40), Perceived Satisfaction (mean = 3.45, SD = .46), Perceived Value (mean = 3.55, SD = .47), Perceived Enjoyment (mean = 3.42, SD = .48), and Behavioral Intention (mean = 3.48, SD .48). Therefore, the results of the mean of every variable are interpreted as "strongly agree," which signifies that that most respondents have chosen the highest level of agreement on the scale. This suggests that they hold a positive attitude towards the subject being measured.

Student's perception of the factors reveals that Perceived Service Quality (mean = 3.25, SD = .54) the result of the mean is interpreted as "Agree" which means that students generally perceive the service to be satisfactory or meeting their expectations; Perceived Facilitating Condition (mean = 3.35, SD = .49) the result of the mean is interpreted as "Strongly Agree" which means that it has a positive effect on behavioral intention to use and accept EAC's learning management system, Perceived Satisfaction (mean = 3.21, SD = .55) the result of the mean is interpreted as "Agree" which means that students generally perceived the service to be satisfactory, Perceived Value (mean = 3.27, SD = .57) the result of the mean is interpreted as "Strongly Agree" which means that students highly value the benefits or advantages of EAC's learning management system. Moreover, this is seen the usefulness of learning management system based on a student's perception of its benefits and costs. In the context of education, perceived value refers to believe they how much are benefiting from their learning experience using this platform. Perceived Enjoyment (mean = 3.19, SD = .52) the result of the mean is interpreted as "Agree" which means that the activity of using learning management system is perceived to be enjoyable. It is a factor that can influence the behavioral intention to use learning management system, and Behavioral Intention (mean = 3.26, SD .54) the result of the mean is interpreted as "Strongly Agree" which that the student has a high level of motivation to perform the behavior. Intention strength can be defined as the quantity of personal resources that a student is prepared to invest in executing a behavior. If the behavior is important to the

students, their expressed intention to do it should relate more strongly to its performance.

Table 2.

Perceived Level of the Faculty Members and Students

VARIABLES	FACULTY				STUDENTS			
	P VALUE	SIG VALUE	DECISION	REMARKS	P VALUE	SIG VALUE	DECISION	REMARKS
Service Quality and Behavioral Intentions	0.49	0.00	Reject Ho	Significant	0.66	0.00	Reject Ho	Significant
Facilitating Conditions and Behavioral Intentions	0.67	0.00	Reject Ho	Significant	0.63	0.00	Reject Ho	Significant
Perceived Satisfaction and Behavioral Intentions	0.59	0.00	Reject Ho	Significant	0.70	0.00	Reject Ho	Significant
Perceived Value and Behavioral Intentions	0.77	0.00	Reject Ho	Significant	0.81	0.00	Reject Ho	Significant
Perceived Enjoyment and Behavioral Intentions	0.74	0.00	Reject Ho	Significant	0.82	0.00	Reject Ho	Significant

Table 3 shows the results of the data gathered from the faculty members and the students reveals that there is a correlation between the service quality and behavioral intention with a Pearson correlation of 0.49 and 0.66 respectively which shows a moderate positive correlation. Furthermore, the table reveals that they are significantly correlated with a sig value of 0.000. There is a correlation between the facilitating condition and behavioral intention with a Pearson correlation of 0.63 and 0.67 respectively

which shows a moderate positive correlation. Furthermore, the table reveals that they are significantly correlated with a sig value of 0.000. There is a correlation between the satisfaction and behavioral intention with a Pearson correlation of 0.59 and 0.70 respectively which shows a moderate positive correlation. Furthermore, the table reveals that they are significantly correlated with a sig value of 0.000. There is a correlation between perceived value and behavioral intention with a Pearson correlation of 0.77 and 0.81 respectively which shows a high positive correlation. Furthermore, the table reveals that they are significantly correlated with a sig value of 0.000. There is a correlation between perceived enjoyment and behavioral intention with a Pearson correlation of 0.74 and 0.82 respectively which shows a high positive correlation. Furthermore, the table reveals that they are significantly correlated with a sig value of 0.000. The information suggests that there is a moderate positive correlation between service quality, satisfaction, perceived value, perceived enjoyment, and behavioral intention. A similar was found confirming the positive influence of perceived service quality towards perceived value and perceived satisfaction (Tamayo, 2021). Another study found that perceived service quality predicts perceived value, satisfaction, and behavioral intentions (Armbrecht, 2021).

Additionally, other studies have found that service quality has a positive impact on behavioral intentions ((Pham et al., 2019). Finally, another study found that experience quality has a direct influence on perceived value and satisfaction with the quality of service. As per facilitating condition, this suggests that when faculty members and students perceive that the conditions are favorable for them to use a particular service, they are more likely to be satisfied with it, find it valuable, and enjoy using it (Chao, 2019; Asmi et al., 2017). As per perceived satisfaction, the information suggests that when one increases, the other is likely to increase as well for example when an activity is perceived to be enjoyable, it is also likely to be perceived as satisfying (Zhou & Feng, 2017). As per perceived value, this entails that perceived value has a high positive correlation with perceived enjoyment and behavioral intention when it is associated with an increase in the likelihood of electronic word of mouth, usage intentions and acceptance of the learning management system. This suggests that when perceived value is high, users are more likely to have a positive perception of the service and be more likely to use it (Kim et. al., 2019). As per perceived enjoyment, this further explains that the more enjoyable the learning management system is perceived to be, the more likely users are to intend to engage in that behavior. Moreover, this suggests that perceived enjoyment is an important

factor in determining behavioral intention towards a particular activity or technology (Chao, 2019).

DISCUSSION

There is a moderate positive correlation between perceived service quality, perceived satisfaction, perceived value, perceived enjoyment, and behavioral intentions. Perceived service quality predicts perceived value, satisfaction, and behavioral intentions. Service quality has a positive impact on behavioral intentions and has a direct influence on perceived value and satisfaction with the quality of service. Faculty members and students perceive that the conditions are favorable for them to use a particular service, they are more likely to be satisfied with it, find it valuable, and enjoy using it just like in the of faculty members and students at Emilio Aguinaldo College towards the utilization of learning management system. The impact of perceived enjoyment suggests that when one increases, the other is likely to increase as well for example when an activity is perceived to be enjoyable, it is also likely to be perceived as satisfying therefore it is one of the factors that the management should investigate account to sustain its impact on Learning Management System (LMS) users. This proves that perceived enjoyment is an important factor in determining behavioral intention towards a particular activity or technology. The perceived value has a high positive

correlation with perceived enjoyment and behavioral intention when it is associated with an increase in the likelihood of electronic word of mouth, usage intentions and acceptance of the learning management system. This suggests that when perceived value is high, users are more likely to have a positive perception of the service and be more likely to use it.

Conclusion

The utilization of Learning Management System (LMS) has been given much emphasis especially during the COVID-19 pandemic period and has become a common phenomenon during the new normal. This study examined the factors that influence Learning Management System (LMS) adoption among the students. Drawing upon the model of technological acceptance (TAM), five factors have been identified such as facilitating conditions (FC), perceived enjoyment (PE), perceived service quality (SQ), perceived value (PV), and satisfaction (SAT) in successful acceptance of LMS as an observational viewpoint from Emilio Aguinaldo College-Cavite. The study used quantitative correlative with the support of SPSS. Findings reveal that there is a moderate positive correlation between service quality, perceived satisfaction, perceived value, perceived enjoyment, and behavioral intentions; both faculty members and students perceive that the conditions are

favorable for them to use a particular service, they are more likely to be satisfied with it, find it valuable, and enjoy using it; if Learning Management System is perceived to be enjoyable, it is also likely to be perceived as satisfying; when both faculty members and students perceive that the conditions are favorable for them to use a particular service, they are more likely to be satisfied with it, find it valuable, and enjoy using it; and perceived value has a high positive correlation with perceived enjoyment and behavioral intention when it is associated with an increase in the likelihood of electronic word of mouth, usage intentions and acceptance of the learning management system which suggests that when perceived value is high, users are more likely to have a positive perception of the service and be more likely to use it. The study will add value to the growing figures of investigation on TAM by measuring the factors and their impact on LMS adoption.

Recommendations

Based on the findings and conclusion, the following recommendations are hereby endorsed:

Since it was found that the degree of relationship of perceived service quality with other variables such as perceived facilitating conditions, perceived satisfaction, perceived value, perceived enjoyment, and behavioral intentions have a moderate positive correlation, it is

recommended that Emilio Aguinaldo College should identify their faculty members and students and understand how they perceive their Learning Management System. This can be done by conducting surveys, analyzing feedback, and monitoring social media channels and by measuring service quality using industry-standard metrics such as SERVQUAL. This helps EAC better understand how they are impacting their stakeholders in general and identify areas for improvement.

Since it was found that the degree of relationship of perceived facilitating condition with other variables such as perceived satisfaction, perceived value, and perceived enjoyment have a high positive correlation, and has a moderate positive correction with behavioral intentions, it is recommended that the MIS and the OLTD should ensure that user perceive that they are obtaining greater value from using the product or service (perceived value); focus on providing an enjoyable experience for users by adding more features in their Learning Management System (perceived enjoyment); prioritize users' satisfaction by meeting their needs and expectations (perceived satisfaction); establish trust with users by being transparent and reliable; and align EAC's core values with those of your users to increase their likelihood of patronizing the service from you that leads to their usage intentions.

To improve the moderate positive correlation of perceived facilitating conditions with behavioral intentions, it is recommended that the Administration should focus on factors such as satisfaction, trust, performance expectancy, and intentions.

Since it was found that the degree of relationship of perceived satisfaction with behavioral intention have a moderate positive correlation, it is recommended that Online Learning Teaching Department should increase user satisfaction by improving their Learning Management System or service quality; emphasize the benefits of using its Learning Management System or service to increase performance expectancy; and focus on creating a positive attitude towards its Learning Management System or service by highlighting its usefulness and ease of use

Since it was found the degree of relationship of perceived value, perceived enjoyment, and behavioral intentions have a high positive correlation, it is recommended that the Faculty Members should ensure that the service provides a high level of perceived value and enjoyment which can help to increase users' behavioral intention. It is also important to regularly gather feedback from customers to identify areas for improvement and ensure that their needs are being met.

Since it was found the degree of relationship of perceived enjoyment and behavioral intentions have a high positive correlation, that to maintain these correlations all schools in EAC should ensure satisfaction, trust, and performance expectancy; focusing on perceived usefulness, ease of use, attitude, and self-efficacy; considering the context in which the technology is being used; and should examine the interaction effects of perceived enjoyment and behavioral factors.

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Human Rights-Based Policing: Capability-Building, Knowledge, Practices, and Challenges of Filipino Policemen in Cavite, Philippines.

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KEYWORDS:
- **Human rights education**
- **Human rights promotion**
- **Equal protection**
- **Arresting individuals**
- **Police operations**

Abstract. The policemen are one of the main actors in promoting and protecting human rights in the country. This study aimed to determine the capability-building efforts, knowledge, and practice of human rights-based policing (HRBP), and the challenges of HRBP practice among Filipino policemen in the Province of Cavite, Philippines. The study utilized the mixed method design and administered researcher-made questionnaires to 48 PNP personnel assigned to selected city and municipality police stations in the province. Findings showed that most of the respondents have not attended any human rights training, but had read the PNP Human Rights-Based Policing Manual, and had witnessed the recognition of PNP personnel who exemplified themselves for the cause of human rights. Generally, the respondents understood the HRBP principles under Standard 1: Equal protection, Standard 4: Policing non-violent assemblies,

Standard 6: Arresting persons on legal grounds, Standard 7: Detainees' Rights, Standard 8: Humane Treatment of detainees, and Standard 9: Refusal to obey unjust orders based on their scores in the true-false survey. Also, the respondents have shown inclinations to practice HRBP in different real-life scenarios presented to them. The challenges that confronted the respondents revolved around issues of equal protection, adherence to standard operating procedures, political influence, unjust treatment of suspects, jail congestion, and training programs on human rights. Results suggest strengthening human rights education among PNP personnel and revisiting measures to provide equal protection to both the community and law enforcement members.

Human Rights-Based Policing: Capability Building, Knowledge, Practices, and Challenges of Filipino Policemen in the Province of Cavite, Philippines

INTRODUCTION

The United Nations recognizes human rights as the fundamental rights and liberties that every human being has. Human rights were advanced through the 1948 Universal Declaration of Human Rights adopted by members of the United Nations including the Philippines, International Human Rights Law, and various international human rights treaties, conventions, and protocols. In the Philippines, the 1987 Constitution and several national laws were established to support human rights promotion and protection in various sectors.

Among the main actors in human rights promotion and protection are the policemen. The United Nations Commission on Human Rights disseminated the human rights standards and practices to guide police officers in key topics such as investigations, arrest, detention, and use of force (United Nations, 2004). Such standards were embedded in the community and human rights-based policing principles promulgated in the Philippine National Police (PNP Human Rights Affairs Office, 2013). Also, human rights were embodied in the PNP ethical doctrine, PNP code of professional conduct and ethical standards, Letter of Instructions 55/07 (LOI Pamana), and the PNP core values.

The Commission on Human Rights (CHR), the country's national human rights institution, recognized the increasing incidences of violence in the communities (CHR, 2023). During the pandemic in 2020, CHR has recorded about 500 complaints of rights abuses by law enforcers or local officials in Metro Manila and several provinces to those who violate curfew and quarantine protocols since the enhanced community quarantine on March 15,

2020 (Cinco, 2023). In 2022, reports of arbitrary or unlawful killings by police in connection with anti-drug operations, abuse and torture of suspects and detainees by the security forces and the police, poor prison conditions, police impunity, and other human rights issues were recorded (U.S. Department of State, 2022).

Way back in 2007, the PNP launched its Human Rights Development Program for addressing human rights issues through institutional and policy development, capability-building, prevention and control of human rights violations, and multi-sectoral cooperation (PNP Huan Rights Affairs Office, 2016). In 2021, the PNP established a technical working group to "oversee human rights programming and to develop curricula for internal affairs investigators" (U.S. Department of State, 2022). Other efforts for reforms and professionalization of police force included expanded community outreach and salary increases. The CHR continued to urge community and national leaders, policymakers and officials to address violence in the communities (CHR, 2023).

Considering the efforts of the PNP in educating personnel on human rights-based policing, the researchers sought to examine how knowledgeable are the PNP Personnel in the Province of Cavite about human rights and how they promote and protect them. The goal of this study is to contribute information that could be useful for the human rights education in the law enforcement field and provide recommendations for the improvement of existing guidelines and policies.

Statement of the Problem

This study aims to determine capability-building efforts, knowledge, practice and challenges of human rights-based policing (HRBP) among Filipino policemen in the Province of Cavite, Philippines.

Specifically, this study answers the following questions:

1. What are the capability-building efforts of the PNP to strengthen human rights-based policing among its personnel?
2. What is the knowledge of the PNP personnel on human rights-based policing?

3. How do the respondents practice human rights-based policing?
4. What are the challenges faced by the respondents in the practice of human rights-based policing?

Theoretical Framework

This study is anchored in the Accountability Model of Human Rights Education (HRE). Tibbits (2017) mentioned that this model infused the HRE within the training of government personnel to ensure that they respect human rights while carrying out their duties.

According to this model, a successful HRE influences learners' knowledge, attitude, and actions leading to the respect and promotion of human rights standards in their professional roles. Learners who successfully absorb the goals of the HRE program and find them relevant to their work life may change their behaviors, resulting in fewer human rights violations. The change in behaviors is a reflection of the HRE and improved realization of human rights. Therefore, HRE methodologies that include critical reflection on one's own work, as well as capacity development in terms of applying human rights norms to work responsibilities, are critical (Tibbits, 2017).

Review of Related Literature

Human rights

Human rights refer to the "basic rights and freedoms that all human beings have." The United Nations General Assembly on December 10, 1948, proclaimed the Universal Declaration of Human Rights (UDHR) stating that "all human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood." International human rights law also obliged the government to act in ways or refrain from certain acts in order to promote and protect human rights and fundamental freedoms of individuals or groups. These obligations are intended to prevent abuse of authority by agents of the government (PNP Human Rights Affairs Office, 2013).

In the Philippines, human rights promotion and protection in all sectors of the society are covered by the 1987 Constitution and other laws such as R.A. 7438 (Rights of Persons Arrested, Detained or Under Custodial Investigation and Duties of the Arresting, Detaining and Investigating Officers), R.A. 9262 (Anti-Violence Against Women and Children), and R.A. 9344 (Juvenile Justice and Welfare Act). It has also signed in various international human rights agreements, treaties, and conventions.

Human rights-based policing

The International Human Rights Law set the basic standards for law enforcement. To promote these standards across all governments, the Office of the United Nations High Commissioner for Human Rights issued a training guide for the reference of police officers. The guide provided relevant international human rights standards and recommended practices for applying the standards to major human rights topics of concern to the police, such as investigations, arrest, detention, and the use of force (United Nations, 2004).

The PNP adopted the basic standards and developed a handbook "to provide police personnel with a basic reference on rights-based policing and to offer practical suggestions on how to mainstream international standards on human rights for law enforcement in police stations" (PNP Human Rights Affairs Office, 2013). These standards are focused on:

1. Equal protection
2. Respectful treatment
3. Use of force
4. Policing non-violent assemblies
5. Use of lethal force
6. Arresting persons on legal grounds
7. Detainee's rights
8. Humane treatment of detainees
9. Refusal to obey unjust orders
10. Reporting violations

Few researches have studied the understanding and practice of human rights in the past. Advincula-Lopez (2012) interviewed the members of the AFP and found that individual members define and redefine their own understanding and

practice of human rights that varied not only according to rank but also by branch of service and geographical assignment. Further, the study found that the AFP actually provided spaces for individual soldiers to actively construct their own definition and practice of human rights.

According to Kreuzer (2018), police violence in the Philippines has been quite low in several provinces and cities. However, the problem is that PNP almost always shot to kill suspects.

Human Rights Education

Preventing human rights violations is central to human rights education (HRE). The United Nations passed in December 2011 a Declaration of Human Rights Education and Training, which defines HRE as comprising "all educational, training, information, awareness-raising and learning activities" aimed at promoting human rights and preventing human rights violations and abuses. The latter can be achieved by providing persons, in formal, nonformal, and informal sectors, with "knowledge, skills, and understanding and developing their attitudes and behaviors."

Human rights training for police officers requires the commitment of the police organization. The study of Das and Verma (2010) among police officers in North African Muslim country found that police officers denied any violations of human rights in their country despite overwhelming evidence and public knowledge of rights violations. The study suggested that attitudes and actions cannot be changed by forcing police officers to undergo short-duration courses. A significant shift in organizational practice and police culture is required.

In the Philippines, the PNP conducted capability training programs through the mandates of the PNP Human Rights Affairs Office (PNP-HRAO). Its mission as indicated in the website is "to promote, protect and fulfill human rights thru effective institutional and policy development, capability-building, prevention and control of human rights violations and multi-sectoral cooperation. By 2025, it envisions to "fully institutionalize the respect for human rights as a way of life" in the PNP. Since 2016, the PNP-HRAO formulated human rights policies and advisories and conducted workshop-training on human rights and international humanitarian

law, refresher courses for investigators and custodial officers, human rights seminars for patrollers, and others (PNP-HRAO, 2016).

METHODOLOGY

This study utilized the embedded mixed method design to achieve the objectives of the study. This type of research collects both quantitative and qualitative data at the same time, but considers one type of data as secondary to the other (Matira & Estrada, 2022). This study utilized the survey method to gather quantitative data such as capability-building efforts conducted for respondents to understand human rights-based policing (HRPB), knowledge of HRBP and practice of HRPB. The survey also used open-ended questions to gather qualitative data pertaining to the respondents' challenges in practicing HRBP.

The study was conducted in the city police stations and municipality police stations belonging to Class "A" municipality in the Province of Cavite. The cities included General Trias, Trece Martires City, City of Dasmariñas, Tagaytay City, and the Bacoor City. Municipalities include Silang and Amadeo.

Respondents of this study are forty-eight (48) PNP personnel assigned to Drug Enforcement, Intelligence, Investigation, and Warrant sections. The table below illustrates the profile of the respondents in terms of sex, age, civil status, rank classification, and length of service.

Table 1

Demographic profile of the respondents

Profile	Frequency	Percentage
Sex		
Male	30	62.50%
Female	18	37.50%
Total	48	
Age		
25-30	8	16.67%
31-35	6	12.50%
36-40	12	25.00%
41-45	8	16.67%
46-50	8	16.67%
Not indicated	6	12.50%
Total	48	
Civil status		
Single	8	16.67%
Married	40	83.33%
Total	48	
Rank Classification		
Police Major	2	4.17%
Police Executive Master Sergeant	10	20.83%
Police Chief Master Sergeant	4	8.33%
Police Master Sergeant	4	8.33%
Police Staff Sergeant	14	29.17%
Police Corporal	12	25.00%
Not indicated	2	4.17%
Total	48	
Length of service		
5-10 years	12	25.00%
10-15 years	14	29.17%
15-20 years	6	12.50%
20 years and above	16	33.33%
Total	48	

This study utilized the purposive sampling method in identifying respondents. In purposive sampling, the researcher uses his or her judgment about whom to select for the sample. At the most, prospective respondents should be knowledgeable about the situation or experience being studied and represent a range of points of view (Jhangiani et al., 2019). This study selected respondents with experience in conducting police operations. It is anticipated that they underwent training on human rights-based policing and applied this knowledge and skills in performing police operations.

The researchers submitted a letter of permission to the Provincial Director of Cavite to conduct the study and to seek an endorsement for the participation of the police stations in the cities and municipalities. Upon approval, the researchers forwarded a memorandum to the different stations. The researchers set appointments with the stations and distributed the survey questionnaire to the target respondents. They also sought the Informed Consent of the respondents to participate in the survey. While answering the questionnaire, the researchers guided the respondents and answered their queries. After collecting the questionnaires, the researchers asked respondents follow-up questions related to their answers to the open-ended questions to clarify matters and to better understand the context of their answers.

This study utilized a questionnaire developed by the researchers. Part 1 gathered the demographic data of the respondents in terms of sex, age, civil status, rank classification, and years in service. Part 2 identifies the capability-building efforts of the PNP (e.g. training/courses attended) to educate the PNP personnel on human rights-based policing. Part 3 contains 20 statements that represent the 10 HRBP standards and were lifted from the PNP-HRAO HRBP Manual. The survey tests the respondents' knowledge of human rights-based policing by asking them to assess if the statements are true or false. Part 4 consists of 15 multiple-choice situational questions used to measure the practice of human rights-based policing. The respondents were directed to choose which action suits best for each scenario. Lastly, Part 5 consists of two open-ended questions that asked the respondents about the challenges they faced in promoting and protecting human rights as well as the most important human rights issue that the PNP should address.

Prior to the data gathering, the questionnaire was reviewed by three experts and pre-tested with ten (10) PNP personnel who were excluded from the actual data gathering. The comments and recommendations were incorporated in the revisions of the questionnaire.

The researchers utilized descriptive statistics to analyze data. The study used frequency and percentage distribution to analyze the demographic data, capability-building efforts, and knowledge and practices of human rights-based policing. Qualitative data were analyzed using thematic analysis.

RESULTS

Capability-building efforts on Human Rights-Based Policing

In the questionnaire, the respondents were asked about their attendance to any human rights training, reading of the PNP Human Rights-Based Policing manual, and the inclination of the PNP to recognize or award the personnel who exemplify themselves for the cause of human rights.

Table 2

Attendance to human rights training (multiple responses)

Training	Frequency	Percentage
1. Human Rights Refresher Training for Investigators and Custodial Officers	4	8.51%
2. Human Rights Seminars for Public Safety Basic Recruit Course of the Special Action Force (SAF)	3	6.38%
3. Seminar on Human Rights Desk Officer	2	4.26%
4. Workshop/training on Human Rights and International Humanitarian Law	8	17.02%
5. I have not attended any human rights training.	30	63.83%
Total	**47**	**100.00%**

Table 2 presents the attendance of the respondents to any human rights training. Data shows that 63.83% have not attended human rights training. The Workshop/training on Human Rights and International Humanitarian Law (17.02%), Human Rights Refresher Training for Investigators and Custodial Officers (8.51%), and Human Rights Seminars for Public Safety Basic Recruit Course of the Special Action Force (SAF) (6.38%) were attended. The Police Majors attended the Seminar on Human Rights Desk Officer (4.26%).

Table 3

Reading of the PNP human rights-based policing manual

Response	Frequency	Percentage
Yes	34	70.83%
No	14	29.17%
Total	48	100.00%

Table 3 shows the number of respondents who read or have not read the PNP Human Rights-Based Policing manual. Data shows that most of the respondents (70.83%) have read the manual while 29.17% have not read it.

Table 4

Recognition of PNP personnel

Response	Frequency	Percentage
Yes	32	66.67%
No	16	33.33%
Total	48	100.00%

Table 4 shows the responses when the respondents were asked if their police station recognize or award PNP personnel who exemplify themselves for the cause of human rights. Most of the respondents (66.67%) answered "yes," while 33.33% answered "no."

Knowledge of Human Rights-Based Policing

Table 5

Respondents' knowledge of human rights-based policing

Statements	True		False		Not sure	
	f	%	f	%	f	%
Standard 1: Equal protection						
1. Police officers must provide the same quality of service to all people regardless of their age, sex, economic and political status, religion, and ethnic background (true).	46	95.83	2	4.17	0	0.00
2. All police personnel must carry and use Miranda Warning cards that contain English and Filipino versions (true).	48	100.00	0	0.00	0	0.00
Standard 2: Respectful treatment						
3. Police officers can parade suspects before the media (false).	6	12.50	36	75.00	6	12.50

Table 5 (continued)

4. Police officers should address citizens as "Sir" or "Ma'am" during all cases of citizen contact (true).	48	100.00	0	0.00	0	0.00
Standard 3: Use of force						
5. The Use of Force doctrine emphasized the use of lethal force as the last resort (true).	36	75.00	10	20.83	2	4.17
6. It is not mandatory for police personnel involved in shootouts and the discharge of firearms to submit an after-operations report (false).	10	20.83	38	79.17	0	0.00
Standard 4: Policing non-violent assemblies						
7. Police personnel should promote and protect the people's right to freedom of peaceful assembly (true).	48	100.00	0	0.00	0	0.00

Table 5 (continued)

8.	In violent protests, crowd control personnel should hit the protesters with a baton or truncheon on the head, face, fingers, groins, and ankles (false).	2	4.17	46	95.83	0	0.00

Standard 5: Use of lethal force

9.	Lethal force should at all times be used in order to protect your life or the lives of others (false).	20	41.67	22	45.83	6	12.50
10.	The death of a person (whether a criminal, suspect, victim, hostage, or innocent bystander) resulting from a police intervention is an operational failure (true).	32	66.67	10	20.83	6	12.50

Table 5 (continued)

Standard 6: Arresting persons on legal grounds						
11. Police officers should ensure the safety of the arrested persons during transport from the crime scene to the police station (true).	48	100.00	0	0.00	0	0.00
12. Miranda warning informs the persons arrested, detained, or under investigation about their rights under the law (true).	48	100.00	0	0.00	0	0.00
Standard 7: Detainees' Rights						
13. Detainees, immediately after their arrest, cannot have access to their family and lawyer (false).	4	8.33	44	91.67	0	0.00
14. Detainees must be given immediate medical assistance when necessary (true).	48	100.00	0	0.00	0	0.00

Table 5 (continued)

Standard 8: Humane treatment of detainees					
15. It is not mandatory to separate male and female custodial facilities for detainees (false).	2	4.17	46	95.83	0	0.00
16. Police personnel should, under any circumstances, not torture or tolerate the ill-treatment of detainees (true).	46	95.83	0	0.00	2	4.17
Standard 9: Refusal to obey unjust orders					
17. Police personnel should not carry, order, or cover up extra-legal killings (true).	42	87.50	4	8.33	2	4.17
18. Police personnel should not seek clarification or guidance from the direct superior when in doubt about a specific order (false).	2	4.17	44	91.67	2	4.17

Table 5 (continued)

Standard 10: Reporting violations						
19. Police personnel should report violations of human rights standards to his/her senior officer (true).	46	95.83	2	4.17	0	0.00
20. Maintaining copies of documents related to one's participation in police operations is not important in preparing a factual report of alleged violations of human rights (false).	12	25.00	36	75.00	0	0.00

Table 5 shows the knowledge of human rights-based policing standards based on the respondents' assessment of the statements whether they are true or false. The statements were based on the guidelines from the PNP HRBP Manual, where some statements were modified to be false.

Data shows that all respondents got the correct answer in six (6) statements. All respondents believed that police personnel must carry and use Miranda Warning cards that contain English and Filipino versions, should address citizens as "Sir" or "Ma'am" during all cases of citizen contact, should promote and protect the people's right to freedom of peaceful assembly, should ensure the safety of the arrested persons during transport from the crime scene to the police station, that Miranda warning informs the persons arrested, detained, or under investigation about their rights under the law, and detainees must be given immediate medical assistance when necessary.

Based on the number of respondents who answered correctly, findings show that generally, the respondents understood the principles under Standard 1: Equal protection, Standard 4: Policing non-violent assemblies, Standard 6: Arresting persons on legal grounds, Standard 7: Detainees' Rights, Standard 8: Humane Treatment of detainees, and Standard 9: Refusal to obey unjust orders.

However, there were some statements in which respondents' answers were spread among the options. For instance, under Standard 2: Respectful Treatment, "Police Officers can parade suspects before the media" is a false statement, however, 36 answered correctly while six (6) respondents answered true, and another six (6) were unsure.

It was also observed that there was some confusion under Standard 3: Use of Force. The statement "the use of force doctrine emphasized the use of lethal force as the last resort" is true, however, there were 10 out of 48 respondents who answered false and two (2) who were unsure. Second, the statement, "It is not mandatory for police personnel involved in shootouts and the discharge of firearms to submit an after-operations report" is a false statement, however, 10 respondents knew that this is true.

Also, there was some misunderstanding under Standard 5: Use of lethal force. The use of lethal force at all times in protecting lives is a false statement, however, 20 respondents answered true, and six (6) respondents were unsure. Even "the death of a person resulting from a police intervention is an operational failure" is a true statement, however, 10 respondents answered false, and six (6) respondents were unsure.

In terms of Standard 10: Reporting violations, there was some confusion in maintaining copies of documents related to one's participation in police operations.

The Practice of Human Rights-Based Policing

The questionnaire provided situations that may confront the PNP personnel and the respondents will select the proper action from multiple choices of actions.

For the first scenario, the respondents were asked "Juan was walking on the street when a man grabbed his cellphone. Seeing this scene as police officer in the area, what will be your next move?" Figure 2 shows that all respondents answered that they will arrest the snatcher, inform him of his violation and state the Miranda warning.

Figure 2. Responses to Scenario 1

For the second scenario, the respondents were asked, "During checkpoint operations, one motorist has no license to show to you. He refused to cooperate with you and throw curses at you." Figure 3 shows that 87.50% were inclined to observe maximum tolerance, while 12.50% will arrest the motorist and file a case against him.
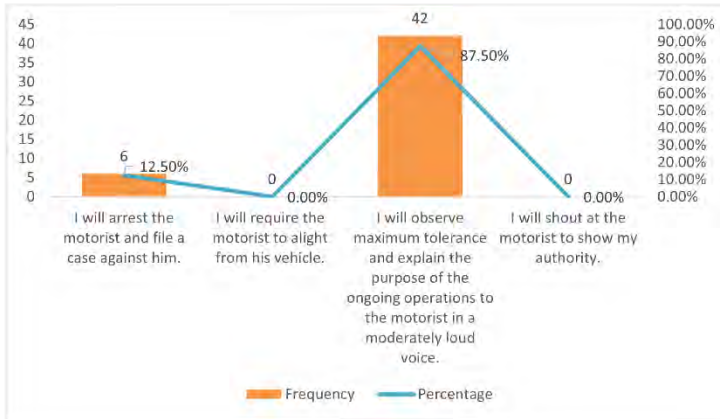
Figure 3. Responses to Scenario 2

For the third scenario, the respondents were asked, "Three masked individuals tried to prank a kidnapping scene of a person buying from the store. You were the police on duty and saw what happened, but you have no knowledge that it was a prank." Figure 4 shows that 95.83% will assess if the kidnappers are unarmed and issue firm instructions, while 4.17% will point their gun to the "kidnappers" and issue firm instructions to them.
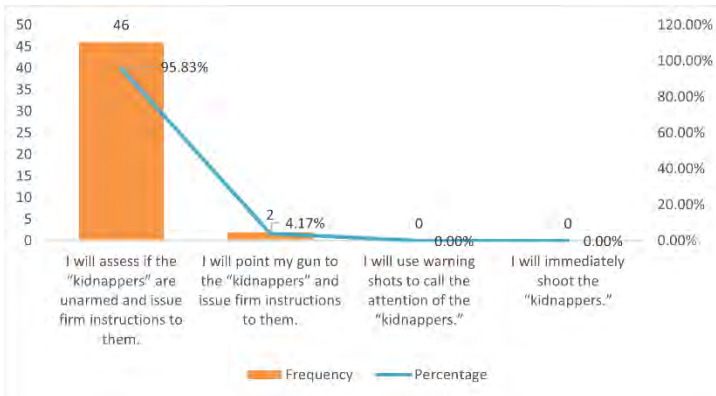
Figure 4. Responses to Scenario 3

For the fourth scenario, the respondents were asked, "You are in a protest. You did not expect that the number of

222

protesters will increase. You were outnumbered by unarmed but violent protesters who are moving to attack you." Figure 5 shows that 66.67% will issue firm instructions to the protesters and use force, when necessary, while 33.33% will observe maximum tolerance.
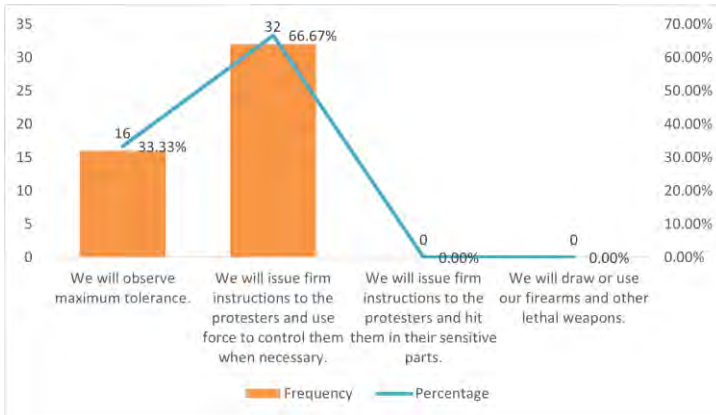
Figure 5. Responses to Scenario 4

For the fifth scenario, the respondents were asked, "In a drug raid, you as a male officer have the knowledge that the supposed offenders are males. In the actual scene, most are women involved and they should be arrested." Figure 6 shows that 75% will cordon the area and wait for female officers to arrive, while 25% were inclined to arrest the suspects.

223
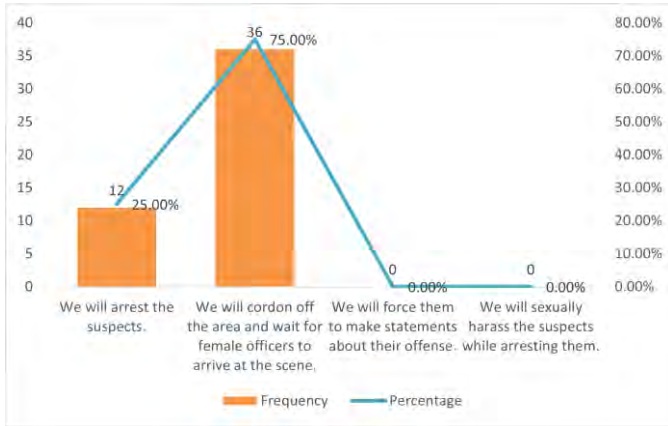
Figure 6. Responses to Scenario 5

For the sixth scenario, the respondents were asked, "You have already handcuffed the suspect. But suddenly, the suspect got himself loose from his handcuff and punched you in the face." Figure 7 shows that most of the respondents or 91.67% will subdue the suspect and conduct the proper arresting technique, while 8.33% will apply maximum tolerance and talk to the suspect not to resist.
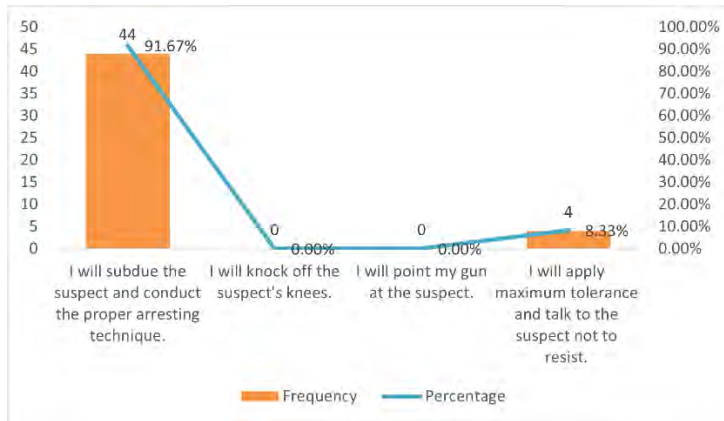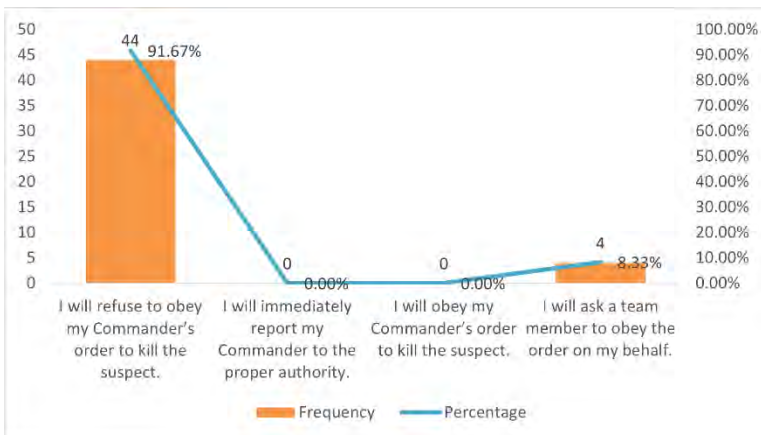

Figure 7. Responses to Scenario 6

For the 7th scenario, the respondents were told, "During a hostage-taking situation, the hostage taker points the knife at the

hostage's neck." Figure 7 shows that 95.83% will negotiate with the suspect and 4.17% will shoot the suspect in the arms or thighs.
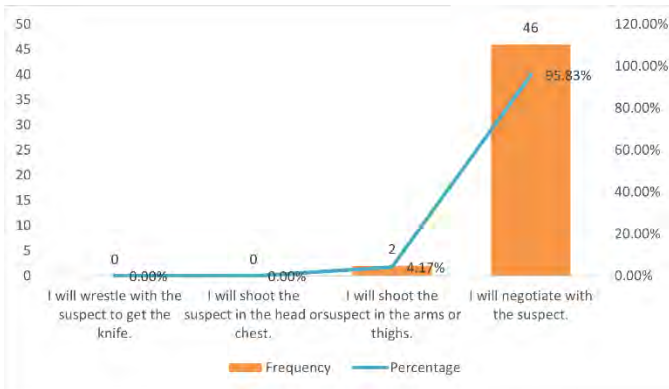
Figure 8. Responses to Scenario 7

For the 8th scenario, the respondents were told, "Your team caught a drug suspect. The Commander asked you to kill the suspect." Figure 9 shows that 91.67% will refuse to obey my Commander's order to kill the suspect, while 8.33% will ask a team member to obey the order on their behalf.

Figure 9. Responses to Scenario 8

For the 9th scenario, the respondents were told, "You caught a politician's son during the drug raid. The politician called you and asked you not to file a case against his son." Figure 10

225

shows that 87.50% will ignore the request and file charges against the son, 8.33% will tell the politician to return the call and immediately inform the Commander about his request, and 4.17% will bargain and ask for money in exchange.
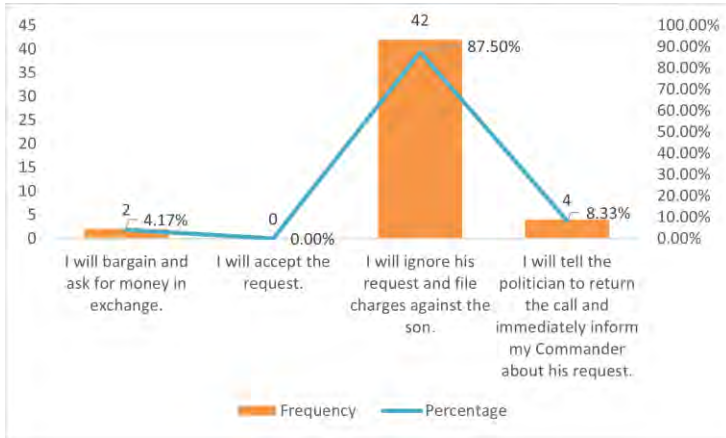

Figure 10. Responses to Scenario 9

For the 10th scenario, the respondents were told, "Due to the problem of the decongestion of detention cells in the Philippines, you saw a detainee who collapsed." Figure 11 shows that 91.67% will call an ambulance and accompany the detainee to the nearest hospital, while 8.33% will separate the detainee from other detainees.
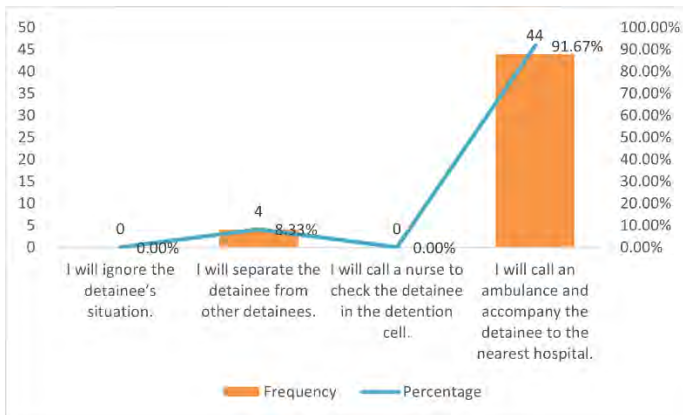
Figure 11. Responses to Scenario 10

For the 11th scenario, the respondents were told, "You caught law violators and the media came to the station. Some reporters captured photos of the suspect during a mugshot." Figure 12 shows that all respondents will inform the media to delete the photo of the suspect.
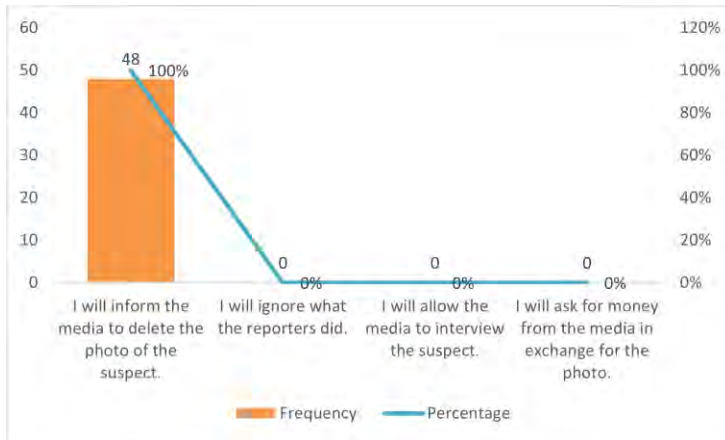

Figure 12. Responses to Scenario 11

For the 12th scenario, the respondents were asked, "You caught minors sniffing rugby. What approach will you use? Figure 13 shows that all respondents will confiscate the rugby and bring the minor to the police station's women's desk.
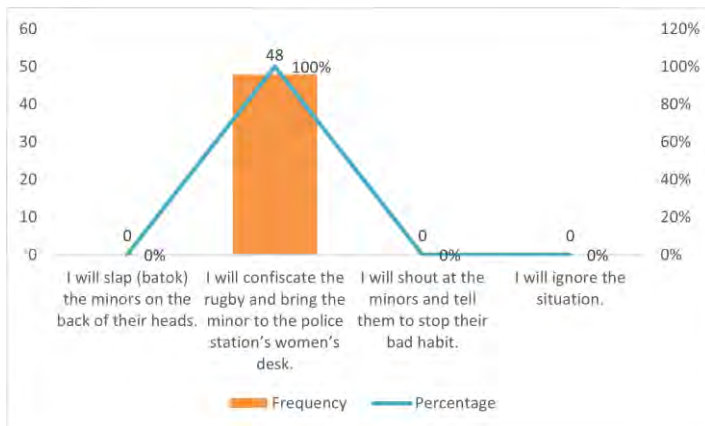

Figure 13. Responses to Scenario 12

For the 13th scenario, the respondents were told, "You are arresting someone and you are citing the Miranda warning to the suspect." The respondents were asked to select the statement which is not included in the Miranda warning. Figure 14 shows that 95.83% correctly answered the question item, and only 4.17% made an error.
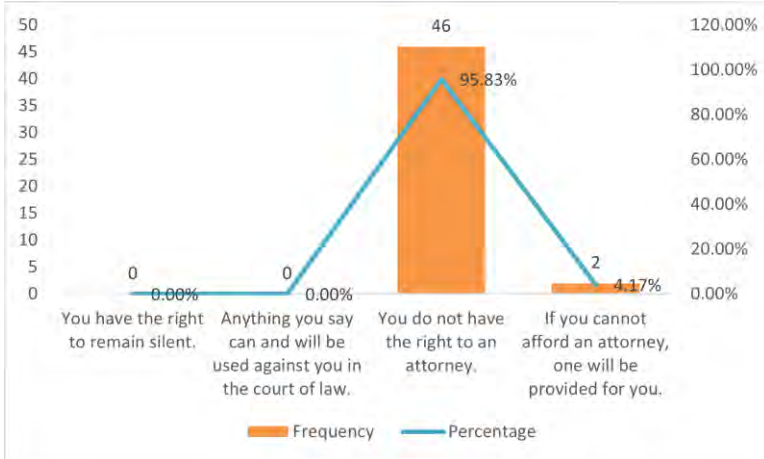

Figure 14. Responses to Scenario 13

Lastly, the respondents were told, "Media personalities and unauthorized persons refuse to leave a crime scene or critical incident area despite an earlier request or instruction." Figure 15 shows that 66.67% will give a final warning of arrest to these persons if they will not vacate the area, while 33.33% will establish a line to cordon off the crime scene or critical incident area.
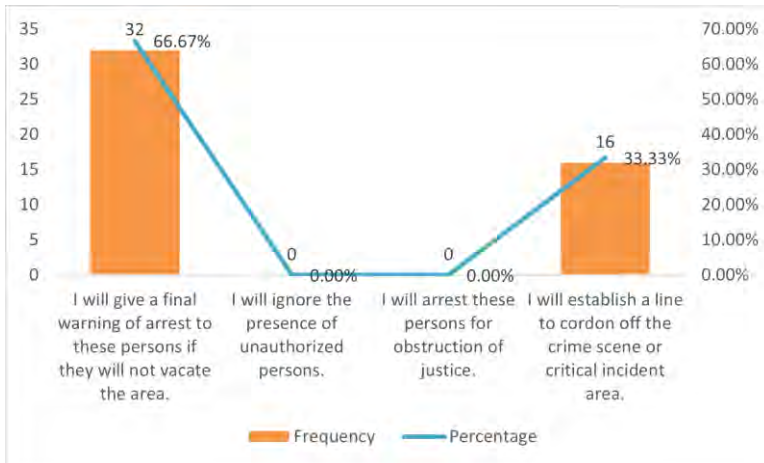
228

Figure 15. Responses to Scenario 14

In the questionnaire, the respondents were also asked if they were accused of human rights violations in the past. Out of 48 respondents, 47 or 97.92% answered "no" and only one (1) respondent answered "yes." This respondent was charged with homicide and was assisted and supervised by his immediate superior.

Challenges in the Practice of Human Rights-Based Policing

The researchers asked the respondents through open-ended survey to share the challenges they faced as a Police Officer in promoting and protecting human rights. Based on their responses, this study came up with master themes: **Equal protection, adherence to standard operating procedures, political influence, inhumane treatment of suspects, improvement of jail facilities, and training programs**.

Equal protection

The challenges related to equal protection are suspect-initiated violence and risks, rights of law enforcers, wrong accusations, and legal assistance. **Violence and risks** were recognized as part of the police operations. Three (3) respondents mentioned that there were offenders who tend to abuse human

rights. For instance, a respondent recalled that he had to deal with a hot-tempered individual who disrespected the police authority.

Much as they understand respecting the rights of people, some respondents also raised their concern for **equal protection and respect for their rights as law enforcers**.

> "The right to equal treatment before the law and equal protection – individual must be treated the same as others in similar conditions"

> "Human rights of victim and suspect must be both observed. Equal protection should also be given to police officer."

A respondent shared an instance when they were indiscriminately charged with human rights violations. They were immediately tried by the public on different social media platforms even if the media did not know the real story. Consequently, their family suffered the most, and for them, this is a violation of their rights and their family or children's rights. It was painful for them when their children were bullied and asked by their friends and classmates if it is true that the policemen are abusive.

There were five (5) respondents who were **wrongfully accused** of human rights violations and one of the biggest challenges for them is availability of **legal service**. Although they were supported, there were instances when they needed to consult and pay a private lawyer to be able to file their counter affidavit. This is because the legal service was already overloaded and if they wait for assistance, they will not be able to file within the required period and may result to release of decision in favor of the complainant. A respondent recalled that he filed a loan to be able to get his lawyer aside from the legal assistance provided by the PNP. Thus, strengthening the legal service is necessary.

> "Legal service of PNP should be strengthened to aid the police officer from malicious complaint."

Adherence to standard operating procedures

Following the police operational procedure is important for the respondents. According to a respondent, "sticking on what is

right… and humane must be observed anytime, anywhere and in any circumstances." This means that police discretion is very vital in performing their jobs.

The challenges that they encountered when it comes to adhering to standard operating procedures were related to **concerns about anti-illegal drug operations** and the **use of reasonable force**. A respondent narrated that when it comes to anti-illegal drug operations, they never operate without verifying the involvement of a suspect in any drug-using or drug-pushing activity. They conducted intelligence operations and ensured the validation of information, which refuted the claims that arrested persons were not involved in illegal drugs. The difficulty, however, rests on the mandate that they should have a number of accomplishments within a week. Also, if they do not file both Section 5 and Section 11 of Republic Act No. 9165 (Comprehensive Dangerous Drugs Act of 2002) against an individual or group, the policemen were accused of being involved or paid for covering up, which demoralized them. Another respondent also mentioned the lack of cooperation among barangay officials with the police in identifying drug suspects in their community. Also, there were times when they experienced low morale when the drug-pushing case against a suspect was dismissed, and they were later questioned why drugs in their area continuously proliferate.

In terms of the use of force, some respondents mentioned that they only used this when the subject of the operation is armed since many of their colleagues were killed during operations. They mentioned that they follow the standard operating procedure; those who committed illegal arrests and the like were dismissed from the service.

Political influence

Political influence is another challenge that some respondents claimed to affect the performance of their duties in promoting and protecting human rights. This theme is related to "higher authority," "people having power and connection," or "politicians."

"Malaki o malakas ang kapangyarihan ng pulitika sa pilipinas, minsan ito ang

nakakakaapekto sa trabaho ng pulis sa pagpapatupad ng batas…" (The power of politics in the Philippines is big or strong, sometimes it affects the work of the police on law enforcement.)

"Ang pinakachallenge ng isang pulis sa pagpapatupad ng Human Rights ay kapag nag utos ang mas mataas sa kanya di lamang sa loob ng organisasyon kundi pati na rin ang mga pulitikong abusado." (The biggest challenge for a police officer in the implementation of Human Rights is when someone higher than him gives orders, not only within the organization but also from abusive politicians.)

This shows that the decision of higher authorities or powerful politicians can directly or indirectly be carried into the operations of the police force.

Other Challenges

The other challenges in promoting and protecting human rights were related to themes such as **unjust treatment of suspects, jail congestion, and training on human rights**. Two (2) respondents mentioned "credible reports of unlawful or arbitrary killings, including extrajudicial killings, by and on behalf of the government and non-state actors" as well as torture. Also, another respondent mentioned congestion inside the jails.

"Siksikang mga kulungan sa bawat police station na dapat sana ay nasusunod ang standard na facility para sa mga nakakulong." (Overcrowded jails in every police station that should have followed the standard facility for those in custody.)

A respondent also suggested including human rights training or seminar in the schooling and information dissemination activities of the PNP.

DISCUSSION

The observance of human rights practices is considered as one of the core areas in the preservation of humanity, especially in the justice system where law enforcers are mainly responsible in the security and safety of the community. In this context, every member of law enforcement must fully understand their responsibility to "protect" as a way of life in policing. This responsibility is embodied in PNP-Human Rights Affairs Office (PNP-HRAO)'s vision to "institutionalize the respect for human rights as a way of life in the PNP."

This study focused on situations and events that will determine the knowledge and practices of PNP personnel about human rights. First, the study measured the capability building efforts of the PNP in educating law enforcers with human rights-based policing. Findings indicate that majority of the respondents have not attended any human rights training and most of them admitted that they have read the policing manual for human rights. While series of training was conducted annually by the PNP General Headquarters (PNP-HRAO, 2016-2020), findings suggest that the PNP personnel in the Province of Cavite lacked human rights training and that the provincial PNP should consider organizing training, seminars and workshop on human rights, or at least send personnel to related trainings, for the purpose of equipping of personnel and preventing and controlling possible human rights violations. Tibbits (2017) emphasized the significance of human rights education (HRE) in fostering respect for and promotion of human rights standards in professional roles. Learners who successfully absorb the goals of the HRE program and find them relevant to their work life may alter their behaviors, resulting in fewer human rights violations. However, in order for the learner to internalize human rights norms to work responsibilities, organizers of the HRE must use appropriate teaching-learning methodologies.

Further, despite very minimal training, the respondents were aware of the efforts of the organization to reward personnel who exemplify themselves for the cause of human rights which shows a promise for improving the workforce's awareness of human rights. Previous research has shown that consistent and frequent formal and informal recognition programs influence

employees to live the organization's values and priorities and highlight desired actions thereby creating role models for other employees (Amoatemaa & Kyremeh, 2016).

Second, the study assessed PNP personnel's knowledge of human rights-based policing using statements from the 10 Basic International Standards of Human Rights practices in the law enforcement. Although many of the respondents answered correctly in accordance with the principles of human rights, there were a few who still seemed perplexed, particularly on some principles concerning respectful treatment of people and reinforcing detainee's rights. The finding that 12.50% of the respondents thought that the police officers can parade suspects before the media as "true" and other 12.50% were "not sure" shows that it is not clear to them that it is a violation of one's right to privacy. With regard to the standard on the use of force, 20.83% of the respondents answered that the "Use of Force doctrine will be used only as the last resort" as "false." This indicates that they will not hesitate to use force to protect the actor's lives.

Overall, the data demonstrates law enforcers' exemplary awareness and understanding of the moral and ethical standards of human rights as the majority of the responses emphasized the positive aspects of exercising human rights that should be promoted. While some law enforcers have complicated views, the researchers believe that their attitudes are geared toward human rights protection and that they are willing to improve.

Third, the study also explored the PNP personnel's responses on a situational judgement type of questionnaire that was based on previous encounters of the PNP. The responses showed the personnel's discretionary ability to respond to challenges related to the application of police protocols and functions. The respondents held similar views in some scenarios, for instance the effect of arrest in an *inflagrante delicto* (caught-in-the-act) situation, in which they will arrest the suspect, inform the suspect of his or her Miranda rights, and bring the suspect before justice, whether the offense is related to criminal law or special penal laws (e.g. illegal drugs). This finding demonstrates law enforcement officers' awareness and understanding of the application of human rights to a person in their custody.

The difference in their responses was observed in situations where police officers were provoked by the suspects, such as when suspects curse the arresting officer, attack or run amok. Most of the respondents were inclined to use force when necessary to neutralize the situation, which is frequently interpreted as an aggressive decision and disregard for one's knowledge of human rights. The study also showed that the use of firearms will only be used in situations where law enforcers need to choose between their lives and the lives of the innocent people. This is a high-stress situation in which a law enforcer's evaluation of his or her own discretion is on a case-by-case basis, given that the lives of the hostage/s are in danger.

Further, findings show that most respondents deal with cases involving obeying an unlawful order from a superior or influential person based on legality or legitimacy, ensuring that they are following the law. However, there were 8.33% of the respondents who will ask other team members to obey the order on their behalf and 4.44% or one (1) respondent will bargain for money. While most of the respondents have responded correctly, the small percentage who were confused or made the wrong choice will still tarnish the image of the PNP organization and undermine its integrity as a law enforcement agency.

Moreover, data reveals that the respondents will follow the protocol of their office when it comes to the welfare of custodial facilities and their status. Additionally, the respondents will not tolerate any breach of confidentiality when dealing with media personalities and will emphasize the importance of data privacy as a right of every individual, even if they are persons deprived of liberty. The study also revealed that the respondents approached women and children in a different manner ensuring that their concerns were addressed by the appropriate office or personnel.

Fourth, the study identified the challenges encountered by the PNP personnel in the practice of human rights-based policing and themes emerged such as the equal protection of individuals, standard operating procedures, unjust treatment of suspects, political influences, improvement of establishments, and training programs. One of their primary challenges focused on their own equal rights and protection as members of the law enforcement and the community. As mentioned earlier, five (5) of forty respondents stated that they had been wrongfully accused of

human rights violations, and that the public and media slandered them without first understanding the entire situation. This difficult situation had a financial and social impact to the family, almost leading to separation. They also stated that their children's schoolmates questioned the truthfulness of what they heard from various social media platforms, which is too painful for parents like them. These issues persist due to public misinformation and distrust of the police. The idea of protecting and understanding police officers who are respectful and follow the law has also been raised.

Another challenge was adhering to standard operating procedures as there were times when police had to deal with high-stress situations, such as life threatening anti-illegal drug operations. In the case of anti-illegal drug operations, the police emphasized the process by which the operations are handled delicately, with verification from various intelligence sources to ensure that no one is wrongfully accused. Despite the time-consuming process and measures put in place, the majority of their operations involving drug cases filed in court have been dismissed, owing to technicalities in the operation's conduct, and an order will be issued stating that drug proliferation in the area has not been addressed. This situation demoralizes PNP personnel, who are further saddened when they are wrongfully charged with human rights violations.

Conclusion

The PNP personnel were aware of human rights-based policing and capable of observing the procedures in a normal situation. However, when confronted with a provoking situation, their ability to exercise maximum tolerance was tested, leading to responses that included the use of force, which is frequently construed by the public as violation of human rights. Politics within and outside the organization can sometimes cross the line, leaving law enforcement with no choice but to look for alternatives, even if the proposed solution is not viable.

Recommendations

The following recommendations are hereby proposed:

1. The PNP should strengthen Human Rights-Based Policing through seminar/conferences/ workshops to create a culture.

2. The PNP organization should consider employing anger and stress management training among its personnel as a reinforcement technique particularly to those who are assigned in the operations.

3. Exploration of other policing technology as an alternative equipment to be used on a disruptive but unarmed suspect is recommended.

4. Politics in the organization could be reduced by implementing a mechanism that serves as a check and balance in the organization.

5. Coordination with the media and working on possible agreement in reporting cases that are still active is recommended.

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Level of Awareness, Effectiveness and Employee Engagement of Non-Teaching Personnel in Relation to Performance Evaluation

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KEYWORDS:

- **Employee Performance Management**
- **Human Resources**
- **Organizational Management**
- **HR practices**

Abstract. The purpose of this study is to analyze the level of awareness, level of effectiveness and employee engagement of non-teaching personnel in terms of performance evaluation at Emilio Aguinaldo College Cavite, Philippines (EAC). The results will aid to boosting employee engagement and overall organizational performance by identifying potential areas for improvement in the performance management process. This study employed a quantitative research design to examine the relationship between the

performance evaluation process and employee engagement among non-teaching personnel at EAC. A survey questionnaire was administered to a purposive sample of non-teaching personnel, capturing demographic information, ratings of awareness, effectiveness, and employee engagement. The data revealed that most non-teaching personnel at EAC belong to the clerical job classification, indicating their significant role in the organization. The study assessed the level of awareness on performance evaluation among non-teaching personnel and found that majority of the respondents rated themselves as "fully aware" of the types, frequency, and purposes of performance evaluation suggesting that the organization has effectively disseminated information about performance evaluation, promoting transparency and understanding. The study also revealed a strong positive correlation between the level of awareness and employee engagement, indicating that higher awareness of performance evaluation is associated with increased employee engagement. These findings highlight the importance of effective communication, awareness, and perceived effectiveness in promoting employee engagement and optimizing the performance evaluation process at EAC.

Level of Awareness, Effectiveness and Employee Engagement of Non-Teaching Personnel in Relation to Performance Evaluation

INTRODUCTION

In educational institutions, the performance evaluation of non-teaching personnel (NTP) plays a crucial role in assessing their job performance, providing feedback, and promoting professional growth. Effective performance evaluation processes not only contribute to organizational success but also have a direct impact on employee engagement, job satisfaction, and overall well-being (Adekoya et. al. 2019). However, the level of awareness and perceived effectiveness of performance evaluation among NTP as well as its influence on employee engagement, remain important areas of investigation.

The goal of this study was to investigate the degree of employee engagement, efficacy, and knowledge of performance evaluation at Emilio Aguinaldo College Cavite (EAC), Philippines. We intended to contribute to a greater understanding of the dynamics and possible areas for improvement within the performance review process by looking at these elements.

The research question guiding this study was: What is the level of awareness, effectiveness, and employee engagement of NTP in relation to performance evaluation in educational institutions?

To address this research question, several objectives guided the study:
1. Assess the level of awareness among NTP regarding the purpose, criteria, and process of performance evaluation.
2. Evaluate the perceived effectiveness of performance evaluation as perceived by NTP.
3. Measure the level of employee engagement among NTP.

4. Examine the relationship between awareness, effectiveness, and employee engagement in the context of performance evaluation for NTP.
5. Identify potential areas for improvement and recommendations to enhance the performance evaluation process for NTP.

This study is crucial for educational institutions because it clarifies the current levels of employee involvement, efficacy, and knowledge of the performance evaluation procedure for non-teaching staff. Institutions can create focused initiatives to improve performance evaluation procedures and ultimately encourage improved levels of employee engagement among NTP by identifying gaps and potential improvement areas.

Additionally, this study adds to the body of information on employee engagement and performance evaluation in the context of non-teaching staff in educational institutions. The study contributes useful insights to the current literature by focusing on this particular group and provides useful recommendations for improving performance evaluation procedures in educational settings.

METHODOLOGY

A. Research Design:
        The research design for this study employed a quantitative approach to investigate the level of awareness, effectiveness, and employee engagement of NTP in relation to performance evaluation. This approach allowed for the collection and analysis of numerical data to quantify participants' responses.

B. Participants and Sampling Technique:
        The study targeted the 102 NTP working in EAC. A purposive sampling technique was used to select participants who have experience with performance evaluation. The sample size was determined based on the principle of data saturation, where data collection continued until no new information or themes emerge from the analysis. There were 26 items in the survey instrument which were content validated by experts and has a very high internal consistency as its reliability has a Cronbach alpha value of .952.

C. Data Collection Methods:

Questionnaire Design:
A structured questionnaire was developed to collect quantitative data. The questionnaire included items related to participants' awareness of performance evaluation, perceived effectiveness of performance evaluation, and their level of employee engagement. The questionnaire used a Likert scale (4-scale) to measure responses, allowing for quantification of the data.

D. Variables and Measures:

Awareness of Performance Evaluation:
Participants' awareness of performance evaluation was measured using a scale that assessed their understanding of the purpose, process, and criteria used in performance evaluation. The questionnaire included items that participants will rate on a Likert scale, indicating their level of awareness: 1.00 – 1.75, not aware, 1.76 -2.50 slightly aware, 2.51 – 3.25 aware, 3.26 – 4.00 fully aware.

Perceived Effectiveness of Performance Evaluation:
Participants' perceptions of the effectiveness of performance evaluation were measured by assessing their satisfaction with the feedback received, the fairness of the evaluation process, and the impact of the evaluation on their professional development. Likert scale items were used to quantify participants' perceptions of effectiveness.

Employee Engagement Levels:
Employee engagement levels were assessed using a validated scale that measures factors such as job satisfaction, commitment to the organization, motivation, and involvement in work-related activities. Likert scale items were used to gauge participants' level of employee engagement.

E. Data Analysis Techniques:

Quantitative Analysis:
Descriptive statistics, such as frequencies, percentages, and means, were be calculated to summarize the participants' responses to the questionnaire. Correlation analysis was

conducted to examine the relationships between the variables of awareness, effectiveness, and employee engagement. Statistical software IBM SPSS was utilized to perform the quantitative data analysis.

F. Ethical Considerations:

Ethical considerations were addressed by ensuring participant confidentiality, obtaining informed consent, and following ethical guidelines for research involving human subjects. The study also obtained necessary permissions from the Institutional Ethics Board of EAC.

RESULTS

Table 1:
Frequency and percentage table on job classification

Job Classification	Frequency	%
Semi-Skilled	1	1.92
Clerical	24	46.15
Technical	17	32.69
Highly Technical	5	9.62
Assistant Supervisor	1	1.92
Department Head	4	7.69
Total	52	100.00

The data in Table 1 provides information on the job classification of the respondents in this study. The most common job classification among the NTP is clerical, accounting for 46.15% of the sample. Technical positions make up 32.69% of the respondents, followed by highly technical positions at 9.62%. Assistant supervisors and department heads have a smaller representation, each comprising 1.92% and 7.69% of the sample, respectively.

Table 2:
Frequency and percentage table on job classification

Years of Service	Frequency	%
Less than 1 year	17	32.69
1-3 years	15	28.85
4-6 years	10	19.23
7-10 years	3	5.77
More than 10 years	7	13.46
Total	52	100.00

Table 2 shows the distribution of NTP based on their years of service at EAC. The data reveals that the largest proportion of respondents, accounting for 32.69% of the sample, have less than 1 year of service. Following closely, 28.85% of the respondents have been with the organization for 1-3 years. The distribution continues with 19.23% of the personnel having served for 4-6 years, 5.77% for 7-10 years, and 13.46% having more than 10 years of service.

Table 3:
Mean rating table on level of awareness to performance evaluation

Job Classification	Sample Size	Average	Verbal Interpretation
Semi-Skilled	1	3.82	Fully Aware
Clerical	24	3.44	Fully Aware
Technical	17	3.34	Fully Aware
Highly Technical Assistant	5	3.40	Fully Aware
Supervisor	1	3.18	Aware
Department Head	4	3.52	Fully Aware
Total	52	3.45	Fully Aware

Table 3 displays the mean ratings on the level of awareness to performance evaluation among different job classifications of NTP with the average ratings that indicate the extent to which employees perceive themselves as aware of the types, frequency, and purposes of performance evaluation.

Table 4:
Mean rating table on level of awareness to types of performance evaluation

Type of Performance Evaluation	Mean Rating	Verbal Interpretation
Traditional/Annual Performance Appraisal	4.20	Fully Aware
360-Degree Feedback Evaluation	4.04	Fully Aware
Continuous/Real-Time Performance Monitoring	4.27	Fully Aware
Over-all Mean	4.17	Fully Aware

The mean rating for this type of performance evaluation is 4.20, indicating that, on average, participants are fully aware of the traditional/annual performance appraisal process. This suggests that the participants have a clear understanding of the purpose, procedures, and criteria involved in this type of evaluation.

Table 5:
Mean rating table on level of awareness to frequency of performance evaluation

Frequency of Performance Evaluation	Mean Rating	Verbal Interpretation
Annual Performance Evaluation	4.40	Fully Aware
Bi -Annual Performance Evaluation	4.09	Fully Aware
Quarterly Performance Evaluation	3.98	Fully Aware
Over-all Mean	4.16	Fully Aware

Table 5 reveals the mean ratings on the level of awareness as to the frequency of performance evaluation showing the NTP are more familiar that it is done yearly.

Table 6:
Mean rating table on level of awareness as to purpose of performance evaluation

Purpose of performance evaluation	Mean Rating	Verbal Interpretation
Identifying areas for improvement and development	4.53	Fully Aware
Determining promotions and rewards	4.38	Fully Aware
Providing feedback for performance improvement	4.51	Fully Aware
Guiding career planning and development	4.38	Fully Aware
Supporting decision-making related to employee retention or termination	4.38	Fully Aware
Over-all Mean	4.44	Fully Aware

Table 6 shows the mean rating on the level of awareness as to purpose of performance evaluation of NTP where they believe is mainly done for identifying areas for improvement and development.

Table 7:
Table of Anova single factor on job classification and level of awareness

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	11.34	3.00	3.78	5.91	0.00	2.65
Within Groups	130.57	204.00	0.64			
Total	141.91	207.00				

There is a statistically significant variation in the degree of awareness among various work classification groups, according to the findings of the ANOVA analysis on the association between job classification and level of consciousness. A result with a p-value of 0.00 is considered to be extremely significant. There is a very low possibility of finding such a difference in the level of awareness between the job classification groups because it is below the standard significance level of 0.05.

Table 8:
Table of Anova single factor on years of service and level of awareness

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	40.56	3.00	13.52	22.23	0.00	2.65
Within Groups	124.06	204.00	0.61			
Total	164.62	207.00				

The results of the ANOVA analysis on the relationship between years of service and level of awareness indicate that there is a statistically significant difference in the level of awareness among different years of service groups. A very significant finding is indicated by the p-value of 1.69367E-12 (or 0.00000000000169367), which is below the usual significance level of 0.05. This indicates that the likelihood of seeing such a difference in the degree of awareness among the years of service groups is quite low.

Table 9:
Mean rating table on level of effectiveness of performance evaluation

Statement	Mean Rating	Verbal Interpretation
The performance evaluation process is fair and unbiased.	4.22	Highly Effective
The performance evaluation criteria are clear and relevant.	4.38	Highly Effective
The performance evaluation provides constructive feedback for improvement.	4.36	Highly Effective
The performance evaluation process helps identify professional development opportunities.	4.36	Highly Effective
The performance evaluation process motivates me to perform better.	4.38	Highly Effective
Over-all Mean	4.34	Highly Effective

Table 6 indicates the mean ratings on the level of effectiveness of performance evaluation. The average ratings reflect how effectively employees feel the performance review process is working. According to the data, the NTP at EAC overwhelmingly agree that the performance review procedure is effective. The average mean rating for all assertions is 4.34, which is in the "Highly Agree" category.

Table 10:
Mean rating table on the relationship of performance evaluation to employee engagenment

Statement	Mean Rating	Verbal Interpretation
I feel motivated to perform well in my role.	4.42	Highly Agree
I feel a sense of pride and ownership in my work.	4.29	Highly Agree
I am actively involved and engaged in achieving organizational goals.	4.29	Highly Agree
I receive recognition and rewards for my contributions and achievement	3.96	Highly Agree
The performance evaluation process enhances my motivation and engagement at work.	4.33	Highly Agree
The performance evaluation process helps me understand how my work contributes to the organization's goals.	4.31	Highly Agree
The performance evaluation process provides opportunities for growth and development.	4.29	Highly Agree
The performance evaluation process fosters a positive work environment.	4.29	Highly Agree
Over-all Mean	4.27	Highly Agree

The mean ratings for the correlation between employee engagement and performance evaluation are shown in this Table 6. The research shows that the NTP strongly agrees that there is a link between employee engagement and performance evaluation. The average mean rating for all assertions is 4.27, which is in the "Highly Agree" category.

Table 11:
Relationship table of level of awareness, effectiveness and employee engagement

Criteria	Pearson Correlation	Sig. (2-tailed)	N
Level of awareness	.627**	<.001	52
Level of effectiveness	.829**	<.001	52

  *** Correlation is significant at the 0.01 level (2-tailed).*

The information in Table 11 shows the degrees of significance for the Pearson correlation coefficients between the variables level of awareness, efficacy, and employee engagement. With a Pearson correlation coefficient of 0.627**, the correlation study shows a substantial positive association between employee engagement and awareness levels. With a p-value of.001, this link is considered to be very significant. This shows that NTP are more likely to have better levels of employee engagement if they have a higher level of awareness about performance review. The level of efficacy and employee engagement also show a high positive link, with a Pearson correlation coefficient of 0.829**. The correlation's high significance is confirmed by the p-value of.001. This suggests that employees are more likely to be engaged in their work when they believe the performance evaluation process is effective.

DISCUSSION

This distribution of job classifications indicates that the majority of NTP at EAC are engaged in clerical roles. This finding suggests the significance of clerical staff in the overall functioning of the institution, as they handle administrative tasks, support services, and maintain efficient operations (Ahmad, M., & Jameel, A., 2018).

The relatively higher representation of technical positions compared to highly technical positions suggests a balance between specialized technical roles and broader technical roles within the NTP. This diversity of job classifications likely contributes to the varied skill sets and expertise available to support the functioning of EAC (Li, W., et. al., 2020).

Understanding the distribution of job classifications is essential for organizations like EAC as it helps in designing appropriate strategies for performance evaluation and employee engagement. Different job classifications may require tailored approaches to address specific needs and expectations in terms of performance management and engagement initiatives (Othman, N., & Nasurdin, A., 2019).

The distribution of NTP based on their years of service reflects a relatively high turnover rate or a recent influx of new hires within the NTP at EAC. The significant proportion of individuals with less than 1 year of service suggests a potential need for orientation, training, and onboarding programs to facilitate their transition and integration into the organization. Furthermore, the substantial number of personnel with 1-3 years of service highlights the importance of retention strategies and engagement initiatives to nurture their commitment and loyalty to EAC (Hanaysha, J., 2016).

Similar with the study of Izzati, U., et. al., 2022, the presence of individuals with longer tenures (4-6 years, 7-10 years, and more than 10 years) indicates a level of stability within the workforce. These individuals may possess institutional knowledge, experience, and valuable insights that can contribute to the organization's success. Recognizing their contributions and providing opportunities for growth and development can help maintain their motivation and engagement over the long term.

The overall average rating for the entire sample is 3.45, which falls within the "Fully Aware" category. The mean ratings on the level of awareness to performance evaluation among different job classifications of NTP at EAC reveal a high level of awareness on performance evaluation among them. This only implies that most employees are fully aware of how EAC conducts performance reviews.

Department heads (3.52) and clerical (3.44) are the job classifications with the highest mean ratings, both belonging to the "Fully Aware" group. This suggests that these groups have a thorough comprehension of the performance evaluation system, including all of its many components and goals. In contrast, although still listed as "Aware" and "Fully Aware," respectively, the job classifications of assistant supervisors and highly technical

workers display somewhat lower mean ratings, indicating a little lower level of awareness.

This data highlights the effectiveness of the organization's efforts in disseminating information and providing training on performance evaluation. The high level of awareness suggests that EAC has successfully communicated and educated its NTP about the performance evaluation process, which is crucial for transparency, fairness, and employee engagement. These findings demonstrate the importance of continued communication and training initiatives to ensure that all employees, regardless of job classification, remain fully aware and engaged in the performance evaluation process (Chowdhury, H., & Uddin, K. 2022).

The mean ratings on the level of awareness to the frequency of performance evaluation among NTP demonstrates a high level of awareness regarding the frequency of performance evaluation. These findings suggest that employees are aware of the timing and frequency of the evaluation process, enabling them to adequately prepare and align their efforts with the evaluation periods (Okolie, A., & Okoka, K. 2022). The ability to actively participate in the process and make meaningful contributions depends on employees having this degree of awareness of the requirements and dates related with their performance evaluation.

The organization has successfully built a clear and consistent framework for performance evaluation, as seen by the high mean scores across all frequencies. Because of this uniformity, the evaluation process is fair and open, enabling employees to set goals, track their progress, and get feedback frequently. Furthermore, this high level of awareness can enhance employee engagement, as employees are well-informed about the frequency and timing of performance evaluations and can actively engage in self-assessment and improvement. This awareness promotes transparency, fairness, and active engagement in the evaluation process, contributing to overall employee satisfaction and performance improvement (Al-Obaidi, R., et. al., 2022).

The mean ratings on the level of effectiveness of performance evaluation indicate that employees perceive the performance evaluation process as fair, unbiased, and relevant. They believe that the evaluation criteria are clear and aligned with

their roles and responsibilities. Employees also recognize the constructive feedback provided through the evaluation process, which helps them identify areas for improvement and professional development opportunities (Oktavia, S., et. al., 2022).

The overall high mean rating of 4.34 indicates a strong consensus among NTP regarding the effectiveness of the performance evaluation process at EAC. This indicates that the organization has successfully implemented a robust and meaningful evaluation system that meets the expectations and needs of its employees. The positive perception of the evaluation process is essential for fostering employee engagement, motivation, and growth within the organization (Gomathy, D. 2022).

The data from Table 6 indicates that NTP at EAC highly perceive the performance evaluation process as effective. The evaluation process is viewed as fair, unbiased, and relevant, providing employees with constructive feedback and motivation to improve their performance. These findings highlight the importance of a well-designed and well-implemented performance evaluation system in promoting employee satisfaction, development, and organizational success (Meddiah, M., et. al., 2022).

The mean ratings on the relationship of performance evaluation to employee engagement indicate the extent to which employees perceive the performance evaluation process as related to their engagement at work. Employees perceive that the performance evaluation process enhances their motivation to perform well in their roles and fosters a sense of pride and ownership in their work. They also feel actively involved and engaged in achieving organizational goals, recognizing the connection between their individual contributions and the overall success of the organization (Evi, N., & Tine, Y. 2022).

However, it is worth noting that the mean rating for receiving recognition and rewards for contributions and achievements is slightly lower than the other statements, yet still falls within the "Highly Agree" category. This suggests that while employees generally perceive the performance evaluation process positively, there may be room for improvement in terms of recognition and rewards (Liu, X., at. Al., 2022).

Overall, the data from Table 6 demonstrates the beneficial connection between employee engagement and performance evaluation among non-teaching staff at EAC. The evaluation procedure is seen as a useful instrument that raises motivation, encourages a sense of pride and ownership, and harmonizes employees' performance with corporate objectives. These favorable opinions help to foster a more devoted and engaged workforce, which boosts productivity and benefits the firm.

The study also found a significant positive correlation between employee engagement and awareness of performance review, suggesting that greater awareness of performance evaluation is linked to higher employee engagement. Furthermore, there was a significant positive correlation between employee engagement and the perceived effectiveness of performance evaluation (Meddiah, M., & Wui, C. 2022) suggesting that personnel who perceive the process as effective are more likely to be highly engaged. These results underline the significance of effective communication, awareness, and perceived efficacy in fostering employee engagement and enhancing the EAC performance review process.

Conclusion

In conclusion, this study explored the level of awareness, effectiveness, and employee engagement of NTP in relation to performance evaluation at EAC. The findings revealed that the majority of NTP belonged to the clerical job classification and had relatively shorter tenures at EAC.

A majority of respondents said they were completely aware of the types, frequency, and purposes of the evaluations, which was consistent with the study's general finding that the NTP showed a high level of awareness regarding the process. Moreover, the data indicated that the performance evaluation at EAC was perceived as effective and relevant to employee engagement.

Furthermore, the study identified a significant positive correlation between the level of awareness and employee engagement, indicating that employees with a higher level of awareness about performance evaluation were more likely to be

engaged in their work (Castilla, E., & Ranganathan, A. 2020). The effectiveness of performance reviews and employee engagement also showed a high positive link, indicating that when staff members thought the review process was fair, transparent, and offered helpful criticism, it had a favorable impact on engagement. These results underline the need of increasing performance evaluation systems' awareness and efficacy in order to raise employee engagement.

Recommendations

Based on the findings of this study, the following recommendations are suggested:

1. Enhancing communication and awareness: To further improve the level of awareness among NTP regarding the performance evaluation process, it is recommended that EAC invest in effective communication strategies. This can include regular workshops, training sessions, and informational materials to ensure that employees are fully informed about the types, frequency, and purposes of performance evaluation.

2. Continuously evaluating process improvement: While the study indicated a high level of effectiveness of the performance evaluation process, it is important for EAC to continuously review and improve their evaluation procedures. This can involve regular feedback mechanisms from employees, incorporating a multi-rater evaluation approach, and aligning the evaluation criteria with organizational goals. By making continuous improvements, the performance evaluation process can become even more effective and valuable for both employees and the organization.

3. Fostering employee growth and development opportunities: To enhance employee engagement, EAC should prioritize the identification and provision of professional development opportunities based on the outcomes of performance evaluations. This can include tailored training programs, mentorship

initiatives, and career advancement pathways. By linking performance evaluation results to employee growth and development, EAC can foster a culture of continuous learning and engagement among non-teaching personnel.

4. Recognizing and reward contributions: EAC should establish a formal recognition and reward system that acknowledges and appreciates the contributions of NTP. This can be linked to the performance evaluation process, where employees who consistently demonstrate high performance and engagement are recognized and rewarded. Such recognition can include incentives, bonuses, or career advancement opportunities, which can serve as strong motivators for employees to further engage in their roles.

5. Regularly assessing and monitoring employee engagement: EAC should implement regular assessments of employee engagement to monitor the impact of performance evaluation efforts. This can be done through employee surveys, focus groups, or individual feedback sessions. By regularly assessing employee engagement levels, EAC can identify areas of improvement and take necessary actions to maintain and enhance employee engagement over time.

By putting these suggestions into practice, EAC may establish a productive workplace that encourages worker engagement, motivation, and overall organizational success. A culture of high performance and happiness among non-teaching employees at EAC will result from ongoing efforts to enhance communication, evaluation procedures, and employee development.

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Quo Vadis?: A Mixed Method Approach for the Alumni Graduate Tracer Study of the School of Medical Technology of Emilio Aguinaldo College Cavite (2015-2022)

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KEYWORDS:
- **Curriculum**
- **Competence**
- **Employability**
- **Job Search**
- **Licensure**

Abstract. This tracer study aimed to assess the factors contributing to the status of employment of Bachelor of Science in Medical Technology graduates of Emilio Aguinaldo College in Cavite from 2015 to 2022. Descriptive research design, particularly mixed-method, was used by the researchers to gather quantitative and qualitative information about the employability of Medical Technology graduates. The instrument used by the researchers was the Graduate Tracer Study developed by the Commission on Higher Education (CHED). Ninety seven of 180 graduates (53.9%) of BS Medical Technology participated in the study. They have

accomplished the questionnaires via Google Survey Form. The results of the tracer study revealed that 73.2% (71/97) of the graduates were currently employed as permanent employees with 71.1% (69/97) who have gained license to practice as certified by the Professional Regulation Commission (PRC). With these results, the study concluded the relevance of BS Medical Technology curriculum to the employment status of its alumni. The degrees that they have earned helped them become licensed and find a job in line with their competence.

Quo Vadis?: A Mixed Method Approach for the Alumni Graduate Tracer Study of the School of Medical Technology of Emilio Aguinaldo College Cavite (2015-2022)

INTRODUCTION

Unemployment remain as of the major concerns of the Philippine government (Felipe, 2006). An ideal way of addressing these concerns is by producing competent graduates who would construe their knowledge from their academic institutions to skills applicable in their respective workplace (Tertiary Education Commission, 2009). Working professionals serve as the intellectual capital for the nation.

Tertiary education is a major contributing factor that will help graduates land their first ever employment. (Abel, et.al., 2014). Therefore, the demands for established higher education institutions are apparent. New universities are being established to cope up with the increasing demands (Jamshidi, Arasteh, Ebrahim, Zeinabadi, & Rasmussen, 2012). The employability status of the graduates proves that academic institutions are continually producing graduates that are capable and able to do the profession. (Knight, Peter & Yorke, Mantz, 2002).

A tracer study attempts to track the activities of the graduates of an educational institution (Millington, 2008). It provides demographical data of graduates to know their chosen career field of practice (Ocholla, 2011). Graduate tracer studies will serve as a potent tool to prove how well a university has created competencies for its students and to also know their feedback on the degree programs they took from the university (Gines, 2014). Therefore, an academic institution will be able to evaluate the quality of education provided to graduates which can be used as a criterion in producing more competent graduates in the future. The Commission on Higher Education (CHED) Philippines has mandated academic institutions to conduct tracer

studies as per CMO No. 29, Series of 2013. It is also one of the documentary requirements of the said accrediting body.

The researchers of the study aim to gather the demographic profile and employment profile of the graduates and explore which among the graduate exit competencies are significant to their current employment status.

METHODOLOGY

This study utilized a Mixed-Method Research Design using the explanatory sequential strategy (Schoonenboom and Johnson, 2017). It involved collection and analysis of quantitative data such as socio-demographic characteristics of graduates, employment and work characteristics followed by the collection and analysis of qualitative data which is the feedback of graduates.

Information of the graduates of BS Medical Technology from 2015-2022 was obtained from the Registrar's office. It provided general information such as the following: name, location, age, contact number, gender, civil status, year of graduation and the status of employment. All graduates were encouraged to accomplished the Google Survey Form via Facebook messenger. Based on records, there were 180 Medical Technology students who graduated from 2015 to 2022. The data collection started from October 2022 to December 2022. Graduates who did not respond after one month of notice were not considered as participants.

The instrument used was patterned from the standard Graduate Tracer Study (GTS) developed by the Commission on Higher Education (CHED) of the Philippines. The questionnaire obtained both quantitative and qualitative data from the graduates about their path taken after graduation. The tracer study questionnaire have four parts namely:

Part 1. *Socio-Demographic Characteristics of Graduates*
**Part 2.** *Job Search and Transition to Work*
Part 3. *Employment and Work Characteristics*
**Part 4.** *Feedback of Graduates*

Data analysis, generation of tables, figures, frequency counts, percentages, and other relevant statistics on the quantitative data were primarily done using Microsoft Excel. The qualitative data was thematically analyzed to draw out patterns among the respondents' responses.

RESULTS
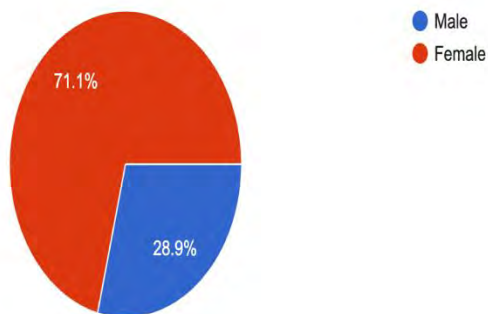
Figure 1. Gender of the Participants

71.1% (69/97) of the respondents were female while 28.9% (28/97) of the respondents were male.
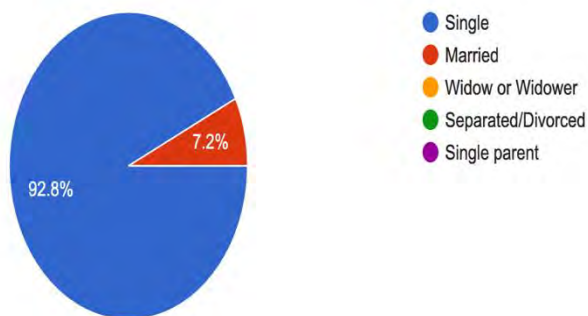
Figure 2. Civil Status

265

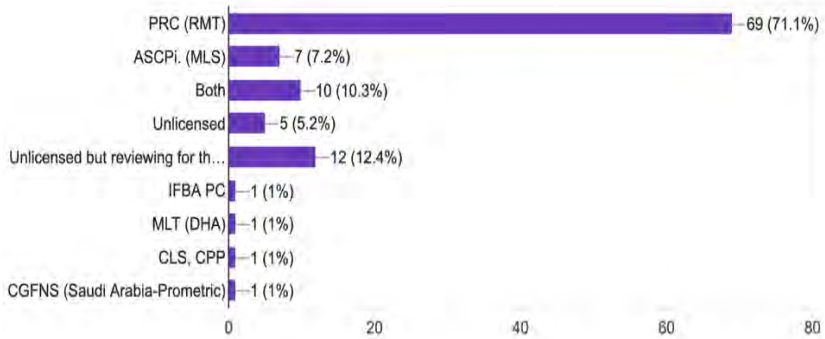92.8% (90/97) of the respondents were single.

Figure 3. Licensure Status

71.1% (69/97) have license to practice as certified by the Professional Regulation Commission (PRC).
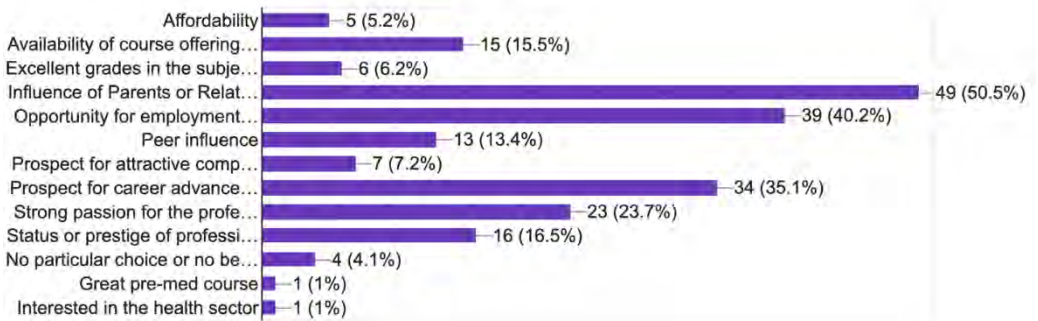

Figure 4. Program Selection

50.5% (49/97) took up BS Medical Technology because of the influence of parents or relatives.

Critical thinking skills — 80 (82.5%)
Problem solving skills — 70 (72.2%)
Human relation skills — 54 (55.7%)
Communication skills — 52 (53.6%)
Information technology skills — 41 (42.3%)
N/A: Unemployed — 12 (12.4%)
Practical skills — 1 (1%)
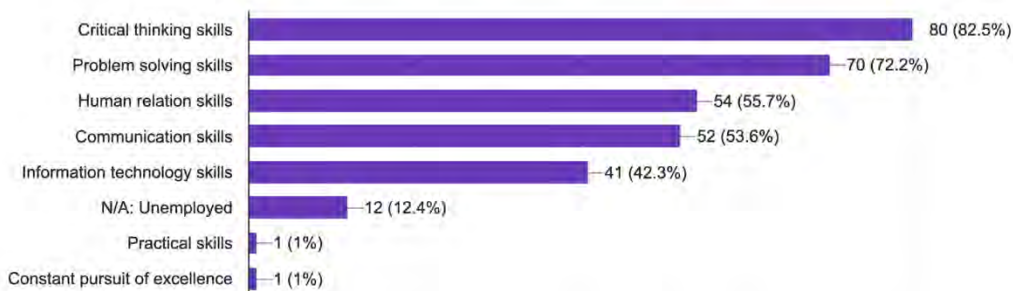Constant pursuit of excellence — 1 (1%)

Figure 5. Competencies Learned from School

82.5% (80/97) of the graduates have acquired critical thinking skills as Medical Technology students. Medical technologists need critical thinking skills in order to accurately analyze laboratory results and make decisions about quality patient care.
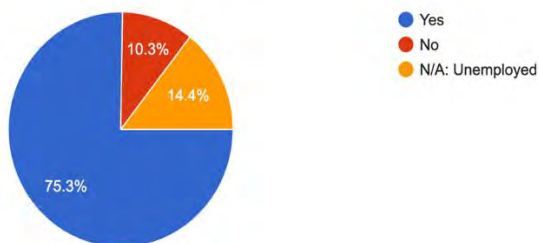

Yes — 75.3%
No — 10.3%
N/A: Unemployed — 14.4%

Figure 6. First Employment

Being employed for the very first time is an opportunity to kick-start professional development. 75.3% (73/97) had their first job in line with the field of Medical Technology. It will surely identify what kind of career path to build; develop strong relationships with colleagues; and expand new learning skills outside the comfort zone.
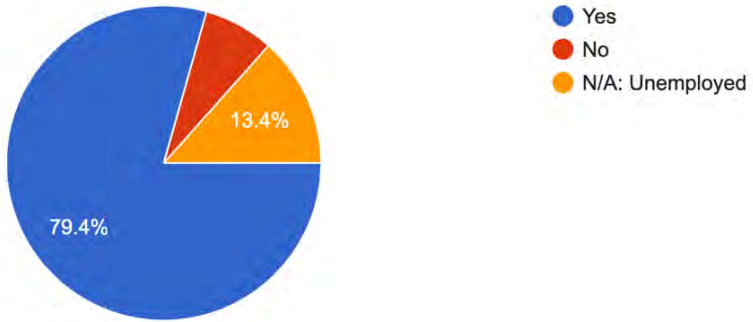
Figure 7. Relevance of the Curriculum to the First Job Experience

79.4% (77/97) of the respondents perceived that the program curriculum that they took in college was applicable to their first job. Majority who answered "No" did not actually practice the profession. On the other hand, those who were unemployed are currently pursuing advanced studies on a fulltime basis.
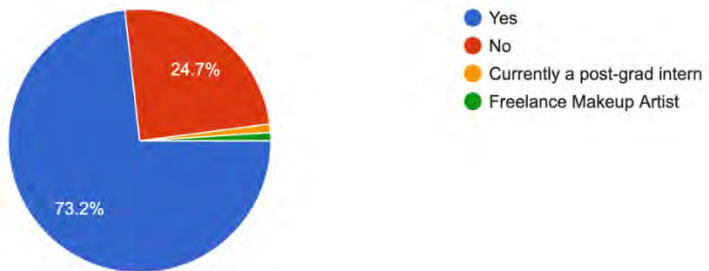

Figure 8. Employment Status

73.2% (71/97) of the graduates are currently employed.
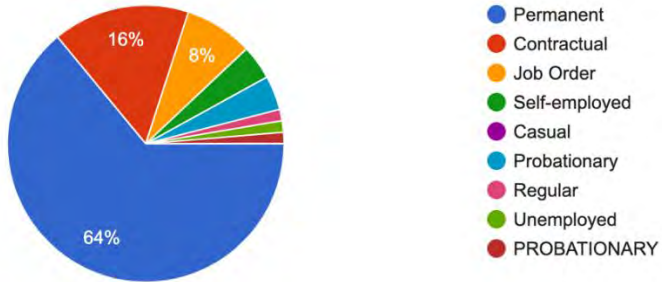
Figure 9. Types of Employment

Most organizations have different types of employees: full-time, part-time, permanent and contract employees. Each of these can offer unique benefits for Medical Technologists. 64% of the graduates (71/97) are permanent employees.
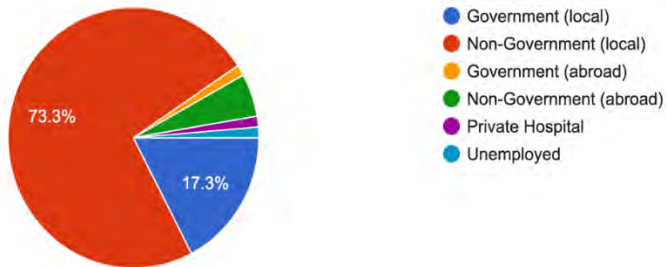

Figure 10. Nature of Work

73.3% (n=55) of the graduates are employed in the Philippines by Non-Government companies.

269
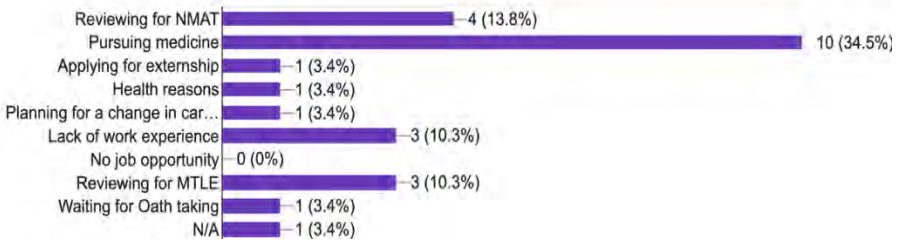
Known as one of the best pre-medical courses, 34.5% (10/97) of BS Medical Technology graduates pursue Medicine proper. Admission to a Medical School entails preparation and devotion, 13.8% (4/97) of the graduates are currently reviewing for NMAT. Also, 10.3% (3/97) of the graduates were reviewing for the upcoming Medical Technology Licensure Examination. The rest are waiting for the job opportunity available for them. For the stated reasons above, they have decided not to commit to any employer.
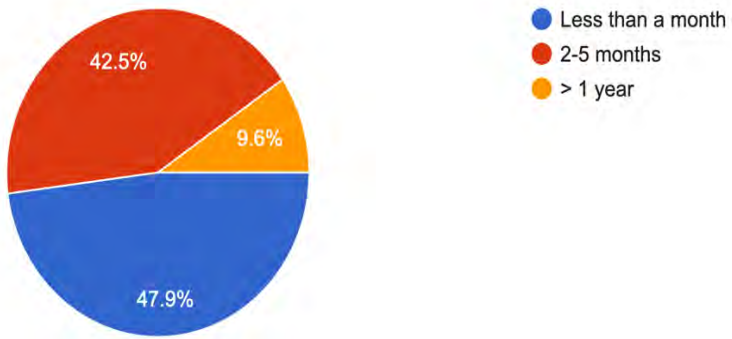
Figure 12. Time Frame for Landing Jobs of Newly Registered Medical Technologists

After passing the Medical Technology Licensure Exam, 47.9% (35/97) of the graduates were able to land a job in less than a month. With the increasing demand of healthcare workers, either in government or private institutions, they were able to secure their first job experience.
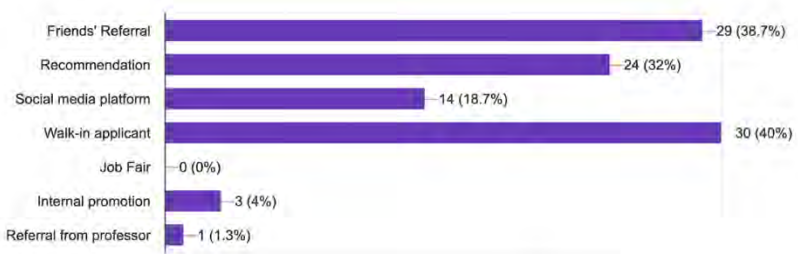
Figure 13. Methods of Acquiring the First Employment

Walk-in job application, as chosen by 40% (30/97) of the graduates, has been the most effective option for job search. They have higher chance of being hired immediately.
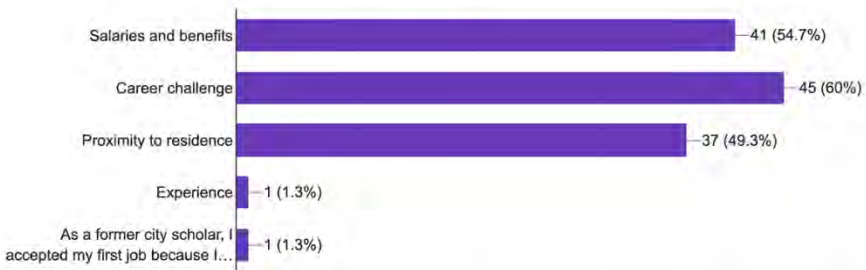
Figure 14. Reasons for Accepting First Employment

Applicants' reason for accepting the job offer was primarily based on evaluation of the position if it will be promoting career development over monetary concerns (45/97).
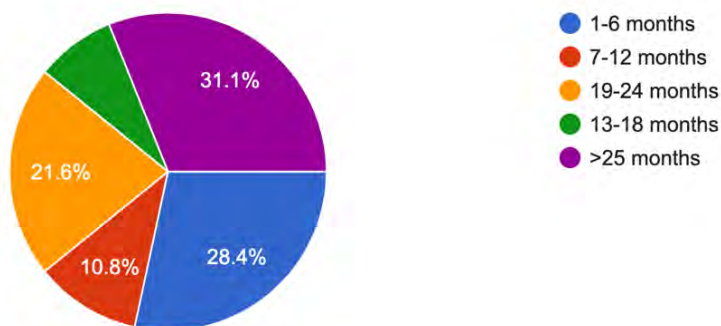
Figure 15. Employment Tenure

Competent graduates working for a company for an extended period is an asset. 31.1% (23/97) of our graduates are known to be as long-tenured employee. Mostly, they have been employed for more than two years of service. Having this denotation comes with several advantages for working professionals.
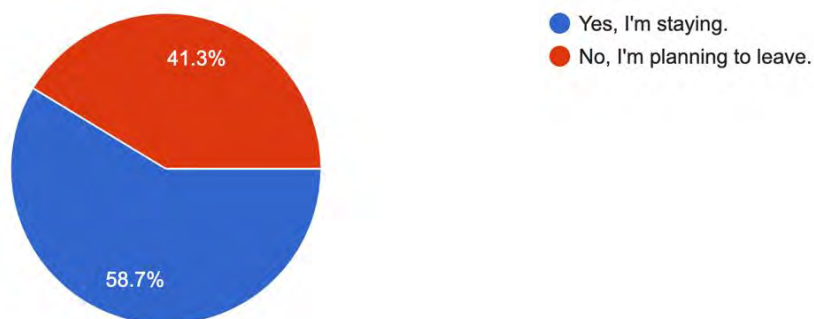
Figure 16. Change of Employment

58.7% (48/97) of the graduates prefer to stay within their current employer. The sense of team belonging is a major reason why they stay. However, we can also notice based on the chart that 41.3% (31/97) were also considering changing their employer as there are promising opportunities given to healthcare professionals nowadays.
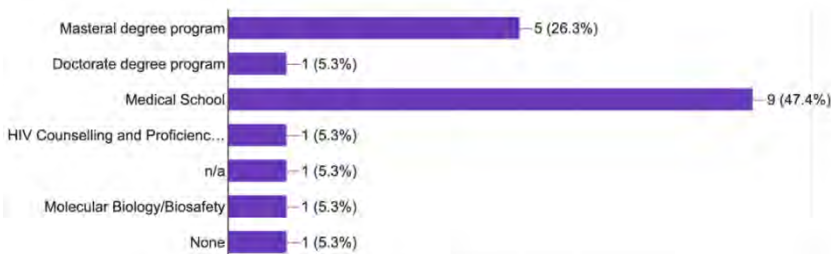
Figure 17. Advanced Studies or Training Engagements of the Alumni

Pursuing advanced studies contributes to the acquisition of specialized skills and new knowledge to pave the way for better opportunities. However, not all graduates took this path (81.3% or 78/97). For the remaining graduates who were enrolled, they are either in Medical School (47.4% or 9/97) or Masteral Degree Program (26.3% or 5/97).
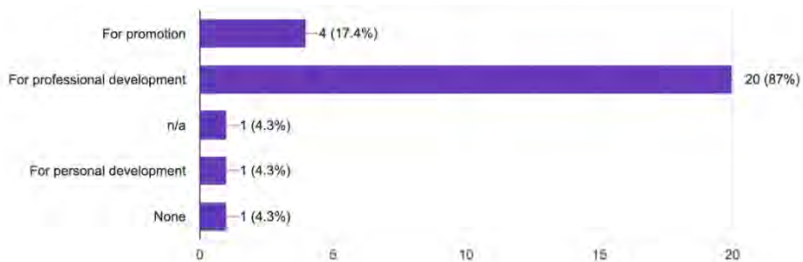
Figure 18. Reasons for Pursuing Advanced Studies

The primary reason behind the pursuit of advanced studies is to constantly achieve professional development (87% or 20/97).

DISCUSSION

The results of the tracer study reveals that 73.2% (71/97) of the graduates are currently employed as permanent employees with 71.1% (69/97) have license to practice as certified by the Professional Regulation Commission (PRC). Moreover, 17.5% (17/97) are currently reviewing for their National Medical Admission Test, and Medical Technology Licensure Examination (MTLE) as well as pursuing Medicine. 75.3% (73/97) had their first job in line with the field of Medical Technology. It took less than a year for the participants to land in their first job (90.4%). 79.4% (77/97) perceives that the program they took in college is relevant to their first job. It was a remarkable feedback for the institution, which continues to provide suitable teaching-learning strategies.

73.3% of the graduates are employed in the Philippines by non-government or private companies. There were several factors why they have considered local non-government employers between local government employers. Primarily, it was a personal preference. Factors to consider are proximity to residence, workload, salaries and benefits, and job availability. For instance, if one needs money and an immediate job, he/she would probably opt to go for a private hospital or a free-standing laboratory rather than go to a long process of employment in a government hospital.

Pursuing advanced studies for the graduates were also perceived as to have better opportunities for work. The results showed that 17.5% (17/97) pursue graduate studies for promotion and personal improvement. If there is professional development at hand, they believed that everything else follows such as promotion and personal improvement. It is definitely an investment of time, effort, and resources.

Conclusion

The graduate tracer study confirms the relevance of the BS Medical Technology curriculum to the employment of the alumni. During their stay at Emilio Aguinaldo College Cavite, they were trained to develop critical thinking skills. Moreover, the degrees that they have earned helped them to become licensed and find a job within a month after passing the licensure exams.

This eventually paved a way for them to become permanently employed, mostly in private institutions.

Recommendations

Thus, the authors are highly recommending sustaining the program and further develop it by continuously conducting curriculum review as evaluated by the stakeholders. Also, periodic consultation with the industry partners and other pertinent stakeholders must be regularly conducted.

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Relationship of Coping Mechanism and Academic Stress Level: Basis for Developing an Intervention Program for Senior High School Students

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KEYWORDS:

- **Online Learning**
- **Correlation**
- **Mindfulness Activities**
- **Coping Strategies**
- **Guidance Program**

Abstract. This research determined the academic stress level and coping strategies among senior high school students in Emilio Aguinaldo College - Cavite. The goal of this study highlighted the stress experienced by students in online learning and explain the frequent strategies used by the students in coping with difficulties in online learning. The respondents consisted of bonafide Grade 12 students of Emilio Aguinaldo College Senior High School. The research method used was correlational–descriptive to correlate the level of academic stress and coping strategies made possible with the use

of electronic storage (Google Forms) link with the official EAC e-mail of the students. The findings revealed out of the level of academic stress (workspace conditions, academic development, digital accessibility, communication with teachers, and interaction with classmates) showed that Spiritual Relationship has no significant relationship while the other aspects (academic, emotional, social, and physical) change interchangeably having both significant and no significant relationship. From this, it is recommended to conduct academic stress management webinars, facilitate mindfulness and relaxation practices, and establish team building.

Relationship of Coping Mechanism and Academic Stress Level: Basis for Developing an Intervention Program for Senior High School Students

INTRODUCTION

After its initial appearance, the COVID-19 outbreak swiftly evolved into a global issue. Liu, Kuo, and Shih (2020) stated that the virus is spreading rapidly, and it has caused concern, especially in the education sector. Because it is contagious, especially to people who have already had an infection. As a result, the learning system changed rapidly, from face-to-face learning to online learning, where digital platforms were used. Most students and teachers prefer face-to-face teaching, but following the government's order to prevent the spread of covid-19, online teaching and learning will be used first.

As stated by Child Hope Philippines (2020), by the new normal, to protect teachers, students, and personnel in schools during the widespread pandemic, the Department of Education has established a Basic Education Learning Continuity Plan. The pandemic has had a huge impact with many schools closing, employees losing their jobs, and students dropping out of school. Due to the pandemic, even the hiring of employees is also done online.

According to Pubmed.gov (2021), the report shows that the online survey regarding the impact of the lockdown on the mental health of students increased by 30%, where the lockdown can cause distress and anxiety. The survey was done by 442 senior high school students on April 16-30, 2020. Many reports and surveys have come out that due to the pandemic, some people are having difficulty adjusting to their studies, the closing of other schools and establishments, social distancing, and quarantine at home. According to Magson et al., 2020, it is difficult for students to adjust to the sudden shift from face-to-face learning and interaction to online learning, using gadgets, and just staying at home. Many studies prove that students' face-to-face participation is important to their mental health. According to Lawrence et al., in 2019 and Wood et al., in 2012, absenteeism and low mental

health are related to each other. The more a child is absent, the more his physical and mental health declines. Duong et al., in 2021, also highlighted the importance of a child's physical attendance at school where they can also receive mental health services and support.

This study aims to deepen and analyze students' perceived academic stress levels and coping mechanisms in online distance learning.

METHODOLOGY

The study was conducted at Emilio Aguinaldo College-Cavite where Grade 12 senior high school students are considered. The researchers studied 331 out of 2, 363 enrolled Grade 12 senior high school students to participate in the study.

A stratified sampling technique was used in determining the respondents for the administration of the questionnaire about the level of academic stress and coping strategies. Stratified sampling is a method of sampling from a population that can be partitioned into subpopulations.

The researcher makes a letter of request to the institutional head/Principal for permission and arrangement of schedule for the administration of the questionnaire base on the availability of the respondents.

The questionnaire was distributed by sending the Google form link to the official EAC email address of the students and asking for the cooperation and assistance of the senior high school faculty.

After administration, the researchers begin with scoring and tallying the items. Statistical computations followed. The answers to the online survey by Grade 12 SHS students at Emilio Aguinaldo College –Cavite were evaluated statistically using the data requirements of the study. The researchers examined and arranged the collected data using Microsoft Excel and SPSS.

Ethical Consideration

The researchers guaranteed the participant's safety and security by keeping the privacy and confidentiality of their shared information. The participants were informed of the procedures, objectives, and aims of the study that was included in the

questionnaire through Google Forms. Informed consent was included in the questionnaire.

RESULTS

This chapter presents the results of Data Analysis derived from the relative context presented from the statement of the problem, conceptual framework, and review of related literature. In this chapter, the researchers recorded and interpreted the participants' responses based on the academic stress level and coping mechanism of Senior High School Students in Emilio Aguinaldo College-Cavite.

Table 1. Frequency and Percentage of the demographics of

the participants in terms of Age

Sex	Frequency	Percentage
17 years old	120	37
18 years old	166	51
19 years old	37	12
Total	323	100

The table above shows the frequency and the percentage of the participants' demographics in terms of age. 323 from Grade 12 Senior High School in Emilio Aguinaldo College Cavite participated in the study. The result shows that many of the participants are 18 years old.

Table 2. Frequency and Percentage of the demographics of the participants in terms of Sex

Sex	Frequency	Percentage
Female	216	67
Male	107	33
Total	323	100

The table above shows the frequency and the percentage of the participants' demographics in terms of sex. There were 216 female and 107 male participants in this study. The female participants covered 67% of the total population of the participants, while the male covered the remaining 33%. This shows that most of the participants are female.

Table 3. Frequency and Percentage of the demographics of the participants in terms of Academic Strand.

Academic Strand	Frequency	Percentage
ABM	188	58
HUMSS	54	17
STEM	21	7
TVL	60	19
TOTAL	323	100

The table above shows the frequency and the percentage of the participants' demographics in terms of their strands. There were 323 participants in this study. The ABM strand covered 58% of the total population of the participants, 17% were from HUMSS, 7% were from STEM, and TVL covered the remaining 19%.

Table 4. Computed mean scores on the responses of the participants on the level of their academic stress.

A. WORKSPACE CONDITION

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	1.9574	188	.62179	.04535
HUMSS	1.9905	21	.57784	.12610
STEM	2.0189	53	.53387	.07333
TVL	2.2000	60	.70735	.09132
Total	2.0149	322	.62654	.03492

This table shows the computed average scores of the 323 participants based on four strands. ABM and HUMMS have low weighted mean. The result of the mean aligns with the low level of academic stress in terms of workspace conditions. This means that there are factors that the students did not see the workspace condition as an issue as part of their learning. Whereas the strand STEM and TVL weighted mean in workspace condition resulted in moderate academic stress levels which means workspace issues can sometimes hinder their academic performance.

B. ACADEMIC DEVELOPMENT

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.2915	188	.47833	.03489
HUMSS	2.3524	21	.39827	.08691
STEM	2.5667	54	.44255	.06022
TVL	2.4600	60	.52050	.06720
Total	2.3728	323	.48602	.02704

This table shows the computed average scores of the 323 participants based on four strands. ABM and HUMMS have low weighted mean. The result of the mean aligns with the low level of academic stress in terms of academic development. This means that there are factors that the students did not see academic development as an issue as part of their learning. Whereas the strand STEM and TVL weighted mean in academic development

resulted in moderate academic stress levels indicating that these issues can sometimes hinder their academic performance.

C. DIGITAL ACCESSIBILITY

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.7277	188	.55024	.04013
HUMSS	2.6810	21	.59129	.12903
STEM	2.8333	54	.65589	.08926
TVL	2.6350	60	.60865	.07858
Total	2.7251	323	.58295	.03244

The table above shows that most of the participants experience a moderate level of academic stress in terms of digital accessibility they made some adjustments to be familiar with the online platform and they experience problems in terms of learning management malfunction. Cho et al., 2021, stated that because the face-to-face interaction of students was restrained, the use of videoconferencing became the way to connect and teach students. Some of the applications used are Google Meet, Zoom, and Microsoft Teams. But not all students, especially Filipino students, can provide gadgets and internet connections that hinder their studies and ability to learn.

D. COMMUNICATION WITH TEACHERS

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.6213	188	.49551	.03614
HUMSS	2.3238	21	.42533	.09281
STEM	2.6944	54	.63347	.08620
TVL	2.6100	60	.62074	.08014
Total	2.6121	323	.54506	.03033

The table shows that most of the participants encountered a moderate level of academic stress in terms of communication with teachers. The weighted mean aligns with the moderate level in which students experience a lack of motivation or connection with their teachers. Aparajeya, 2016, stated that teachers sometimes find it difficult to have an engaging lesson and interact

with students on a one-to-one basis. Some students have difficulty speaking which can be a reason for poor communication. Differences in the personality of students can also be a factor in poor communication and difficult interactions with others. Hence, communication barriers and difficulties in the classroom indeed make it hard and challenging for students to get the most out of their education.

E. INTERACTION WITH CLASSMATES

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.5319	188	.56761	.04140
HUMSS	1.9333	21	.53697	.11718
STEM	2.4667	54	.63573	.08651
TVL	2.6400	60	.72397	.09346
Total	2.5022	323	.62685	.03488

The table above shows the computed mean scores of the ABM, STEM, and TVL strand that falls under a moderate level of academic stress in terms of interaction with classmates. Although online learning tries to provide quality and engaging teaching and interaction between teachers and students, it hinders full communication when in fact as Singh, 2021 explains that it inhibits the creation of effective social interactions among students that can help to maintain their thoughts, provide a reflection on their understanding, and find gaps in their studies. Whereas the HUMSS strand weighted mean exhibits low academic stress levels in terms of interaction with classmates.

Table 5. Computed mean scores the responses of the participants according to their coping mechanisms.

A. ACADEMIC ASPECT

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.6553	188	.46055	.03359
HUMSS	2.7857	21	.29713	.06484
STEM	2.4833	54	.43773	.05957
TVL	2.4850	60	.35263	.04552
Total	2.6034	323	.43790	.02437

The table above shows that most of the participants moderately utilized the academic aspect as a coping mechanism such as trying to listen carefully to the lessons and extending their efforts to find some resources to cope with their academic stress.

B. EMOTIONAL ASPECT

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.9574	188	.61904	.04515
HUMSS	2.8571	21	.35857	.07825
STEM	3.1111	54	.74395	.10124
TVL	2.9500	60	.67460	.08709
Total	2.9752	323	.63978	.03560

The table above shows that most of the participants' weighted mean exhibits moderate emotional aspects as their coping mechanism to enlighten their academic stress. It includes playing games, reading inspirational quotes, and such as putting humor in their situation. According to Jared (2022), being humorous also influences the overall mental health of an individual. It can be used as a coping mechanism to reduce the burden a person feels. This can also help to turn negative feelings or thoughts into positive ones.

C. SOCIAL ASPECT

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.7043	188	.73155	.05335
HUMSS	2.7810	21	.66830	.14583
STEM	2.5889	54	.94263	.12828
TVL	2.6800	60	.67090	.08661
Total	2.6854	323	.75474	.04199

The table above shows that many of the participants moderately utilized the social aspect as a coping mechanism such as hanging with their friends, seeking advice, or playing with their friends to cope with their academic stress. Having an enjoyable and good interaction with others is a great help to reduce stress. Talking to a friend on the phone, chatting, joining group activities or organizations, and hanging out or accompanying them on walks are just some examples of socializing. These activities help reduce stress and relieve sadness while promoting feelings of enjoyment and belongingness.

D. PHYSICAL ASPECT

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.5638	188	.62477	.04557
HUMSS	2.6000	21	.55045	.12012
STEM	2.6556	54	.56624	.07706
TVL	2.8200	60	.51480	.06646
Total	2.6291	323	.59690	.03321

The table above shows that many of the participants moderately utilized the physical aspect as a coping mechanism such as doing exercise, taking vitamins, doing yoga as meditation, and consuming healthy foods to cope with their academic stress. Smith emphasizes that it is important to have self-care when we experience and encounter challenges. It is good to have a self-care routine along with coping mechanisms to reduce the stress experienced such as having a regular exercise routine, eating balanced nutritious food, socializing with

others, getting enough sleep and rest, and enjoying doing your hobbies and interests.

E. SPIRITUAL ASPECT

GROUP	Mean	N	Std. Deviation	Std. Error of Mean
ABM	2.4000	188	.73681	.05374
HUMSS	1.9476	21	.73118	.15956
STEM	2.4889	54	.72076	.09808
TVL	2.3600	60	.80889	.10443
Total	2.3780	323	.75390	.04195

       The table above shows that most of the participants' weighted mean aligns with the low spiritual aspect as a coping mechanism for their academic stress. It only shows that the students did not highly prioritize strengthening their spirituality. According to Desmond et al. (2010), even though the role of religiosity and being spiritual is positive and encouraging, the beliefs of adolescents and their participation in these activities are still not that high.

Table 6. Academic Stress According to the Coping Mechanism

A. Workspace Condition

Workspace Condition	T-Test	P-Value	Decision
Workspace Condition in Terms of Academic Aspect	-.085	1.30	Accept Null No Significant Rel
Workspace Condition in Terms of Emotional Aspect	-.134	0.16	Reject Null With Significant Rel.
Workspace Condition in Terms of Social Aspect	-.004	.934	Reject Null With Significant Rel.
Workspace Condition in Terms of Physical Aspect	.134	.016	Reject Null With Significant Rel.
Workspace Condition in Terms of Spiritual Aspect	-0.20	.726	Accept Null No Significant Rel

Table 6. Under the scope of Workspace Condition, 3 out of 5 attained a significant relationship (reject null) in the scope of Emotional Aspect, Social Aspect, and Physical Aspect. And 2 out of 5 has no significant relationship under the scope of Spiritual, and Academic Aspect. For the student to attain their education goals, the management must provide a conducive, friendly classroom and environment, and provide materials for students' activities (Creemer, 1994, Savage and Savage, 2009).

B. Academic Development

Academic Development	T-Test	P-Value	Decision
Academic Development in terms of Academic Aspect	-.142	.010	Reject Null With Significant Rel.
Academic Development in terms of Emotional Aspect	-205	.000	Reject Null With Significant Rel.
Academic Development in terms of Social Aspect	-.042	.448	Accept Null No Significant Rel
Academic Development in terms of Physical Aspect	-079	.156	Accept Null No Significant Rel
Academic Development in terms of Spiritual Aspect	-.068	.226	Accept Null No Significant Rel

Under the scope of Academic Development 2 out of 5 attained a significant relationship under the scope of Emotional and Academic Aspects and 3 out of 5 attained no significant relationship under the Social, Physical, and Spiritual Aspects. Dimitrov in 2017 cited that for students to address stress they must give importance to their welfare, eat nutritious food, proper exercise, and have healthy recreation. In addition, Reddy et al., (2018) conclude that doing yoga, meditation, and mindfulness activities are useful and beneficial in dealing with stress.

C. Digital Accessibility

Digital Accessibility	T-Test	P-Value	Decision
Digital Accessibility in terms of Academic Aspect	.057	.304	Accept Null No Significant Rel
Digital Accessibility in terms of Emotional Aspect	-.092	.098	Reject Null With Significant Rel.
Digital Accessibility in terms of Social Aspect	.045	.415	Accept Null No Significant Rel
Digital Accessibility in terms of Physical Aspect	-.085	.126	Accept Null No Significant Rel
Digital Accessibility in terms of Spiritual Aspect	.056	.312	Accept Null No Significant Rel

Under the scope of Academic Development, 1 out of 5 attained a significant relationship in the scope of the Emotional aspect, and 4 out of 5 attained no significant relationship in the scope of Academic, Social, Physical, and Spiritual Aspects. According to Zalat et al (2021) technological challenges, such as connectivity issues, and limited computers and gadgets as a platform of online learning are the main difficulties and obstacles. In addition, Ferri et al (2022) find out that limited knowledge when it comes to using technology is also one of the difficulties of online learning.

D. Communication with Teachers

Communication with Teachers	T-Test	P-Value	Decision
Communication with teachers in terms of Academic Aspect	.017	.746	Accept Null No Significant Rel
Communication with teachers in terms of Emotional Aspect	-.130	.019	Reject Null With Significant Rel.
Communication with teachers in terms of Social Aspect	.153	.006	Reject Null With Significant Rel.
Communication with teachers in terms of the Physical Aspect	.021	.701	Accept Null No Significant Rel
Communication with teachers in terms of the Spiritual Aspect	.006	.238	Accept Null No Significant Rel

In Table 6, under the scope of Communication with Teachers, 2 out of 5 attained significant relationships under the scope of the emotional and social aspects. Hamre and Pianta, in 2006 stated that emotional closeness, recognition, and interest in students' concerns are ways to express emotional support. And 3 out of 5 have no significant relationship under the scope of the academic, physical, and spiritual aspects. As Baruch, Hershkovitz & P. Ang, (2015) stated that the relationship between the teacher and the student greatly affects the quality of teaching, the student's ability to understand his/her teacher, and even affects and influence the students' behavior. Dinu in 2015 stated that students are not

attending their classes and abandon their studies because of the teachers' unavailability and poor communication with the students.

E. Interaction with Classmates

Interaction with Classmates	T-Test	P-Value	Decision
Interaction with Classmates in terms of Academic Aspect	.076	.176	Accept Null No Significant Rel
Interaction with Classmates in terms of Emotional Aspect	.026	.636	Accept Null No Significant Rel
Interaction with Classmates in terms of Social Aspect	.251	.000	Reject Null With Significant Rel.
Interaction with Classmates in terms of Physical Aspect	.055	.329	Accept Null No Significant Rel
Interaction with Classmates in terms of Spiritual Aspect	.015	.792	Accept Null No Significant Rel

In Table 6, under the scope of Interaction with classmates, 1 out of 5 attained a significant relationship under the scope of Social Aspect. According to Mead et al., 2001; Shalaby and Agyapong 2020, expressing empathy, and showing encouragement and support are some ways of expressing peer support. While 4 out of 5 attained no significant relationship under the scope of Academic, Emotional, Physical, and Spiritual Aspects. Dixon (2010) stated that interaction with classmates is important. Activities with collaboration with classmates and group activities, and discussions are effective and efficient in learning

DISCUSSION

On the demographic profile, most of the participants are 18 years old, female, and from the ABM strand. The students perceived level of academic stress in terms of a.) *workspace conditions* have a low weighted mean in four strands which means that the students did not see the workspace condition as an issue as part of their learning; b.) *academic development* result shows that the ABM and HUMSS strand have a low weighted mean while the STEM and TVL strand has a moderately weighted mean that somehow indicating that these issues can sometimes hinder their academic performance; c.) *digital accessibility* have a moderately weighted mean, which means that the majority of the participants experience a moderate level of academic stress in terms of digital accessibility in which they made some adjustment to be familiar with the online platform and they experience problems in terms of learning management malfunction; d.) *connection with teachers* encountered a moderate level of academic stress in terms of communication with teachers. The weighted mean aligns with the moderate level in which students experience a lack of motivation or connection with their teachers, and e.) *interaction with classmates'* results has a moderately weighted mean, which means that they rarely communicate with their classmates and somehow adds to the stress experienced by students.

CONCLUSION

Based on the results obtained, the following conclusions were drawn:

Students have several coping mechanisms which they can be able to maximize through active listening to their lessons, actively participating during discussions, and extending their efforts in looking for some resources that are needed for the activities and tasks given to them. Playing games, reading inspirational quotes and humor can also be a coping mechanism for students in terms of emotional aspects. Bonding with friends through playing with them, sharing one's thoughts, and giving some pieces of advice is a form of coping mechanism for the social aspect. Regular exercise, and proper diet, with vitamin intake is a form of coping mechanism in the scope of physical

aspect. With a low result in the scope of the spiritual aspect, it shows that students are not into spirituality in the means of praying and attending the Sunday church in terms of coping with their daily common academic stressors.

The findings, if there is a relationship between academic stress levels and the coping mechanism of the students, show the following:

Workspace Condition in terms of a.) Academic Aspect, no significant relationship b.) Emotional Aspect, with significant relationship; c.) Social Aspect, with significant relationship; d.) Physical Aspect, with significant relationship, and e.) Spiritual Aspect, no significant relationship.

Academic Development in terms of a.) Academic Aspect, with significant relationship b.) Emotional Aspect, with significant relationship; c.) Social Aspect, with significant relationship; d.) Physical Aspect, no significant relationship, and e.) Spiritual Aspect, no significant relationship.

Digital Accessibility in terms of a.) Academic Aspect, no significant relationship b.) Emotional Aspect, with significant relationship; c.) Social Aspect, no significant relationship; d.) Physical Aspect, no significant relationship, and e.) Spiritual Aspect, no significant relationship.

Communication with Teachers in terms of a.) Academic Aspect, no significant relationship b.) Emotional Aspect, with significant relationship; c.) Social Aspect, with significant relationship; d.) Physical Aspect, no significant relationship, and e.) Spiritual Aspect, no significant relationship.

Interaction with Classmates in terms of a.) Academic Aspect, no significant relationship b.) Emotional Aspect, no significant relationship; c.) Social Aspect, with significant relationship; d.) Physical Aspect, no significant relationship, and e.) Spiritual Aspect, no significant relationship.

RECOMMENDATIONS

Based on the results of the study, the following recommendation is hereby presented:

Conduct of Academic Stress Management Webinar, to help the students to manage stress and promote well-being and

to provide students with opportunities to engage in stress-reducing activities.

Facilitate Mindfulness and Relaxation Practice, as part of Cognitive behavioral therapy which helps the students to practice relaxation. It is helpful among students with anxiety and panic attacks.

Establish Team building to strengthen group dynamics by addressing weaknesses in the current system. These interventions are a type of conflict resolution activity and trust-building activity among students.

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Student Satisfaction on the Scholarship Services at Emilio Aguinaldo College Cavite, Philippines

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KEYWORDS:

- **Student services**
- **Academic scholars**
- **Customer satisfaction**
- **Student affairs**
- **Student affairs practitioner**

Abstract. This research aims to explore the perceptions of students at Emilio Aguinaldo College Cavite (EAC) in the Philippines regarding their confidence in finding and applying for scholarships. The objective is to identify potential barriers and areas for improvement in the scholarship application process and shed light on factors influencing students' confidence levels. A descriptive research design was employed, utilizing a structured questionnaire survey to collect data from 433 respondents. The survey included closed-ended and Likert scale items to capture participants' perceptions, confidence levels, and experiences related to finding and applying for scholarships. The questionnaire was pilot-tested for clarity, validity, and reliability. The majority of respondents (96.1%) were

college students, with a low percentage of senior high school and law students. Overall, 62.4% of respondents expressed satisfaction with the scholarship services provided by EAC. The majority of scholars found the scholarship application process to be effective. Student orientations, admissions office information, the student manual, and social media platforms were identified as the main sources of scholarship information. There was no significant relationship between respondents' education level and their perception of scholarship services. The study provides valuable insights into students' perceptions and experiences regarding scholarships at EAC. The findings can guide scholarship providers and educational institutions in understanding students' needs and preferences. By addressing these needs and improving the scholarship application process, institutions like EAC can better support students and enhance their educational opportunities. Further research and interventions can build upon these findings to continuously improve scholarship services and enhance student satisfaction.

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Student Satisfaction on the Scholarship Services at Emilio Aguinaldo College Cavite, Philippines

INTRODUCTION

Scholarships play a crucial role in promoting equitable access to education and supporting student success (Mink, R., et. al., 2018). Recognizing their significance, Emilio Aguinaldo College Cavite (EAC), Philippines has created scholarship programs in order to help students fund their education. However, it is crucial to understand students' opinions and levels of satisfaction surrounding the process of identifying and applying for scholarships in order to continually enhance these services and guarantee that all qualified students may benefit fully from scholarship possibilities. The purpose of this study is to explore how EAC students perceive their confidence in seeking and applying for scholarships. This study aims to identify possible obstacles and opportunities for improvement in the scholarship application process by looking at students' opinions.

For educational institutions like EAC, understanding student satisfaction with scholarship services is essential. It offers insightful information regarding the particular requirements, preferences, and difficulties that students have while applying for scholarships (Appuhamilage, K., & Torii, H. 2019). In order to better assist students in their academic endeavors and contribute to their general success, EAC can do so by addressing these needs and improving the scholarship application procedure. The findings of this study may also help scholarship providers and other educational institutions better comprehend the elements that influence student satisfaction, enabling them to tailor their scholarship offerings to meet the requirements and expectations of students.

The main objectives of this research are to:
1. Explore students' perceptions and satisfaction levels regarding the process of finding and applying for scholarships at EAC.
2. Examine the sources of information that students use to find scholarship opportunities.
3. Find out if students are aware of and knowledgeable about various scholarship options.

To achieve the stated objectives, this research will address the following questions:
1. How do EAC students feel about their ability to identify and apply for scholarships?
2. What are the primary informational resources that students use to find scholarship opportunities?
3. What is the level of awareness and knowledge among students regarding different types of scholarships?

By addressing these questions, this study aims to provide valuable insights that can contribute to the improvement of scholarship services at EAC and enhance student satisfaction with the scholarship application process.

METHODOLOGY

A. Research Design
This study employed a descriptive research design to explore the perceptions of students regarding their confidence in finding and applying for scholarships at EAC. The descriptive design allows for a comprehensive analysis of students' perspectives, attitudes, and experiences related to scholarships. It provides a structured approach to collecting and analyzing data, enabling researchers to gain insights into the specific aspects of the scholarship application process that influence student satisfaction (Luo, T., & Baaki, J. 2019).

B. Data Collection Method
The primary data collection method used in this study was a structured questionnaire survey. To get a sense of how participants felt about identifying and applying for scholarships, the questionnaire included both closed-ended and Likert scale items. A thorough analysis of pertinent literature and the specific

302

research goals of this study served as the foundation for the survey's development. Its goal was to collect numerical data that could be statistically analyzed to yield actionable results.

C. Questionnaire Development

The questionnaire was carefully created to cover a range of topics related to scholarship services at EAC. It contained items to assess students' awareness of scholarship opportunities, sources of information they rely on, perceived barriers and challenges in the application process and satisfaction levels. The items were formulated to be clear, concise, and relevant to the research objectives. Prior to the actual data collection, the questionnaire completed a pilot-testing phase with a small group of students to assess its clarity, validity, and reliability. Based on the comments gained throughout the pilot-testing phase, any necessary improvements were made.

D. Sampling Technique and Sample Size

Convenience sampling was used in the study to pick participants from the EAC student body. To ensure representation, a wide range of students from various programs and academic levels were included. Based on the criteria of statistical significance and suitability for the research goals, the sample size of 433 respondents was chosen.

E. Data Collection Procedure

Using Google Forms, an online survey platform, the survey questionnaire was administered electronically. This method ensured participant accessibility and enabled efficient data collection. Participants were given explicit instructions on how to complete the questionnaire and were assured that their responses would remain confidential and anonymous. The duration of data collection was determined by the availability of participants and the need to collect a significant number of responses for a robust analysis.

F. Data Analysis Techniques

Using relevant statistical techniques, the collected data were analyzed. The responses of the participants were summarized using descriptive statistics such as means and percentages. It may have been necessary to use inferential statistics, such as correlation analysis, to examine the relationships between variables. In order to answer the research

questions, the findings were interpreted in relation to the research objectives and presented in a clear and concise manner.

G. Ethical Consideration

This research study was reviewed by the EAC Institutional Ethics Review Board (IERB) to ensure that it adheres to ethical standards. The IERB determined that the research met the criteria for exemption from further review due to its low risk and lack of intrusiveness. The research investigation was therefore exempt from a formal ethics review by the IERB.

The IERB did not designate a clearance number because the study fell under the exemption category. Nonetheless, it is crucial to note that ethical considerations were adhered to throughout the research process, even though the study was exempt. Participants provided informed consent, data confidentiality was maintained, and data handling procedures adhered to ethical principles.

The IERB's exemption decision reflects the ethical considerations and safeguards incorporated into the research project. The study adhered to the EAC and relevant regulatory bodies' ethical guidelines, ensuring the preservation of participants' rights and the validity of the research.

RESULTS

Table 1
Level of education of scholars.

Level	Frequency	%
College student	416	96.07
Senior High School	13	3.00
Law(Juris Doctor)	4	0.92
Total	433	100

The results presented in Table 1 reveal the level of education of the participants in the study. The data illustrates the distribution of scholars across educational levels.

The majority of respondents, 96.07 percent of the total, are college students. This indicates that the study was primarily concerned with capturing the perspectives and experiences of college students regarding financial aid. The large proportion of college students in the sample suggests that the findings are particularly applicable to this group and provide valuable insights into their perspectives on scholarship services.

Table 2
Source of scholarship information.

Sources	Frequency	%
Student orientations	210	48.50
Social Media	58	13.39
Admissions Office	58	13.39
Student Manual	42	9.70
Referral	38	8.78
Endorsement	14	3.23
Brochure	7	1.62
Via Marketing activities	6	1.39
Grand Total	433	100.00

The results presented in Table 2 provide insights on the scholarship information sources utilized by scholars. The data indicate that scholars predominantly rely on a variety of sources for scholarship information.

Student orientations are the most frequently cited source of scholarship information, accounting for 48.50% of responses. This indicates that EAC effectively uses student orientations as a platform for disseminating scholarship information.

Table 3

Effectivity of scholarship process based on assessment of scholars.

Assessment	Mean rating	Verbal interpretation
I think the scholarship application process is transparent and easily accessible to all eligible students	4.00	Highly Effective
I think there is enough awareness about available scholarships and the application process among students	3.00	Effective
I think there is enough diversity and inclusivity in the scholarship selection process	4.00	Highly Effective
Over-all Mean Rating	3.67	Highly Effective

The results presented in Table 3 provide insight into scholars' evaluations of the effectiveness of the scholarship process at EAC. Scholars perceive the scholarship application process to be highly effective, with a mean rating of 3.67, indicating a high level of satisfaction and trust in the procedure.

Scholars have an average rating of 4.00 for the transparency and accessibility of the scholarship application process. This indicates that scholars view the process as transparent, simple, and accessible to all eligible students.

Table 4
Satisfaction level of the scholarship process based on assessment of scholars

Assessment	Mean rating	Verbal interpretation
I am satisfied with the overall scholarship services provided by EAC	3.41	Very Satisfied
I have received adequate information and guidance about the scholarship application process EAC	3.35	Very Satisfied
I find it easy to apply for the scholarship; I did not encounter any difficulties during the application process	3.20	Satisfied
I received timely communication and updates about the status of my scholarship application	3.00	Satisfied
I feel that the scholarship has helped me in my academic pursuits	3.42	Very Satisfied
I feel that the scholarship services provided by EAC are equitable and accessible to all students, regardless of their backgrounds	3.44	Very Satisfied
I would recommend the scholarship services of EAC to other students	3.53	Very Satisfied
Over-all Mean Rating	3.34	Very Satisfied

The results depicted in Table 4 reveal the extent to which EAC scholars are satisfied with the scholarship process. As indicated by the mean rating of 3.34, which lies within the "Very Satisfied" range, scholars express a high level of satisfaction with the scholarship services provided. Scholars at EAC rated the overall scholarship services with an average rating of 3.41, indicating a high level of satisfaction. This indicates that scholars are satisfied with the overall support and services provided by EAC for scholarships. This favorable perception reflects EAC's success in meeting the needs and expectations of scholars, ensuring their satisfaction and participation in the scholarship process.

DISCUSSION

The results presented in Table 1 reveal the level of education of the participants in the study. The data illustrates the distribution of scholars across educational levels. The majority of respondents, 96.07 percent of the total, are college students. This indicates that the study was primarily concerned with capturing the perspectives and experiences of college students regarding financial aid. The large proportion of college students in the sample suggests that the findings are particularly applicable to this group and provide valuable insights into their perspectives on scholarship services.

A small percentage of the respondents, 3.00%, are senior high school students. Although their number is relatively small in comparison to college students, including senior high school students in the study allows for a more comprehensive understanding of satisfaction levels on scholarship services among students of varying educational levels. This inclusion facilitates the examination of senior high school students' early scholarship awareness and engagement, which may inform interventions and support for future college applicants.

In addition, a negligible proportion of respondents, 0.92 percent, are pursuing a Juris Doctor degree. This indicates that law students were included in the research, providing a unique perspective on scholarship services tailored to their field of study.

The representation of law students exemplifies the variety of disciplines represented among the scholarship recipients and provides valuable insight into the requirements and experiences of students in specialized programs.

Overall, the distribution of scholars across different educational levels in Table 1 demonstrates a focus on college students while also incorporating senior high school and law students. This diverse representation allows for a comprehensive understanding of scholarship perceptions across various educational stages and fields of study. The findings from this study can be utilized to tailor scholarship services and support mechanisms to address the specific needs and preferences of students at different levels of education within the institution (Ononye, L., & Bong, S. 2017).

The results presented in Table 2 provide insights into the sources of scholarship information utilized by scholars. The data indicates that scholars primarily rely on various sources to gather information about scholarships. The most frequently cited source of scholarship information is student orientations, accounting for 48.50% of the responses. This suggests that EAC effectively utilizes student orientations as a platform to disseminate information about available scholarships. These orientations serve as an important opportunity for EAC to directly engage with scholars and provide them with comprehensive details about scholarships, eligibility criteria, and the application process (Gillis, A., & Ryberg, R. 2021).

Social media platforms and the admissions office tie as the second most frequently mentioned sources, each accounting for 13.39% of the responses. This finding indicates that EAC recognizes the importance of leveraging social media platforms to reach out to scholars and promote scholarship opportunities (Al-Adwan, et. al., 2020). The admissions office, as an essential point of contact for scholars, also plays a significant role in providing information and guidance regarding scholarships.

The student manual is an additional notable source of scholarship information, accounting for 9.70% of responses. This indicates that EAC has effectively incorporated scholarship information into their student manual, ensuring that students have simple access to scholarship information.

Other scholarship information sources include referrals (8.78%), recommendations (3.23%), brochures (1.62%), and marketing activities (1.32%). Although the frequency of these sources is comparatively low, they still contribute to the overall dissemination of scholarship information and play a role in raising scholar awareness.

These findings highlight the diversity of sources utilized by EAC to inform scholars about available scholarships. By utilizing multiple channels, EAC ensures that scholars receive comprehensive and accessible information about scholarship opportunities (Crowe, J. 2020). It also demonstrates EAC's commitment to using various communication channels to reach scholars effectively.

The data presented in Table 2 can inform EAC's future scholarship promotion strategies. It is suggested that student orientations, social media platforms, and the admissions office should continue to be emphasized as essential channels for scholarship information dissemination. In addition, EAC could consider exploring additional avenues, such as targeted marketing activities or increasing endorsements, to further increase scholars' awareness of and access to scholarships.

The results presented in Table 3 provide insight into scholars' evaluations of the effectiveness of the scholarship process at EAC. Scholars perceive the scholarship application process to be highly effective, with a mean rating of 3.67, indicating a high level of satisfaction and trust in the procedure. Scholars have an average rating of 4.00 for the transparency and accessibility of the scholarship application process. This indicates that scholars view the process as transparent, simple, and accessible to all eligible students. The high score indicates that EAC has established a transparent and accessible system that encourages student engagement and participation in the scholarship application process.

However, the assessment of scholars regarding the awareness of available scholarships and the application process among students received a mean rating of 3.00, indicating effectiveness rather than a highly effective perception. This suggests that while there is a level of awareness, improvements

can be made in enhancing students' knowledge and understanding of available scholarships and the application procedures (Shaheen, S. et. al., 2020). To ensure that all eligible students have equal access to scholarship opportunities, EAC must prioritize raising awareness and disseminating information about scholarship opportunities.

On a positive note, scholars highly rate the diversity and inclusivity in the scholarship selection process, with a mean rating of 4.00. This indicates that scholars perceive the process as inclusive and fair, embracing diversity in terms of eligibility criteria, selection committees, and the types of scholarships available. This finding highlights EAC's commitment to promoting diversity and inclusivity in its scholarship programs (Champie, Z. 2022).

In general, Table 3 reveals that scholars at EAC have a favorable view of the scholarship process, particularly in terms of openness, accessibility, diversity, and inclusiveness. The results indicate that EAC has implemented an effective scholarship procedure that promotes equitable access to educational opportunities, despite the need for increased student awareness. These findings can inform future scholarship enhancements, ensuring continued student satisfaction and participation.

The results presented in Table 4 reveal the extent to which EAC scholars are satisfied with the scholarship process. As indicated by the mean rating of 3.34, which lies within the "Very Satisfied" range, scholars express a high level of satisfaction with the scholarship services provided. Scholars at EAC rated the overall scholarship services with an average rating of 3.41, indicating a high level of satisfaction. This indicates that scholars are satisfied with the overall support and services provided by EAC for scholarships. This favorable perception reflects EAC's success in meeting the needs and expectations of scholars, ensuring their satisfaction and participation in the scholarship process.

Scholars also indicate a high level of satisfaction with the information and guidance they received about the scholarship application process, as shown by a mean rating of 3.35. This suggests that EAC has effectively communicated and provided necessary information to scholars, enabling them to navigate the application process with ease. Adequate information and

guidance are crucial in ensuring that scholars have a clear understanding of the process and can submit their applications confidently (Farmer-Hinton, R., & Kellogg, B. 2022).

In addition, a mean rating of 3.20 indicates that scholars express satisfaction with the ease of the application process. This indicates that the majority of applicants to the scholarship did not encounter significant obstacles. A streamlined and accessible application procedure is essential for lowering barriers and encouraging scholar engagement.

However, the mean rating for timely communication and updates about the status of scholarship applications received a slightly lower satisfaction rating of 3.00. This suggests that there is room for improvement in terms of communication between EAC and scholars regarding the status and progress of their applications. As have been emphasized by Tannert, S., & Gröschner, A. (2021), timely and transparent communication is vital in ensuring that scholars are well-informed throughout the process, reducing uncertainty and fostering a positive experience.

Overall, Table 4 indicates that EAC scholars have a high level of satisfaction with the scholarship process. Scholars are pleased with the overall services provided, the information and guidance received, the simplicity of the application process, and the scholarship's positive impact on their academic pursuits. These favorable perceptions demonstrate EAC's dedication to providing equitable and accessible scholarship services, as well as the efficacy of their efforts to support scholars' academic endeavors. These results can inform future communication enhancements and ensure the continued satisfaction and success of EAC scholars.

Conclusion

This study sought to explore the students' perceptions and experiences with EAC's scholarship services. Through the examination of various aspects of the scholarship process and the examination of survey data, valuable insights have been obtained.

In summary, the results demonstrate that scholars have a high level of satisfaction and trust in the scholarship services offered by EAC. Scholars perceive the scholarship application

procedure to be open, straightforward, and inclusive. The study also emphasizes the efficacy of EAC in disseminating scholarship information, with student orientations, social media platforms, and the admissions office serving as the primary information sources.

Nonetheless, there have been identified areas for improvement. Scholars convey the need for greater awareness and understanding of available scholarships and the application process. Also requiring attention are timely updates and communication regarding the status of scholarship applications.

These findings highlight the significance of ongoing efforts to improve scholarship services and assure equal access to educational opportunities. By addressing the identified areas for enhancement, the EAC can further improve the scholarship application process, raise student awareness, and offer the necessary support and guidance throughout the application journey.

The findings of this study can serve as a foundation for future research and targeted interventions aimed at continuously improving scholarship services and increasing student satisfaction and engagement. EAC can further support student success and contribute to a more inclusive and equitable educational environment by actively incorporating scholar feedback and implementing strategies to meet their needs.

Despite the fact that this study provides valuable insights, it is essential to note that there are limitations to consider. The study was limited to a single educational institution and may not be applicable to other settings. In addition, the research was conducted at a particular time, and student perceptions may change over time. Future research could investigate the long-term effects of scholarships and other factors that influence student satisfaction and engagement.

In conclusion, this research contributes to the academic literature by casting light on the perceptions and experiences of EAC students. The findings provide a foundation for further scholarship service enhancements, fostering a supportive environment in which all eligible students can flourish and effectively access educational opportunities.

Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance scholarship services and support student satisfaction at EAC:

1. Strengthening awareness and information dissemination: Increase efforts to make students aware of available scholarships and the application process. Explore additional channels, such as targeted marketing campaigns, to expand audience reach. Utilize multiple communication channels, such as social media, student orientations, and the admissions office, to guarantee the dissemination of information in a comprehensive and consistent manner.

2. Enhancing communication and updates: Provide scholars with timely updates on the status of their scholarship applications to improve communication. Establish transparent channels and systems of communication to keep applicants informed throughout the application process. Consider implementing an online portal or a dedicated email system to improve communication and information dissemination.

3. Improving support and guidance: Provide scholars with adequate information and direction regarding the scholarship application process. Develop exhaustive resources, such as updated student manuals and guides, to aid students in navigating the application process. Consider organizing seminars or informational sessions to answer frequently asked questions and provide personalized support for scholars.

4. Promoting diversity and inclusivity: Continue promoting inclusiveness and diversity in the scholarship selection process. Ensure that eligibility criteria account for the diverse experiences and backgrounds of students. Expand the variety of

available scholarships to incorporate a broader range of student profiles. Establish diverse selection committees to ensure that decision-making processes are fair and equitable.

5. Assessing impact and continuous improvement: Utilize feedback mechanisms, surveys, and focus groups to routinely evaluate the impact of scholarship services. Collect scholar feedback to comprehend their evolving requirements and experiences. Utilize this feedback to fuel continuous improvement efforts and fine-tune scholarship services to better meet students' evolving expectations and needs.

6. Strengthening collaboration and partnerships: Expand scholarship opportunities by enhancing partnerships with external organizations, enterprises, and alumni. Develop partnerships with organizations that share the mission and values of EAC in order to increase the number of scholarships and funding opportunities available to students. Leverage these partnerships to enhance the ecosystem of scholarship opportunities and provide a variety of options.

By implementing these recommendations, EAC will be able to further enhance scholarship services, increase student satisfaction, and promote equal access to educational opportunities. It is essential to evaluate and modify these recommendations on a regular basis so that they align with the changing requirements and aspirations of students, thereby ensuring the continuous improvement of scholarship services and support mechanisms.

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TRACER STUDY OF THE BACCALAUREATE PROGRAMS IN THE SCHOOL OF ENGINEERING AND TECHNOLOGY GRADUATES OF EMILIO AGUINALDO COLLEGE CAVITE

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- Employment

Abstract The Emilio Aguinaldo College Dasmarinas, Cavite campus is one of the Philippine colleges that annually produces a significant number of graduates. This tracer study of the civil engineering department was completed in response to the CHED's mandate and worrisome cases of unemployment and underemployment. The study will act as a starting point for assessing how the institution has responded to generating exceptional and competent engineers and for better understanding of the employability variable associated with the employability of engineering and technology graduates. Additionally, to look at the profiles of the employment services for

graduates and take into account how important school-related traits are for job placement. Examining the advantages and disadvantages of the services offered and coming up with tactics that will help the graduates. The researchers used a quantitative approach using a descriptive research design in order to gather and present information about the demographics of the graduates and explore their perceptions of the competencies and values that the school had instilled in them as well as the skills that EAC-Cavite should continue to develop in them. Its main respondents were the engineering and technology graduates from school year 2019-2021. In terms of sociodemographic profile, the graduates of engineering and technology from AY 2019-2021 are considered in the early twenties and within the employable mean age of 21. Majority are still single and male graduates were twice greater than that of the females. The engineering and technology graduates are generally employable to technology and engineering industries as well as not technology and engineering related jobs such as business, government service and overseas employment as revealed in the findings, the said graduates have a very high employment rate of 92.8%. One of the recommendations of the researchers is to maintain the quality of instruction to all subjects of engineering and technology program.

TRACER STUDY OF THE BACCALAUREATE PROGRAMS IN THE SCHOOL OF ENGINEERING AND TECHNOLOGY GRADUATES OF EMILIO AGUINALDO COLLEGE CAVITE

INTRODUCTION

Graduate surveys provide insightful information about graduates' placements, which may help administrators, teachers, and students have more varied perspectives. Higher education institutions should pay attention to data like earnings, industry, current job title, working hours, time spent looking for first job, methods of looking for jobs, values formed and put into practice at work, and acquired skills.

The Emilio Aguinaldo College Dasmarinas, Cavite campus is one of the Philippine colleges that annually produces a sizable number of graduates. This tracer study of the civil engineering department was completed in response to the CHED's mandate and worrisome cases of unemployment and underemployment. The study will act as a starting point for assessing how the institution has responded to generating exceptional and competent engineers and for better understanding of the employability variable associated with the employability of engineering and technology graduates. Additionally, to look at the profiles of the employment services for graduates and take into account how important school-related traits are for job placement. Examining the advantages and disadvantages of the services offered and coming up with tactics that will help the graduates.

According to Verona (2011), a tracer study is a technique that is primarily designed to follow alumni of an academic institution in order to offer a feedback mechanism for the graduates of the institution and their alma mater. This provides a connection between the criteria for curriculum and teaching set by the Commission on Higher Education (CHED) and the caliber of graduates from universities and colleges.

According to Schomburg (2003), graduate and employer surveys are a type of empirical study that can offer important data for assessing the outcomes of the education and training of a particular higher education institution. The institution's future development in terms of quality assurance may make use of this information. A tracer study, often referred to as a "alumni survey" or a "follow-up survey," according to Schomburg (2003), should enable a higher education institution to collect information in order to detect any potential defects in a certain educational program and serve as a foundation for future planning activities. Both data on the graduates' professional achievement (career, status, and income) and data on the applicability of their knowledge and skills (connection between knowledge and skills and work needs, field of employment, and professional position) are required. The management of the institution could use the study's findings to create development plans or curricular changes to raise the standard of instruction and training that the college offers. They will have more access to important job market data and graduate employability, both of which are necessary for enhancing the degree program. Additionally, tracking down former students could facilitate collaboration and interactions between the college and graduates, who could then assess the value of the engineering and technology program and contribute to the accreditation procedure. Graduates' opinions of the quality of the educational institution's academic programs, facilities, services, and administrative processes are valuable to the sector.

This study aims to follow up the performance of Emilio Aguinaldo College-Cavite School of Engineering and Technology graduates as basis for curriculum enhancement. Specifically, the study aimed to answer the following: To assess the socio-demographic statistics and employability profile of engineering and technology graduates from 2019-2021 in terms of employment and job satisfaction. Aimed to give a demographic and employability profile of the graduates. Explores how graduates view the abilities that should be further developed, the values that are fostered at their alma mater, and the competencies that EAC-Cavite graduates have developed. And viewing whether competencies learned in college was useful in the employment.

This research was restricted to the graduate tracer study of the engineering and technology alumni from 2019 to 2021 respondents through personal interview, letters, e-mails, or other

322

electronic means. It will seek to trace its graduates' profiles, assess their competencies, degree of satisfaction, and alumni feedback for quality improvement. This study was limited to available engineering and technology alumni responded to the request of the researcher within the time frame, during the Academic Year 2022-2023.

METHODOLOGY

The researchers used a quantitative approach using a descriptive research design in order to gather and present information about the demographics of the graduates and explore their perceptions of the competencies and values that the school had instilled in them as well as the skills that EAC-Cavite should continue to develop in them. Its main respondents were the engineering and technology graduates from school year 2019-2021.

The respondents to the survey were all from the EAC-Cavite and have completed the following courses: BS Civil Engineering, BS Electrical Engineering, BS Mechanical Engineering, BS Computer Engineering, BS Electronics Engineering and BS Computer Science during the academic years 2019-2021. To obtain greater accuracy, the researcher considered at-least 75% of the total respondents. Seventy five percent of the total graduates reached 85 respondents. This were considered as the target population of the study.

Responses on the evaluation were rated according to the following criteria.

Mean Score	Interpretation
5 – 4.01	Very Satisfied
4 – 3.01	Satisfied
3 – 2.01	Neutral Satisfaction
2 – 1.01	Dissatisfied
1	Very Dissatisfied

Using a limited population sample size formula with a 4% error margin, a 95% degree of confidence, and a percentage of 50% of the population, different numbers of graduates were selected for the study. In addition, a stratified random sampling technique was used in the selection phase of the sample to ensure that graduates' respondents were fairly represented for each academic year.

This research (CHED) adopted the graduate tracer study questionnaire from the Commission of Higher Education Department. A few questionnaire items were changed to better fit the goals of the study. All of the questions on the survey were closed-ended, and they were divided into three sections. General information on the engineering and technology graduates is provided in the first section. This information includes the following: (a) year of graduation, (b) permanent address, (c) contact information, (d) email address, and (e) whether the graduate pursued graduate studies or another course. The graduates' employment information, which included their current employment status and job positions, was described in the second section. The third section of the questionnaire contained the job satisfaction of the graduates. The succeeding sections includes the alumni recommendations to the programs of the college.

Several steps were considered in the process of data gathering. The first stage was the collection of the list engineering and technology students from 2019-2021 which were composed of three batches from the College Registrar of the School of Engineering and Technology. Before the study began, written approval was obtained from the head of the EAC-Cavite, where it was being conducted. The list of the graduating classes from 2019 to 2021 was requested by letter to the campus' office of the registrar.

Since there were a large number of respondents, the statistical technique of sampling methods was considered. The random sampling technique eliminated the idea of personal choices in the survey. Although there are five different sampling methods available, cluster samplings were preferred to make sure that every batch of graduates was represented.

Upon collection of the list of graduates, the second stage were to identify how many graduates per school year had been

conferred. In order for the study to become realistic, above seventy five percent (75 %) of the total number of engineering and technology graduates was taken. It was distributed accordingly using cluster sampling and simple random sampling technique. The third stage was the distribution of the questionnaires.

The data was captured, tabulated, and saved for analysis after the data gathering process. To analyze the distribution of respondents according to profile, employment characteristics, learned abilities, and values while studying, researchers will compute descriptive statistical metrics including the frequency count, percentage, and ranking of frequency counts. Additionally, the degree of relevance of the various program curriculums given were evaluated using the weighted mean (WM) and standard deviation (SD). Microsoft Excel was used for every analysis.

The researchers sent questionnaire to 105 graduates of engineering and technology from school year 2019-2021 which covered three batches of graduates. The actual number of questionnaires that returned to the researcher was 11, and 74 were contacted through mobile phones and e-mails for information of where they are presently working.

RESULTS AND DISCUSSION

The study on the socio demographic profile of the respondents showed that the mean age of respondents was 21 years old. From school year 2019 and 2020, the mean age of the respondents was 21 years old. From school year 2021 the mean age was 20.

The gender status of respondents is also significant in the study. It gives information on how much more males there are compared to females. Table 3 presents the respondents by gender status. It shows that 58 out of 85 were males, and 27 out of 85 were females. In the year 2019, 15 of the graduates were males and 10 were females. Year 2020, there were 26 males and 9 females, while in year 2021 there were 17 males and only 8 females. The gender profile shows that in a span of four school years the number of male students were always greater than that of the females. The data presented an idea that engineering and technology as a course attracts more male applicants than female.

School Year Graduated	Male	%	Female	%	Total M/F	%
2019	15.00	0.26	10.00	0.37	25.00	0.29
2020	26.00	0.45	9.00	0.33	35.00	0.41
2021	17.00	0.29	8.00	0.30	25.00	0.29
Total	58.00	1.00	27.00	1.00	85.00	1.00

Table 3. Gender status of SET graduates

The civil status of engineering and technology graduates also presented, 66 or 77.6% of the respondents were still single, while 19 or 22.4% were married.

School Year	Single				Married				Total M/F	%
	Male	Female	Total	%	Male	Female	Total	%		
2019	8	8	16	19	7	2	9	47	25	29
2020	21	7	28	33	5	2	7	37	35	41
2021	15	7	22	26	2	1	3	16	25	29
Total	44.00	22	66	78	14	5	19	100	85	100

Table 4. Civil status of SET graduates

Table 5 shows the status of employment of engineering and technology graduates per school year.

School Year	Employed			
	Male	Female	Total	%
2019	12	9	21	27.27
2020	23	9	32	41.56
2021	17	7	24	31.17
Total	52	25	77	100

Table 5. Employment status of SET graduates

The batch of school year 2019-2020 posted the greatest number of employed graduates with 32 out of 77 or 41.56%. This

326

was followed by school year 2020-2021 with 24 employed graduates out of 77 or 31.17%. Whereas in school year 2018-2019 with 21 out of 77 or 27.27%. The engineering and technology graduates are generally employable to technology and engineering industries as well as not technology and engineering-related jobs such as business, government service and overseas employment.

School Year	Self -Employed			
	Male	Female	Total	%
2019	3	1	4	50
2020	3	0	3	37.5
2021	0	1	1	12.5
Total	6	2	8	1

Table 6. Self-employed status of SET graduates

Table 6 showed the self-employed graduates with a total of 8. Of this number, school year 2018-2019 had the greatest number with 4 out of 8 or 50%. While in school year 2019-2020 with 3 out of 8 or 37.5% self-employed graduates. Then, school year 2020 - 2021 got 1 out of 8 or 12.5%. The 8 self-employed graduates represented 10.4% of the 77 employed engineering and technology graduates, and 9.41% of the total 85 respondents.

This study considered the employment and occupational areas of the graduates, this also evaluated the job satisfaction in regard to one's feelings or state of mind. It is in this area that the researcher uncovered the different perceptions of employed engineering and technology graduates in relation to their job. Since every job is unique, each can be handled by unique individuals who possess different proficiency in skills.

The job satisfaction of engineering and technology respondents rated their job as satisfied with a general weighted mean of 3.63. Answers to questions or issues like; I would like to remain in my current employer for the foreseeable future, and how flexible is the company with respect to your family responsibilities the lowest rating of 3.21 and 3.25 respectively but still within the satisfied category. However, this was still within the somewhat implied that career development of employees and employee care are to be given priority by managers.

Answers to questions or issues like; I would like to remain in my current employer for the foreseeable future, and how flexible is the company with respect to your family responsibilities the lowest rating of 3.21 and 3.25 respectively but still within the satisfied category. However, this was still within the somewhat implied that career development of employees and employee care are to be given priority by managers. General weighted mean on job satisfaction revealed 3.63 or satisfied rating.

Conclusion

On the basis of the findings, the following conclusions are drawn:

1. Socio Demographic Profile

The graduates of engineering and technology from AY 2019-2021 are considered in the early twenties and within the employable mean age of 21. Majority are still single and male graduates were twice greater than that of the females.

2. Status of the engineering and technology graduates

2.1 As revealed in the findings, engineering and technology graduates has a very high employment rate of 92.8%. The 77 employed graduates also represented 70% to the entire engineering and technology graduates of 110 from AY 2019-2021.

2.2) The engineering and technology graduates are generally employable to technology, design and construction industries as well as not technology, design and construction related jobs such as business, government service and overseas employment. This shows that engineering and technology a relevant and responsive course offering of the School of Engineering, Computer Science and Technology.

2.3) The employed engineering and technology graduates generally found satisfaction in their jobs in all fourteen employment areas.

3. What suggestions can he proposed to further improve the engineering and technology course?

Enhancement of engineering and technology course as a whole is not necessary except for some aspects of the curriculum such as OJT, faculty development, periodically updated course outlines, facilities, etc.

Recommendations

1. Make a standard course outline for engineering and technology program that would meet the technological and engineering needs of the present times.

2. A study on the professional growth of professors and instructors of the SET and their relevance to the subjects they are teaching.

3. Maintain the quality of instruction to all subjects of engineering and technology program.

4. The engineering and technology program should keep abreast with the current and future technological needs.

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