Emilio Aguinaldo College-Cavite

FACULTY RESEARCH JOURNAL

EAC ORGANIZATIONAL CHART

Emilio Aguinaldo College-Cavite
Organizational Chart
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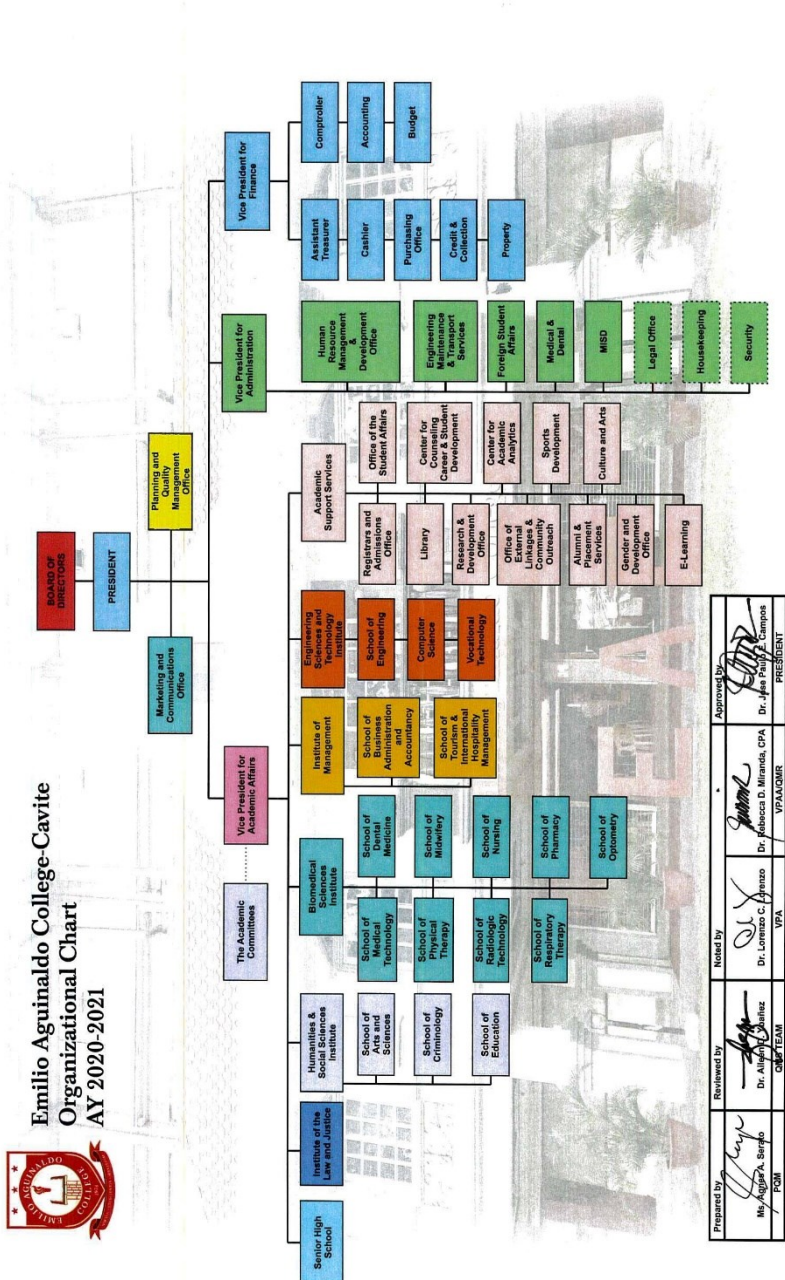
Brief History of Emilio Aguinaldo College

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 of education, the total development of our students, conscious of their national identity and their role in the global community.

VISION

Emilio Aguinaldo College envisions itself as an internationally recognized private non-sectarian academic institution rooted in the Filipino nationalist tradition that consistently pursues the advancement and welfare of humanity.

MISSION

Emilio Aguinaldo College provides a learner-centered, inquiry-based, and socially relevant academic community.

CORE VALUES

Virtue
Excellence
Service

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

A Tracer Study on the Perceived Employability of Graduates of Business Administration from 2017-2019

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KEYWORDS:

- **Outcomes-Based Education**
- **Graduate Attributes**
- **Work Alignment**
- **Employability**
- **21st Century Competences**

Abstract. *The Emilio Aguinaldo College – Cavite places a strong emphasis on outcomes-based education, which aims to improve graduates' abilities and competencies so that they are better prepared for the workforce. The consistency of EAC-School of Business Administration and Accountancy graduates' outcomes is a major determinant of higher education quality. They are encouraged to improve their graduate qualities while in college and after they have graduated. This qualitative study established the employability profile of Bachelor of Business Administration (BA) graduates from 2017 to 2019 in terms of career characteristics, employment transition, and work alignment. A total of 56 people responded to the Philippines Commission on Higher Education's standardized questionnaire (CHED). It was interpreted that graduate respondents who possessed the required abilities, such as communication skills, entrepreneurial skills, critical thinking skills, technology skills, and other 21st century competences, are more likely to succeed in their careers. The EAC-Cavite graduation qualities are a big help in boosting the graduates' abilities. The research also yielded themes for improving the quality of business administration instruction.*

A Tracer Study on the Perceived Employability of Graduates of Business Administration from 2017-2019

INTRODUCTION

Graduate employability is a problem of matching abilities to jobs. Managers say they're having trouble locating competent candidates who meet their requirements right now. Meanwhile, new entrants confront comparable challenges as they try to get into the workforce.

The Emilio Aguinaldo College – Cavite has a strong emphasis on outcomes-based education, which aims to develop graduates' abilities and competencies in order to better prepare them for the workforce. The consistency of EAC-School of Business Administration and Accountancy graduates' results is a significant factor in determining the quality of higher education. They are encouraged to improve their graduate qualities while in college and after graduation. Graduate students should be good communicators, moral persons, creative thinkers and leader, a lifelong learners, internationally focused practitioners, community champions and patriotic residents As a result, the aforementioned attributes must be fostered, organically exploited, and executed on a regular basis throughout an individual's life in order for them to succeed in the labor market. This empirical study would provide useful data for assessing alumni employability and qualification status based on graduate attributes, as well as enhancing educational efficiency.

De Guzman and De Castro (2008), on the other hand, concur that a more realistic approach for employability is needed, in which the range of research subjects offered by universities is linked to the diversity of occupations. Graduates of the research institution go on to pursue additional education and other job-related training. According to Medina, Maligaya, and Perando (2016)'s research findings, there is a need to develop their graduates' abilities and competences in order to make curricular offers more relevant to their curricular job.In the midst of the Philippine changes and developments aimed at resolving the problems of education in the twenty-first century, San Pedro (2016) investigates the diverse competencies of twenty-first-century

students in education. The majority of respondents in their study believed they possessed the necessary 21st-century skills and competencies, as well as the characteristics of a 21st-century instructor. This suggests that the new generation of educators can compete with Emilio Aguinaldo College - Cavite in terms of providing high-quality training services that emphasize the value of lifelong learning. According to Angelique, Rogan, and Bongiwe (2020), increasing access to higher education as a means of achieving labor market equity is necessary. As a result, they show their findings on the predicted differences in employment likelihood by race and gender, as well as the clear significant relationship between the type of university and employment probability.

UNESCO (2015), on the other hand, claims that the rise of global citizenship in the twenty-first century can be traced to an individual's desire to collaborate on twenty-first-century skills and competencies for addressing the various challenges of existence. In order to promote long-term success, educational institutions must be prepared to provide high-quality teaching and learning. UNESCO's philosophies on education for sustainable development have also influenced this research. This means that education for sustainable development is about equipping students to present future global problems in a positive and innovative way in order to create more resilient and sustainable communities. Investigating the whereabouts of Business students' graduates will aid in determining the true reality of what happened to them after they graduated from their alma mater, as well as how well the school served its purpose in the services they chose to improve. It's especially fascinating to follow their development in this context. In this regard, it is critical to keep track of the status of Bachelor of Business Administration (BA) graduates. The current position of learners can be linked to their educational return on investment or, more importantly, the outcomes of their preparation.

With the foregoing perspectives on the value of EACC's education in mind, the goal of this study is to look into the status of EACC graduates or alumni from 2017 to 2019. The goal of the study was to assess the graduate qualities and quality of education by looking at the employability of BA graduates. Its specific goals were to assess the demographic statistics and employability profile of Bachelor of Business Administration (BA) graduates from 2017 to 2019 in terms of: (1) career characteristics (2) employment transition (3) work

alignment; determine the graduates' perceptions of the employability skills they acquired from Emilio Aguinaldo College – Cavite; identify the graduate attributes that led to the growth of the graduate of business courses; and develop themes for improving the standard of education offered by the School of Business Administration and Accountancy.

Theoretical Framework:

This research was focused on the paradigm advocated by Knight and Yorke (2003), as represented in their USEM Model of employability. The model proposes four interconnected employability components:

U • Understanding of the disciplinary subject matter and of life in general.

S • Skillful activities, such as school work and life in general.

E • Efficacy beliefs that represent the learner's sense of self, self-belief, and self-efficacy and opportunity for self-improvement

M • Metacognition, which complements effectiveness and embraces self-awareness, how does it work? and how to read and to reflect It includes experience about learning techniques, thinking and problem solving, as well as encourages and facilitates a lifelong learning is a form of learning that occurs during one's existence.

Figure 1: USEM Model of Employability

Significance of the Study

This research includes useful details in assessing the School of Business Administration (BA) student graduates' employability at Emilio Aguinaldo college -Cavite for the years 2017-2019. It also examined the relationship between graduate characteristics and the level of education offered to all students in the School of Business Administration (BA). This study would be needed by the department in order to enhance its curriculum and training for students in this program.

Scope and Limitation

This research was restricted to the graduate tracer study of the School of Business Administration (BA)alumni from 2017 to 2019 from different programs such as BS Financial Management, BS Human Resource Development , BS Operations Management and BS Marketing and the alumni from BS Customs Administration. It sought to traced its graduates' profiles, assess their competencies, degree of satisfaction, and alumni feedback for quality improvement.

Methodology

Research Design

A descriptive study design was used to monitor graduate employability and job status at Emilio Aguinaldo College School of Business Administration and Accountancy. From 2017 to 2019, 164 students graduated in this period . The study questionnaire was focused on Philippines Commission of Higher Education mandates for tracing college graduates. The researchers made changes to accommodate the current study being conducted. Personal delivery was carried out by School of Business Administration (BA) students' current relatives. Other respondents were tracked down using their email addresses and Facebook profiles. Just as the researcher would like to find all of the graduates, some of them cannot be located for a variety of purposes. The frequency and weighted mean were used to analyze, process, and interpret data.

Research Locale

The study took place at the Emilio Aguinaldo College -Cavite.

Respondents/Participants of the Study

The respondents to the survey are all from the Emilio Aguinaldo College-Cavite and have completed the following courses: Bachelor of Science in Business Administration Major in Financial Management, Human Resource Development Management, Marketing Management, and Customs Administration during the academic years 2017-2019.

Technique of Sampling

The respondents for this study was chosen using the purposive sampling methodology. The respondents were selected based on the following criteria: (1) they are already registered in the Emilio Aguinaldo College-Cavite, (2) they have performed community service in some of the Emilio Aguinaldo College-Cavite offices, and (3) they were able to engage in the research.

Data Gathering and Ethical Considerations

This study used a survey questionnaire patterned after the Philippines Commission on Higher Education (CHED) survey available from their website and it also utilized interview to determine the graduates of School of Business Administration's perceptions on the employability skills they acquired from Emilio Aguinaldo College. A written consent from each participants were sent by email before the survey questionnaire were sent to the respondents. The data privacy form was already embedded in the google form and the link was sent to the respondents. Upon clicking on the submit button, the respondents agree to become part of the study.

Statistical Data

To determine the percent distribution of the respondents in terms of their profile, the frequency count and percent formula will be used given by the formula $\% = \dfrac{f}{n} * 100\%$, where f is the frequency count, and n is the sample size. Weighted mean and ranking were also used to determine the graduate attributes of the School of Business Administration (BA) graduates while themes are utilized to analyze the graduate attributes that led to the growth of the graduates of business courses.

RESULTS AND DISCUSSION

1. What are the demographic statistics and employability profile of the School of Business Administration (BA) graduates from 2017 to 2019 in terms of career statistics, employment transition and work alignment?

Table 1. Programs and gender of School of Business Administration and Accountancy Graduates from 2017 to 2019.

Programs	Female	Male
BS Financial Management	1	7
BS Human Resource Development Management	3	7
BS Marketing Management	14	17
BS Operation Management	1	
BS Customs Administration	5	1
TOTAL	24	32

Table 1 shows that the BS Marketing Management program was the most successful in terms of programs and gender with 14 female students and 17 male students. The BS Human Resource Development Management is next, with three female candidates and seven male candidates. Following that is the BS Financial Management, which has one female and seven males. BS Customs Administration has five females and one man, while BS Operation Management only has one.   According to Angelique, Rogan, and Bongiwe (2020), increasing access to higher education as a means of achieving labor market equity is necessary. As a result, they show their findings on the predicted differences in employment likelihood by race and gender, as well as the clear significant relationship between the type of university and employment probability.

Table 1.2 Employment Transition of SBAA graduates from 2017-2019

Employment Transition	Total	Rating	Ranking
Employed within 6 months from graduation	35	62.5%	1
Employed after 6 months from graduation	9	16.7%	3
Employed after 1 year from graduation	12	22.2%	2
TOTAL	56	100%	

In terms of employment within six months after graduation, 35 out of 56 respondents were employed which results to 62.5 percent, followed by 9 out of 56 respondents for those working after six months from graduation 16.7%, and 12 out of 56 answered that they were employed after 1 year from graduation which results to 22.2 percent This suggests that the School of Business Administration (BA) students had an easy time finding jobs after graduation, and the majority of them did.

Table 1.3 Work Alignment of SBAA graduates from 2017-2019.

Work Alignment	Total	Percentage
Aligned	40	71.4%
Not Aligned	16	28.6%
TOTAL	56	100%

Based on the results of the survey 40 out of 56 were aligned with their work and 16 answered they were not aligned . Despite the misalignment, some graduates were able to secure employment. De Guzman and De Castro (2008), on the other hand, concur that a more realistic approach for employability is needed, in which the range of research subjects offered by universities is linked to the diversity of occupations

2. What are the perceptions of graduates on the employability skills they acquired?

Table 2. 1. Competencies acquired by the Graduates and its usefulness/relevancy on their in finding a job.

Competencies	Rating	Total
Communication Skills	5	32
Human Relation Skills	5	29
Entrepreneurial Skills	5	22
Information Technology Skills	4	21
Problem Solving Skills	5	32
Critical Thinking Skills	5	29
Other Skills	5	23

Communication abilities, according to Table 2.1 got the highest rating on the scale of 1 to 5 and 5 being the highest as indicated in the survey questionnaire, play a critical influence in the School of Business Administration (BA) graduates' employment. These grads also noted human relation skills, entrepreneurial abilities, information technology skills, problem-solving skills, critical thinking, and other skills. Every semester, they also offer Emilian Culture Formation, which focuses on the essential values of Emilio Aguinaldo College - Cavite. These talents, if correctly utilized and applied by our graduates, will guarantee their success, which will be critical to their employability. According to Medina, Maligaya, and Perando (2016)'s research findings, there is a need to develop their graduates' abilities and competences in order to make curricular offers more relevant to their curricular job. In the midst of the Philippine changes and developments aimed at resolving the problems of education in the twenty-first century

3. What are the attributes that led to the growth of the graduates of business courses?

Table 3. 1. Graduates' attributes acquired and its usefulness in their professional career.

Competencies	Rating	Total
Communication Skills	5	29
Human Relation Skills	5	30
Entrepreneurial Skills	5	19
Information Technology Skills	5	20
Problem Solving Skills	5	28
Critical Thinking Skills	5	28
Other Skills	5	25

Table 3.1 shows that all of the attributes that the graduates acquired such as communication skills, human relations, entrepreneurial abilities, information technology, problem-solving, critical thinking, and other skills as being extremely beneficial in their professional careers. It has been demonstrated that graduates

understand the importance of these abilities in order to increase their competency and that these skills may be critical to their employment.

Conclusions and Recommendations

With 56 respondents from School of Business Administration graduates, this empirical study was comprised of AY-2017-2019. Using the Open-Ended Survey Questionnaire sent to all graduates, their employment transition, work alignment, employability skills acquired, attributes acquired, and usefulness were determined. 35 respondent graduates were employed within 6 months from graduation, 9 respondent graduates were employed after 6 months from graduation, and 12 respondent graduates were employed after one year from graduation. 40 respondent graduates were aligned with their work and 16 respondent graduates were not aligned. So, it was observed that the life-long learning abilities and competencies of the 21st century were expressed among the graduate qualities, as demonstrated in the study utilizing the USEM model. This suggests that not all learners have been truly informed of these skills and have not become adequately positive to implement them in their current workplace. Therefore, the authors also established the theme using content analysis and contrasted it with the EAC's real graduate attributes and competencies acquired and usefulness in their professional careers to find the job, which serve as the basis for enhancing quality education in the School of Business Administration and Accountancy.

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Academic Supervision of Teaching and Learning Utilizing the Institutional Technology-Enabled Platforms of Emilio Aguinaldo College Cavite amidst the COVID-19 pandemic.

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KEYWORDS:
- **Leadership**
- **Leadership style**
- **Technology-enhanced platforms**
- **Strategy**
- **Brightspace**

Technology advancements have altered how children and teachers read, write, and communicate. Is there a link between this impact and a certain level of digital literacy? Because of their exposure to digital tools and platforms, can we label them "digitally literate"? Can these changes affect the most effective educational techniques as well? We anticipate shifts in respondents' digital literacy and best school practices as the pandemic unfolds. As a result of the school's external environment's quick changes, Emilio Aguinaldo College Cavite should modify and adapt its educational processes to ensure its ability to give students the appropriate training quality and standards. This is to assure the institution's capacity to maintain high enrolment numbers, which will ensure financial sustainability. Thus, there is a need for academic supervision of the teaching and learning process utilizing the technology-enabled platforms amidst the pandemic. The primary aim of the research was to formulate strategies how to strengthen the academic supervision of teaching and learning using technology-enabled

platforms. This research was used the mixed-methods multiple case design analysis. As a result, among the platforms, the most common technology-enabled platform of Emilio Aguinaldo College Cavite is using Brightspace because it provides worry-free technology that helps put learners first and saves teachers' instructional materials easily. The Google Classroom is used for virtual classes, and the other platforms are used as supplemental resources to improve the teaching and learning process.

Academic Supervision of Teaching and Learning Utilizing the Institutional Technology-Enabled Platforms Amidst the Pandemic

INTRODUCTION

As a result of the school's external environment's quick changes, Emilio Aguinaldo College Cavite should modify and adapt its educational processes to ensure its ability to give students with the appropriate training quality and standards. This is to assure the institution's capacity to maintain high enrolment numbers, which will ensure financial sustainability. Thus, there is a need for academic supervision of the teaching and learning process utilizing the technology-enabled platforms amidst the pandemic.

To cope with education problems due to pandemic, technology best solution for the transformation of education. Companies such as D2L and Turnitin are seizing the opportunity and have offered solutions that will make the shift easier for both students and teachers. D2L claims that its online learning management system, Brightspace, supports pedagogy and allows for a more engaging learning environment. Enabling teachers to use technologies is a key part of implementing remote learning. According to D2L director Nick Hutton, it does not aim to replace what they do but to enhance the way in which they teach. A good learning management system can enhance their pedagogical style.

The flexible learning setup is a way to enhance the educational systems and adopt the new normal educational system. Central to flexible learning are learners and their needs, and the educational services on offer should allow them to decide for themselves what, when, how, and where they learn (Higher Education Academy, 2015). Most flexible learning initiatives focus on aspects of temporal and spatial flexibility in learning, which is nowadays realized primarily through the use of new technologies (Tucker & Morris, 2012). However, the student has struggled in coping with this new system. Choosing an effective strategy connected to technology-enchanced platforms very essential in an online setting set up this is a way to help

the students to overcome their difficulties in the transition to the new educational system. According to the Institute of Education Sciences (IES), part of the U.S. Department of Education, effective learning strategies improve learning among all students, in particular struggling learners, irrespective of grade or subject (Pashler et al., 2007).

The metacognitive awareness among learners assumes special importance in higher education, where students have to take an autonomous and active role in learning outside classrooms, such as in self-directed environments where there is less guidance from instructors (Bjork et al., 2013; McMahon, 2002). To attain such settings, refer to the supervised use of technology-enhanced learning platforms, such as online testing and learning tools. Studies affirm the value of the use of technology-enhanced platforms, like a learning management system (LMS), in conducting self-paced, learner-centered activities outside the classroom (Al-Busaidi, 2013; Chou, Peng, & Chang, 2010; Dias & Diniz, 2014; Islam, 2013; Nguyen, 2017; Wang, 2017; Zhang, Zhao, Zhou, & Nunamaker, 2004). Angus and Watson (2009) point out that certain formative aspects of assessments, like an opportunity for multiple attempts; timely formative feedback, which facilitates the development of mastery goal orientation and self-reflection among learners; and randomized questions could be attainable only in the online format. However, the supervised technology-enhanced platforms, won't be successful for the educational learning system if the instructor may not use it the right way and doesn't use effective strategies for student learning behavior, hence, may not be successful in implementing timely interventions aimed to encourage productive learning behaviors.

Scenarios that disrupt and shock entire systems, such as the 2019 novel coronavirus (COVID-19) pandemic, place organizations, communities, and populations in volatile, uncertain, complex, and ambiguous (VUCA) environments with disastrous consequences ranging from high morbidity and mortality to political upheaval and extensive economic damage that can last years. Effective leaders are recognized as one of the most crucial tools for organizations in both normal and crisis situations; nevertheless, in this COVID-19 context of discontinuous transformation, foreign concern has erupted over global, federal, local, business, and policy leadership. These issues, we believe, are the result of historically unusual allocations of adequate capital to crisis and disaster preparedness. Leadership styles are critical in combating the many obstacles we faced using technology-enabled platforms during this pandemic.

This research will also look at the Philippines Department of Science and Technology's (DOST) advocacy on the 6Ps, which are Publication, Patent, Product, People Services, Places and Partnership, and Policies.

Statement of the Problem

General: The goal of this research was to develop techniques for improving academic supervision of teaching and learning through the use of technology-enabled platforms. It will specifically strive to fulfill the following objectives.

1. To determine the technology-enabled platforms used in the teaching and learning process by deans, heads, and faculty members.
2. To identify the platforms that are used in the teaching and learning process.
3. To improve the performance of the academic deans and heads of the EACC, evaluate leadership styles using technology-enabled platforms.

Theoretical Framework

The agile leadership style influenced this research. Leadership agility also necessitates the development of certain cognitive and emotional capacities that progress through a predictable series of stages or levels (Joiner & Josephs, 2007), and agility is defined as the ability to lead effectively in situations of rapid change and increasing difficulty (Joiner 2009),. According to research, leadership has a substantial impact on the degree of agility that firms may accomplish when using technology-enhanced platforms.

Significance of the Study

This study will aid to investigate the different platforms used by the deans and heads of Emilio Aguinaldo College that are technology-enhanced, along with their leadership strategies. This will also help management determine the appropriate leadership that good to use for everyday situations, pandemics, and other crises, as well as resolving conflicts.

Scope and Limitation

The study focuses on the deans and heads' academic managing styles utilizing technology-enhanced platforms as perceived by the employees and the deans and heads themselves to improve their leadership strategies. The paper does not cover other leadership styles other than the managing techniques.

Review of Related Literature

In response to the pandemic, all levels of formal education, both public and private, changed their systems, most notably basic education. The Philippines Department of Education devised unique strategies to deal with the new normal. Many difficulties were resolved by various administrators and school administration. Various learning sectors in the Philippines have suggested numerous innovative initiatives. To support e-learning, a number of online learning platforms have evolved, and a number of public and commercial institutions have established and/or updated their Learning Management Systems. (DepEd 2020). Numerous innovative programs have been proposed by the different learning sectors in the Philippines. The Philippines Department of Education emphasized that it would not necessarily mean that teachers and learners will go to schools and learn inside the classrooms and devised various modalities to ensure that online learning a choice among all others in this new learning environment (DepEd, 2020). Similarly, in the higher education institutions, new normal would be virtual classrooms. The Commission on Higher Education suggested to strengthen online platforms and blended learning such as but not limited to google classroom, messenger, zoom, edmodo, Facebook and YouTube (CHED, 2020). Technology advancements have altered how children and teachers read, write, and communicate. From technology-enhanced learning platforms, related to students' activities on those platforms, are required to understand how students interact with the system (Roll, Aleven, McLaren, & Koedinger, 2007). Is there a link between this impact and a certain level of digital literacy? Because of their exposure to digital tools and platforms, can we label them "digitally literate"? Can these changes affect the most effective educational techniques as well? Everything changes as technology improves, and, as the saying goes, "the only constant on earth is change." We anticipate shifts in respondents' digital literacy and best school practices as the pandemic unfolds, because change is the only constant in our culture.

Present-day technology-enhanced platforms log large volumes of metadata related to student activities in these platforms. But the dashboards of these platforms typically have built-in monitoring features that report only limited data. Usually, the information presented in dashboards of LMSs is simple metrics of students' frequency of interaction, such as the first and last login, messages the student has read and posted in discussion threads, number of downloads of study materials, number of pages visited, and scores achieved in assessments (Mazza & Dimitrova, 2007; Bueckle & Börner, 2017). Using a real-time access to students' actual learning strategies from quiz-log data analysis may help instructors understand patterns of learner behaviors in unsupervised platforms. In turn, instructors can provide meaningful feedback targeted to improve self-reflection among students who show less metacognitive awareness of their learning behaviors. Students' reflection of their choice of study strategies may encourage effective use of the quizzes as a learning tool, which promotes self-testing and spaced retrieval of information (Harindranathan and Folkestad 2019).

Amid a pandemic, there will never be perfect leadership models in an institution leveraging a technology-enabled platform. Each leadership style, on the other hand, has its own specific characteristics. To improve operational performance, a variety of leadership paradigms may be used. However, we were unable to locate any research on leadership styles leveraging technology-based platforms. One example of a leadership style in which leaders respond to a crisis is the contingency model. Vroom and Yetton (1973) suggested a contingency model comprising seven judgment factors to help leaders choose a more acceptable style in each situation. As a result, contingency theory is limited because no single hypothesis is consistently accurate. There is a lack of stability, consistency, and conformity, according to Bass (2008). As a result, CMI claims that "the appropriate strategy may vary depending on the condition and human traits" (CMI 2013). In the other hand . According to Hale and Fields 2007, He want to be a part of a team that believes in servant leadership. In this circumstance, a servant leader is aware of and capable of meeting my demands. The most admirable characteristic of servant leadership is that they do not base their decisions on people. They prioritized the interests of their followers over their own. Furthermore, Servant leadership may enhance both job performance and commitment to the organization. In addition, leaders may inspire followers to take an active role in serving the community in which the organization is embedded. When many leaders in an organization

embrace servant leadership, the organization may succeed in developing a culture of serving others, both within and outside the organization (R Liden a, S Wayne, H Zhao , D Henderson, 2008). Moreover In educational leadership theories in this category specify an objective, a purpose and reason, for the leadership/influence being exercised. They include learning-centred leadership (Hallinger, 2009; Southworth, 2003), where the objective is to improve student learning, and instructional leadership (Blase and Blase, 2004; Hallinger 2003; Kaparou and Bush, 2015; Southworth, 2002) where the objective of influencing activities is to enable teachers to bring about student learning. The objective of any leadership action in an educational setting is important and the quality of any such action cannot be fully evaluated unless the objective of the action is known and is included in the evaluation. Thus, for example, an experienced science teacher in a secondary school in England could tell a more junior science teacher colleague: 'It doesn't matter if you don't cover the whole examination syllabus', who then decides not teach the full syllabus. That would be very effective leadership by the experienced teacher on the basis of the influence achieved but not on the basis of its objective (J Shaturaev, G Bekimbetova , 2018). By employing the best leadership style that will use technology-enhanced platforms throughout the pandemic period.

Definition of Terms (Conceptual and/or Operational)

Leadership is the practice of inspiring a community of individuals to work together to achieve a collective purpose. In a business environment, this may imply leading employees and subordinates with a plan to satisfy the needs of the organization. Here's what you can know about leadership, as well as few explanations of how it can help companies.

Leadership style: This describes how he or she directs, motivates, guides, and manages groups of individuals.

Technology-enhanced platforms: The term "technology-enhanced platform" applies to the specific platforms on which technical infrastructure is designed and implemented. This platform is mainly made up of a combination of hardware and software resources.

METHODOLOGY

Research Design/Research Methodology

A mixed-methods multiple case design was used in this analysis. Mixed approaches analysis refers to the usage of both quantitative and qualitative techniques to provide a comprehensive understanding of the subject under consideration Onwuegbuzie, A. J., & Johnson, R. B. (2006). Johnson went on to state that mixed system approaches produce a variety of data collection and analysis techniques that account for complementary strengths while compensating for the shortcomings of any one approach. Furthermore, discovering convergence and corroboration may provide stronger proof (Johnson & Onwuegbuzie, 2004). This is to determine the frequency count and the rank of the various technology-enabled platforms used in the teaching and learning process at the EAC Cavite.

Research Locale

The study was conducted on at the Emilio Aguinaldo College Cavite located at Congressional Avenue, Barangay Burol Main, City of Dasmarinas, Cavite, Philippines.

Research Participants/Respondents/Sources of Data

The participants of the study are the faculty and academic personnel who are all currently working regardless of their employment status at the Emilio Aguinaldo College Cavite Campus.

Sampling Technique

With the existence of the COVID-19 pandemic, the participants were chosen using the Convenience Sampling Method. Convenience sampling is a research method in which the proponent collects market research data from a pool of people who are easily accessible. It is the most used sample technique because it is quick, simple, and inexpensive. Convenience sampling is a type of non-probability sampling in which people are chosen at random because they are "convenient" data sources for the proponent. Each element in the population has a known non-zero chance of being chosen using a random selection method in probability sampling. Members are easily accessible and eager to participate in the research. When additional inputs are not required for the main study, convenience sampling is used. There are no specific requirements that must be met

to be included in this sample. As a result, incorporating components into this sample is extremely simple.

Research Instrument(s)

A researcher made survey form through Google form was created for the respondents to determine the actual pulse of the target participants.

Data analysis (Statistical Tool and Treatment of Data)

A frequency count is a recording of the number of times that you engaged in a behavior during a specific time-period. Frequency counts can be used to track behaviors that you want to increase or decrease. This is the most straight-forward approach to working with quantitative data. Items are classified according to a particular scheme and an arithmetical count is made of the number of items (or tokens) within the text which belong to each classification (or type) in the scheme.

Ethical Consideration

The respondent's consent was filled out using the Google form or through the link given to them. The gathering and processing of their personal, or privileged information will be used for research purposes only. Consent must also be backed by written, electronic, or recording methods.

RESULTS

Question no. 1
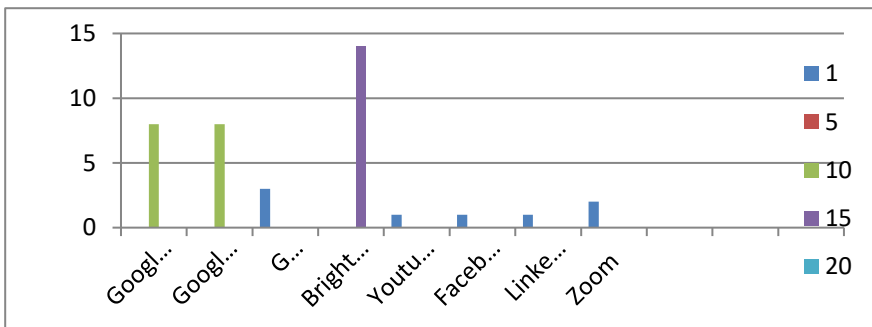
Figure 1. The technology-enabled platforms used in the teaching and learning process

It is having been noted that the technology enabled platforms at Emilio Aguinaldo College according to rank are: Brightspace, Google, Zoom, Youtube, and Linkedin. Millions of learners and instructors worldwide including EAC-Cavite rely on the Brightspace learning management system (LMS) to provide worry-free technology that helps put learners first. Improve your higher education offering by partnering with D2L's learning experts to improve your teaching success and learning outcomes. This is the platform that the institution used for uploading resources. The Google Classroom is used for virtual classroom while youtube, linkedin and zoom are supplementary platforms that could help the enhance the teaching and learning process.

Question no. 2: *How are these technology-enabled platforms utilized in the teaching and learning process?*

When asked how these technology-enabled platforms are used in the teaching and learning process, five of the participants stated that these platforms are simple tools for delivering teaching methodologies online, but they do not guarantee that students are engaged in learning. Another 5 participants stated that these platforms are important in the digital age because they provide a broad range of quality education with the greatest accessibility and flexibility among its stakeholders. Some of its additional comments include:

> *"Easy to use in communicating with the students."* (P1)

23

"Use as aids in synchronous and asynchronous sessions." (P2)

"They are utilized in all aspects of learning activities during the pandemic." (P3)

"Videos are accessible and very useful in teaching." (P4)

"Great for uploading lessons, announcements, assignments, quizzes, major exams, virtual

classrooms, and synchronous lessons." (P5)

There were also 5 participants who believed that these platforms are used for student outputs and assessments. In the Brightspace or Google Classroom, teachers could easily upload their tests and identify who already took the exam. It makes the assessment easily monitored and graded especially when the test utilizes the Multiple Choice. Seven (7) participants also believe that the technology-enabled platforms are utilized as communication media wherein the instructions (whether asynchronous or synchronous) became more accessible to students. With mastery in the use of those technology, it will make the teaching and learning process more effective. Using those technology is far more reliable than the modular type of learning alone. I believe that Interactive approach in using such technology is a very important factor to consider. These technology-enabled platforms are used for teaching and communicating both verbally and in written form the lessons, concepts, and skills that students should learn, internalize, and apply in each of their subjects. Likewise, these platforms are used by students to submit their academic outputs and demonstrate in various ways what they have been learning in each of their lessons and class sessions. It also provides visual aids to complement teaching and stimulate discussion. Used of videos, online quizzes which help in working class activity. Used of games to motivate student's interaction Digitized course materials. It also helps in the creation of instructional materials and guidelines, and they are convenient to use.

Question no. 3
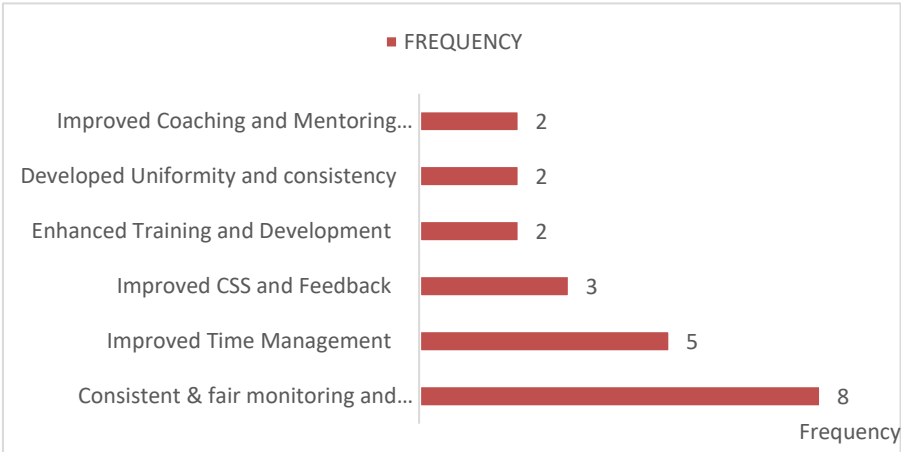
Figure 2. Academic Managing Styles that can improve performance of deans and heads

Among the academic managing styles mentioned by participants to improve deans and heads' performance, the most frequent response was consistent and fair monitoring and supervision of deans and heads in the teaching and learning process. Second, the deans and heads' time management could be improved in order to attend to all functions fairly. Third, the participants believed that increased Customer Service Satisfaction and Feedback could aid in the system's improvement. Fourth, improved dean and head training and development, particularly on advanced technological platforms. Fifth, developed uniformity and consistency in the use of technological platforms is required to avoid confusion among students and faculty members. Finally, academic managers could improve their coaching and mentoring strategies, especially during pandemics. Because technology has been used as a platform, there is a need for people to help one another use the best resources that technology has to offer.

DISCUSSION

To thrive in a COVID society, you must be able to articulate a bold and adaptable vision, cultivate an innovative community, and lead transformation with empathy and dignity. Members who are most forward-thinking will have the difficult conversations and take the risky steps necessary to reinvent the vision for their businesses

by employing the best managing style that will use technology-enhanced platforms throughout the pandemic period.

All levels of formal education, both public and private, changed their systems in response to the pandemic, most notably basic education. To deal with the new normal, the Philippines Department of Education devised novel strategies. Several issues were resolved by various administrators and school administration. Several online learning platforms have emerged to help with e-learning, and many public and private institutions have established and/or updated their Learning Management Systems. Advances in technology have altered how children and teachers read, write, and communicate. Is there a connection between this effect and a certain level of digital literacy? Can we call them "digitally literate" because of their exposure to digital tools and platforms? Can these changes have an impact on the most effective educational techniques? As technology advances, everything changes, and as the saying goes, "the only constant on earth is change." Because change is the only constant in our culture, we anticipate shifts in respondents' digital literacy and best school practices as the pandemic unfolds.

There will never be perfect management models in a company leveraging a technology-enabled platform amid a pandemic. Each managing style, on the other hand, has its own distinct characteristics that no other company can replicate. A variety of management paradigms can be used to improve operational performance. However, we couldn't find any research on academic managing styles that make use of technology-based platforms.

Conclusion/ Recommendation

Among the other platforms, the most common technology-enabled platforms, EACC has been using Brightspace to save teachers' instructional materials. The Google Classroom is used for virtual classes, and the other platforms are used as supplemental resources to improve the teaching and learning process. These technology-enabled platforms, according to the participants, are used for teaching, learning, and assessment.

On the other hand, academic management could be improved if deans and heads examined their monitoring and supervision

strategies, time management, customer satisfaction survey and feedback, training and development, uniformity and consistency, and coaching and mentoring strategies. By doing so, the deans and heads of the institution could have effective technology-enabled platforms that are aligned with the needs of its faculty members and students.

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An Evaluation of the Community Outreach and Extension Services of the Emilio Aguinaldo College – Cavite, Philippines

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KEYWORDS:

- **Social Progress**
- **Community Services**
- **Outreach Programs**
- **Emergency Plan**
- **Teamwork**

According to the EAC's position on social progress, an established institution like the EAC has a special responsibility to the public. Experts believe that offering group programs strengthens community ties and camaraderie. According to Order No. 52 of the Memorandum of Understanding of the CHED Act, which emphasizes science, advancement, creativity, and extension in the pursuit of inclusive social and economic progress, EAC-C is one of the higher education institutions in Calabarzon that serves the region and the country. The aim of this research was to assess the community outreach and extension services conducted by the Emilio Aguinaldo College – Cavite by determining the level of satisfaction of Barangay Zone 3,. Sitio Bisaya, and finding out the problems encountered during and after the conduct of community outreach and services of EAC-Cavite. Using the descriptive type of research, the data were closely reviewed, analyzed and interpreted using the community and extension loop or the QCOSSS Cycle which was adopted by the researchers. The data analysis' findings point to measures that could aid people in making better use of information.

One of the primary factors that motivate extensionists is the presence of teamwork and collaboration. This implies that the community outreach and extension services at EAC-Cavite have been effective and the whole community is looking forward to more enhanced and improved programs in their barangay. As an output of this study, an emergency plan was established to be implemented in the community outreach and extension services of EAC-Cavite.

An Evaluation of the Community Outreach and Extension Services of the Emilio Aguinaldo College – Cavite, Philippines

INTRODUCTION

'Virtue, Excellence, and Service' is not just a school slogan at Emilio Aguinaldo College - Cavite, but also a basic college principle that leads the institution. According to the EAC's viewpoint on social progress, an established institution like the EAC has a specific obligation to the public. Experts believe that giving group events strengthens community relationships and camaraderie. According to Order No. 52 of the Memorandum of Understanding of the CHED Act, which emphasizes science, advancement, creativity, and extension in the pursuit of inclusive social and economic progress, EAC-C is one of the higher education institutions in Calabarzon that serves the region and the country. Filipino organizations have shown outstanding abundance in a number of sectors, including higher education and applied science, as a result of their close ties with the government and the combination of official research and development programs with more informal grassroots and grassroots innovation (CHED, 2016). These issues could be remedied by Philippine universities while retaining their worth as a research, innovation, and advancement partnership. Teachers and students are public servants who do community service since one of the three basic functions of educational institutions is extension (Lao, 2009). The success of the initiatives depends on their ability to reach out to the community. According to the Gannapao (2020) study, the Extension Department should develop a strategy to increase beneficiaries' awareness, involvement, and happiness, especially for those program services that were rated low. The Extension Department must come up with new ideas and modify old ones into more effective ways of delivering program services (Gannapao, 2020).

In other accrediting bodies like state colleges and universities, annual major final outputs, institutional sustainability assessment of CHED, institutional and program accreditation of SUCs (AACCUP), and institutional and program accreditation (AACCUP) have all included measures or indicators on the extent and efficiency of delivery of extension services for state universities and colleges (Sermona, et al., 2020). Order 52 of the Commission on Higher Education Memorandum of Understanding, series 2016, also states

that research, development, innovation, and extension are all aimed at fostering a more prosperous and equitable society.

Emilio Aguinaldo College views itself as a worldwide known autonomous academic institution with deep nationalist roots and a commitment to human progress and well-being. The primary main goal of the institution is to create an educational program that is focused on outcomes and contains particular curricula for success in science as well as long-term community progress (EACC Vision, 2018). There are total of fourteen colleges in the university. All of these schools are involved in community outreach projects in many barangays in Cavite, although this time EACC caters to Brgy. Sitio Bisaya. The success of this projects results to a better relationship between the organization and the community. An organized and engaged OELCO helped students get support from several schools and departments at EAC-Cavite. To serve the people in Barangay and improve the four areas of extension services, Emilians' hearts have been imprinted with the love and solidarity of this gesture. An extension program of the EAC underlines the necessity for additional training and the wide range of group intervention possibilities. Community children and adults benefited the most from these programs.

As part of the debate over the 2020 Philippine Development Agenda (PDA), the Philippine Higher Education Institutions (HEIs) have improved and made their extension programs more community responsive. By reducing poverty, building economies and communities, and addressing actual social concerns that benefit the most vulnerable, it aims to overcome social barriers that have been raised. As stated by the Commission on Higher Education (CHED), the Commission on Higher Education (CHED) mandates HEIs to provide educational and civic facilities in order to solve social disparities and should offer proper training allowing people to engage in social activities.

Synthesis

The Commission on Higher Education (CHED) has mandated higher education institutions (HEIs) to expand educational and civic services to communities in order to resolve social inequities and to provide appropriate education and training to allow people to develop the skills needed to engage in social activities, which is a significant challenge nowadays. The bulk of the supporters are from EACC's many schools and departments, and they did their best to meet the requirements of the Sitio Bisaya community. As a result, this research

was done to ascertain the community's perspective on the implementation of community and extension programs of Emilio Aguinaldo College - Cavite in Barangay Sitio Bisaya. The aim of this research was a general assessment of the community outreach and extension services conducted by the Emilio Aguinaldo College – Cavite. Specifically, it aimed to determine the level of satisfaction of barangay Sitio Bisaya with regards to the community and extension outreach services of EAC-Cavite; to find out any problems encountered during and after the conduct of community outreach and extension services; and to determine solutions to the problems encountered for quality improvement.

Theoretical and/or Conceptual Framework

This study is inspired by the model entitled: "Impact Assessment Loop" which is based on the QCOSS Group Door E-Training Evaluation Method, which researchers updated and extended as a growth cycle for the EAC-Cavite Community Outreach Initiative. The impact evaluation includes the following questions: (1) To what extent are the desired modifications occurring? (2) Who benefits or loses as a result of it? (3) Why does it seem to be running but not working? (4) What are the unintended consequences? In contrast, the QCOSSS Door e-training community has four stages of effect assessment that the researchers have adopted as a growth cycle:
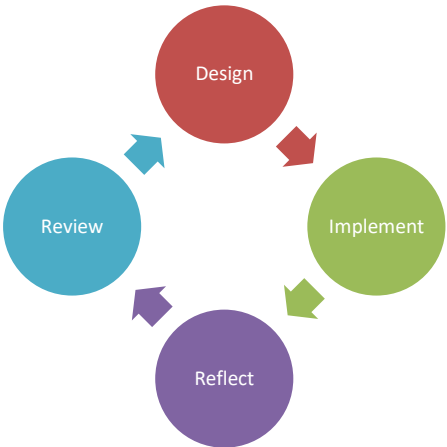
Figure 1. The Impact Evaluation Cycle by QCOSSS Community Door e-training

Significance of the Study

This study was very significant to the EAC-Cavite in formulating the policies and procedures in conducting the community outreach and extension services either during the pandemic or in normal situations. This will enhance the programs being conducted and improve the services for quality improvement purposes.

Scope and Limitation

This study was focused on the evaluation of community outreach and extension services conducted in Sitio Bisaya for a period of one year or 2020. This will enhance the programs to be conducted during this pandemic or other emergency situations that will occur in the future.

METHODOLOGY

Research Design/Research Methodology

This was descriptive research that involves the definition, documentation, analysis and interpretation of the historical state of their promoters' programs and services. The survey questionnaire was used to determine the level of happiness of individuals in Barangay with the facilities and activities conducted over a year. The data were closely reviewed, analyzed, and interpreted using the QCOSSS Cycle which was adopted by the researchers.

Research Locale

The study was conducted by the Emilio Aguinaldo College – Cavite community with the people in the barangay as its respondents.

Research Participants/Respondents/Sources of Data and Sampling Technique

The people in the community of Barangay Zone 2 Sitio Bisaya were the research respondents. There were 39 respondents who were part of the community engagement projects at Zone 2 Sitio Bisaya in Dasmarinas, Cavite using the survey questionnaire.

Data Gathering Procedure

In Zone 2, Sitio Bisaya, OELCO prepared a self-survey questionnaire. Survey findings have been collected and interpreted. This study was approved by the research ethics and the RDO office. EAC Community Outreach Projects will be part of the results.

Research Instrument(s)

The participants respond to a survey-questionnaire as to whether respondents are very happy, fulfilled, and very satisfied. In this analysis, the issues found were determined using the technique of observation and effect assessment, in addition to the qualitative method. Procedures such as design, execution, assessment, and analysis use the Impact Assessment Approach.

]Data analyses (Statistical Tool and Treatment of Data)

The study determined the percent distribution of the respondents in terms of their profile, the frequency count and percent formula will be used given by the formula, where it is the frequency count, and n is the sample size. The level of happiness of the respondents was determines using the weighted mean and ranking were used to analyze the data.

RESULT AND DISCUSSION

1. What is the level of Satisfaction of Barangay Sitio Bisaya with regards to the community and extension services of EAC-Cavite?

Table 1.1 Educational Programs

Indicators	Rating	Total	Ranking
Pagpapaunlad ng magandang ugnayan sa loob ng pamilya	4	25	2
Mga programa para sa mga kabataan na may espesyal na pangangailangan	4	21	4
Pagbibigay kamalayan sa pantay na pagtingin at pagpapakilala sa lahat ng kasarian na mayroon sa lipunan	4	24	3

	Rating	Total	Ranking
Mga aktibidad gaya ng paghahandog ng mga regalo	4	26	1

The community gave EACC's educational initiatives with the community the highest rating of 4, which was provided by the community. They feel that the institution aids them in improving their peaceful relationships with one another by instilling in them a sense of equality, providing youth-oriented programs, and engaging them in activities that will develop their knowledge and competence.

Table 1.2 Socio-Economic and Livelihood Programs

Indicators	Rating	Total	Ranking
Entreprenyurship : Katuwang sa Kaunlaran ng Sitio Bisaya	4	27	1
Livelihood on the Go : Balloon Decoration	4	20	3
Toda ni Juan	4	20	3
Livelihood on the Go : Fashion Accessories	4	20	3
Pamaskong Handog 2020	4	24	2

The Barangay Sitio Bisaya gave a rating of 4 in terms of socio-economic and livelihood. Despite the fact that some areas could be improved, only one person gave the activities a 1 rating. This could be due to a lack of knowledge about the activity or a lack of awareness of the various activities' benefits. Overall, the score was very high.

Table 1.3 Health and Wellness Programs

Indicators	Rating	Total	Ranking
Medical and Dental Mission	4	27	2
Spread Love not the Virus # Stay NegatHIVe	4	22	6
Cervical and Breast Cancer Awareness Program	4	24	5
Health Risk Assessment	4	22	6
Community Health and Wellness Program	4	26	3
Nutrition Program	4	22	6
Reproductive Cancer Prevention Program	4	25	4
Buntis Party 2019 Ineksyon Pang Proteksiyon	4	25	4
Kalusugan ay Ingatan, TB ay Iwasan	4	29	1

The bulk of health initiatives received a 4 rating from the barangay. This indicates that the barangay was acutely aware of their requirements. Medical and dental missions, health risk assessment, nutrition program, and buntis party ineksyon pang proteksyon program and kalusugan ay ingatan, tb ay iwasan were all scored excellent.

Table 1.4 Environmental Programs

Indicators	Rating	Total	Ranking
Clean Up Drive : Kalinisang Biyaya para sa Sitio Bisaya	4	27	1
ECO-BRICKS SEMINAR Eco-Brick Seminar Workshop	4	26	2
Urban Gardening	4	24	3

Figure 2. Environmental Programs

Brgy. Sitio Bisaya gave the environmental programs a perfect score of four out of five. This indicates that the clean-up drive, eco-bricks seminar-workshop, and urban gardening activities were valued by the community. There were also others who rated the programs as satisfactory and fair, but they were only a handful, and they will not have a significant impact or hamper EACC's initiatives. Indeed, the EACC's community outreach and extension services will be improved as a result of this.

2. What are the problems encountered during and after the conduct of community outreach and extension services?

Table 2.1 Problem encountered during and after community outreach services

Indicators	Rating	Total	Ranking
Kakulangan sa espasyo ng lugar na ginanapan	4	16	4th
Masamang panahon	2	18	2nd
Kakulangan sa seguridad at kaligtasan ng lugar na ginanapan	1	19	1st
Hindi maayos na distribution ng mga goods	1	19	1st
Kakulangan sa social distancing ng bawat lumahok	1	16	4th
Walang suot na mask	1	17	3rd
Makalat at maduming lugar pagkatapos ng programa	1	16	4th

39

Kakulangan sa mga volunteer/manpower	1	17	3rd
Hindi sapat na pondo	1	16	4th
Technical difficulty	1	16	4th

The issues that were encountered were depicted in the diagram. These problems will serve as basis for community development and improvement. Because Sitio Bisaya is one of our beneficiaries, it is predicted that future plans, initiatives, and projects will continue to improve.

3. What solutions have been made for quality improvement?

Table 3.1 Solutions for quality improvement

Indicators	Rating	Total	Ranking
Magconduct ng evaluation sa lugar na paggaganapan, kung sasapat ba ang space para sa lahat ng participant	4	29	5th
Pag-aralang mabuti ang panahon	4	24	6th
Makipag-ugnayan sa barangay/munisipyo na pagdadausan ng aktibidad para sa mas maayos na outreach program	4	35	3rd
Magkaroon ng mas maayos na sistema/plano at pag aralang mabuti ang flow ng event bago ganapin ang programa	4	33	4th
Mas pahigpitin ang pagpapatupad ng health protocols sa mga kalahok at volunteers tulad ng social distancing, pag suot ng mask at paghugas ng kamay kung kinakailangan	4	38	1st
Makipag ugnayan sa barangay/munisipyo para sa dagdag na tulong ng mga magpapanatili na malinis at maayos ang lugarng paggaganapan bago at matapos ang programa	4	36	2nd
Mas maging handa sa mga di inaasahang problema tulad ng brownout	4	24	7th

Surprisingly, as seen in the diagram, the community has proposed some answers. This indicates that the community understands that each problem has a unique answer for the community's growth and improvement. The EACC will continue to be used as a tool to assist the community better

CONCLUSIONS AND RECOMMENDATIONS

This study served as a resource for outreach professionals looking to improve their community and extension services. It also provided a foundation for defining what constitutes high-quality community service efforts in the community. The findings of the study suggested that data analysis measures help people make better use of information. The presence of teamwork and collaboration are the primary aspects that encourage extensionists.

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Assessment of the Clerical Personnel Turnover in Emilio Aguinaldo College-Cavite, Philippines

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KEYWORDS:

- **Employee retention**
- **The Great Resignation**
- **Job classification**
- **School secretary**

Abstract There is an observed phenomenon since the year 2019 about the undeterred resignations of a significant number of non-teaching personnel in higher education institutions. Non-teaching personnel play important roles in the academic operations of the schools, colleges, or universities. They provide substantial support to teaching personnel who are expected to be focused on the delivery of quality instruction to students. The main purpose of this study is to present the reasons why non-teaching employees particularly those in the clerical job classification leaves the institution. The answers of the resigned employees in the exit interview forms given to them on their last working day in the institution were gathered and evaluated to come up with this study. It revealed that the turnover rate is significantly alarming and the top reason for this mainly due to compensation which the resigned employees perceived to be quite low. This study hopes to be considered in revisiting the policies on salary, ranking and promotion of non-teaching personnel in order to reduce the turnover rate among their ranks.

Assessment of the Clerical Personnel Turnover in Emilio Aguinaldo College-Cavite, Philippines

INTRODUCTION

Like soldier ants, clerical personnel are the ground forces who perform the operational tasks in most companies. Moreover, they are the ones who mostly have various tasks in a day and ironically are closely time monitored by real hours worked (Takawira et al., 2014). At present and based on the existing organizational structure of Emilio Aguinaldo College-Cavite, clerical personnel are foot soldiers who are deemed to be those whose tasks involve mere documents filing and answering phone calls and are therefore categorized as third from the lowest level in job ranking of non-teaching personnel. However, a review of the actual tasks assigned to clerical personnel would reveal that their functions go way beyond mere clerical duties. "Clerical" is a mere nomenclature in the job classification of the existing scheme that pertains to the job post which may be an unfortunate case of undervaluation (Esop & Timms, 2019).

A high turnover of academic personnel in colleges and universities have become an expected phenomena among colleges and universities (Ibrahim et al., 2017). However, as shortages in staffing occurs, an increase in work demands or workloads among remaining staff results in toxic work environment or poor employee retention. Aside from being costly and disruptive, employee turnover entails hidden costs such as productivity issues, unhealthy work environment, decreasing motivation among employees who are left in the institution after the others resign and the time and effort in finding a replacement employee who will need to undergo onboarding training anew (Figueron, 2015).

Currently, Emilio Aguinaldo College-Cavite adopts its own existing approved salary scale with eight (8) job levels and its corresponding job classifications. Each job levels and job classifications have four (4) job grades. Job level I is the lowest in rank pertaining to unskilled personnel, job level II belongs to semi-skilled, job level III refers to clerical followed by IV, V, VI, VII and VIII levels belonging to technical, highly technical, assistant supervisor,

supervisor, and department head job classifications respectively. This study focuses on the personnel identified to belong to job level III or clerical job classification. At the present time, employees who belong to the clerical job classification are the office clerks of the different schools, colleges of the department. Now there are 18 job posts or plantilla item for clerical personnel in the institution but in 2019 and 2020 alone, there are 34 resignations among their ranks or a whopping 189%. This substantial turnover rate for the two years coverage is quite alarming considering the significant role that clerical personnel plays in the institution (Masango, 2013).

As part of the exit process of employees, the human resources department are requiring that the exit interview form - a self-made template being used by the department be filled out as the exit clearance is also being accomplished. This study aimed at evaluating the answers of the clerical personnel in the said written exit interview forms. It is hoped to analyze how the high turnover situation among clerical personnel be avoided or prevented with plans and proposals to be submitted to the top management. The information gathered from the results of an exit interview can benefit companies by discovering a renewed perspective when it comes to productivity, performance management and employee engagement. (Frase-Blunt, 2018) The results of the exit interview survey could be the best source of data to determine the reason for the massive turnover of clerical personnel annually since exiting employees tend to be more honest. (Hossain et al., 2017)

The retention of talented personnel is imperative among higher education institutions for capacity enhancement purposes as HEIs continue to respond to the changing dynamics of the academe in the international stage (Shah et. al., 2020). This study aimed to achieve the following: (a) to identify reasons for high clerical personnel turnover rate in EAC, and (b) to evaluate these reasons to suggest policies to higher offices of EAC to prevent this. This study used the mixed method approach to gather the themes of the recovered reasons behind the considerable frequency of resignations within their category based on the exit interview answers of resigned clerical personnel from 2019 to 2020.

METHODOLOGY

Study Design

The exit interview results of resigned clerical personnel from 2019 to 2020 were analyzed outlining it from Lee and Mitchell's Unfolding Theory of Turnover as espoused in Tellez's (2014) study. Qualitatively described are the tables, figures, and infographics showing the data source from the exit interview survey answers of the clerical personnel who resigned and left the company in 2019 and 2020. Thus, the research used the mixed method type of research. This study utilized the mixed-method type as it used the quantitative and qualitative techniques. In a qualitative approach, it used the Unfolding Theory of Turnover of Lee and Mitchell which has a cognitive pathway that describes how employees see their job, find alternative work and proceed with their plans (Tellez, 2014). It is also quantitative as it classified the number of employees who gave their comments and recommendations, and the answers to the exit interview form were categorized with frequency distribution and percentage.

Sources of Data

The two years ie. 2019 and 2020 of exit interview results of clerical personnel were the sources of data in this study. The data were collated from the summary of results of the exit interview of all employees who have resigned from the EAC.

Research Locale

This research was administered at Emilio Aguinaldo College – Cavite, located in the City of Dasmariñas, Province of Cavite, Philippines and with its resigned clerical personnel for the year 2019 to 2020.

Research Participants/Respondents

The filled-out exit interview forms will be the source of data of this research. The forms were answered by the former employees of Emilio Aguinaldo College Cavite who resigned in 2019 and 2020. For purposes of this study, only the exit interview answers of all clerical personnel were included and collated using convenience

sampling. The sample N size refers to the total number of clerical personnel who resigned from Emilio Aguinaldo College- Cavite in 2019 and 2020.

Sampling Technique

The convenience sampling technique was used for this research among employees who resigned for the year 2019 to 2020. The researchers also used the systematic sampling technique in which they relied on the available data of the given population. The guarantee that the population will be sampled is present with this sampling technique (Jha, 2017). The sample members of the population were selected at regular intervals by the researchers.

Data Gathering Procedure

In whole, the data was acquired from the compiled answers of the resigned employees on the issued exit interview forms during their offboarding. The exit interview form was a standard template form used by the human resources department as part of the exit clearance of resigning employees. This standard template exit interview questionnaire includes open ended questions regarding the possible reason of the employee's resignation. Resigning employees are given this form and the results are stored and summarized by the human resources department. For purposes of this study, the data were summarized, and then classified based on the reason for their resignation and other factors that may influenced their decision to leave the organization. The comments and recommendations of the resigned employees were considered in analyzing their responses on the exit interview.

Research Instrument(s)

This study used the qualitative descriptive method in its assessment of the exit interview results of the clerical personnel in the year 2019 and 2020.

Data Analysis (Statistical Tool and Treatment of Data)

The descriptive data collected were the reasons for the resignation of clerical personnel using the frequency distribution and percentage for the length of service of the participants and the weighted mean for

the measurement of their reasons for resignation and the least and most liked in their previous job.
Ethical Consideration

The identity of the respondents was withheld to ensure confidentiality of their identity. They were informed of the purpose of the survey as the forms were given to exiting employees. The Institutional Ethics Review Board of Emilio Aguinaldo College-Cavite gave the ethics clearance to proceed with the study.

RESULTS

Table 1 *The reasons why clerical personnel resigned.*

Reasons for resignation	n	Percent	Ranking
Accepted another job	9	26%	2
Marriage	1	3%	5
Studies	2	6%	4
Personal	5	15%	3
Location of Residence	2	6%	4
Others (e.g. put up own business, health reasons)	15	44%	1

The first table shows the reasons behind the resignation of clerical personnel. First in the rank are "other reasons" wherein the respondents were given the liberty to indicate some other possible reasons for their decision as shown in the word cloud below. The lowest in rank is "marriage" for the least reasons for resignation. Subsequently, the data showed "accepted another job" as the second reason for their resignation.

48

Figure 1. Word cloud showing the other reasons why clerical personnel resigned.

It can be gleaned from the word cloud in figure 1 that the highlighted word was "business" which may mean that clerical personnel intended to put up their own business or be involved in managing or operating their own businesses hence the resignation from work. The words "location", "board", and "health "were also highlighted secondarily to show the other reasons for their resignation. "Location" could have meant they were moving to another location distant form the company's address, "board" may have referred to intentions to taking the board examination and pursuing their original career goals, "health" may have signified resignations due to medical conditions affecting work performance.

Table 2 *Length of service of resigned clerical personnel.*

Length of service	n	Percent	Ranking
Less than 1 year	17	50%	1
More than 1 year but less than 5 years	16	47%	2
More than 5 years	1	3%	3

The study results showed in Table number 2 also provides information regarding the length of service that the resigned employees rendered, before deciding to leave EAC. 50% of the resigned employees rendered less than 1 year of service with EAC. While 47 percent of them rendered more than 1 year but less than 5 years of service. Those with less than 1 year in length of service is ranked number 1 while the lowest in rank is more than 5 years in service.

Table 3 *Reasons why clerical personnel resigned for another job.*

Reasons for considering another job	n	Percent	Ranking
High Salary	17	50%	1
Job more suited to interest	4	12%	3
Higher position offered	2	6%	4
Greater opportunity for promotion	4	12%	3
More convenient location	2	6%	4
Personal connections	5	14%	2

Table 3 presents the reasons of clerical personnel for taking or considering about another job which showed that a high salary is a moving factor for their ultimate decision of leaving their job. The number 1 in rank as the highest reason for considering another job is "high salary" while "higher position offered" is the lowest in rank.

Table 4 *Least liked by resigned clerical personnel about the job, department or company.*

Least liked by resigned clerical personnel about the job, department or company	n	Percent	Ranking
Favoritism	1	3%	4
Slow promotion		0%	
No harmonious relationship among employees/supervisors	3	9%	3
Too much work		0%	
Low salary	25	73%	1
Others	4	15%	2

Table 4 somehow supported the data showing why it was challenging to keep clerical personnel from resigning which was mainly on the issue of compensation. This table scored "low salary" as the least liked about the job, department, or company which is ranked number 1 while "favoritism" turned out to be the in the 4th rank.

Table 5 *Most liked by resigned clerical personnel about the job, department, or company.*

Most liked by resigned clerical personnel about the job, department or company	n	Percent	Ranking
Nature of Work	13	38%	1
Relations with co-employees	10	29%	2

Office Environment	6	18%	3
Compensation Plans	3	9%	4
Others	2	6%	5

The results showed that 38% of the sampled employees liked the nature of work of clerical personnel. First in rank in the things most liked by resigned clerical personnel about the job, department or company is nature of work while last is "compensation plans". This showed the importance of a harmonious relationship inside a department. The second highest response that the researchers achieved was the nature of work with 29% of the respondents answered it the thing that they like the most at their work. However, despite of these, nothing seemed to have prevented these employees to pursue their planned resignation.

DISCUSSION

The core purpose of this research is to identify the turnover status among clerical personnel and present various recommendations to promote retention. It can be surmised that the top reason for the voluntary resignation of clerical personnel pointed to compensation concerns. Table 3 showed that the highest reason why clerical personnel considered other jobs when they left is due to higher salary offered by the new company where they transferred. Table 4 displayed that the least liked by resigned clerical personnel with EAC Cavite is low salary. One of the major challenges with all organizations is the employee's turnover, specifically in the department of human resource management. Establishing policy and creating a competitive compensation package would greatly affect the company's culture, and the satisfaction and motivation of its employees. When employees are motivated, they used to be focused, productive, and they are more likely to wholeheartedly shows the organization's core values. There is also a smaller possibility for them to resign and seek greater opportunities (Chiat et. al., 2019).

From the data presented in Table 2 it may be interpreted that clerical personnel already decided to leave work in less than a year. The Unfolding Theory of Turnover is the first to suggest the idea that workers consider a cognitive process when planning to resign in an institution according to the published research of Rachael Tellez (2014). With this theory, it was presented that the first three pathways start with a "shock" event. "A very distinguishable event that jars the employee toward deliberate judgments about their jobs and, perhaps, to voluntarily quit their job" is how Lee and Mitchell described shock (Tellez, 2014, p. 5). According to Holtem, Mitchell, Lee and Inderrieden (2005), the Path 1 starts with a shock that is exclusive, certain, and anticipated, like having the chance to move to a new city and a speedy decision to leave is made. The Path 2 based to Holtem et al. (2005), Mitchell and Lee (2001) begins with a shock that is a turn down institutional circumstances, an unjust performance evaluation or being neglected for a promotion are some of the examples which lead the employees to assess their loyalty and devotion to an organization. The Path 3 starts with a shock that can be desirable, neutral, or unwanted and is generally a sudden job offer in which the employees start comparing the existing job with an alternative (Lee & Mitchell, 1994; Mitchell & Lee, 2001).With Path 4, employees have dissatisfaction which lead them to choose either to leave an organization without a new job (Path 4a) or experience the same scenario but will have a job alternative (Path 4b) (Tellez, 2014, p. 7). Table 3 manifested that the compensation is not competitive enough to make them stay and forgo resignation. One of the main reasons for employees' attrition in public and private institutions is the inadequacy of the compensation scheme (Kanteh L et. al., 2019). Other reasons were pointed to personal connections which perhaps referred to the presence of influence in the company which may have probably resulted to convenient working environment. Also, that the new considered job appears more suited to their interest and the presence of greater opportunity for promotion were observed as the top reasons for their resignation.

Low salary being the main cause for concern in terms of resignation among clerical personnel is even supported by Table number 4 when they were asked to rate the "least liked by resigned clerical personnel about the job, department or company" which resulted to low salary turning out to be in the first rank. Compensation packages have high significant connection with employees' attrition (Schuck & Rabe-Hemp, 2018).

Furthermore, the result of Table number 5 which showed

the "most liked by resigned clerical personnel about the job, department or company", compensation plans turned out to be the second to the lowest in rank. It seemed that most of them stayed a little bit longer due to the "nature of work". There are various reasons which causes employees to leave or stay in any institution – employees' attrition is discovered to be much more complex and serious taking into consideration not just salary scheme, job satisfaction and work culture (Lyons, P. et al., 2020).

The effectiveness of an institution normally depends on the ability to produce a sustainable output. In order to achieve that, an institution needs to implement an effective scheme and involve their employees. The big number of worker retention, great monetary act and high clients' gratification will be the result of this commitment (Abolade, 2018).

Conclusion

The objective of this study was to present the reasons for the high turnover rate among clerical personnel in EAC Cavite and to evaluate these reasons to suggest policies to higher management to prevent this situation. It was alarming to know that most clerical personnel with less than 5 years of service have resigned from their post which may have meant that they do not see themselves staying longer in the institution despite knowing the terms and conditions of employment including their salary. The compensation package being the highest in rank among the reasons for resignation of resigned clerical personnel was a plain expression of their job dissatisfaction because when asked for the "most liked" and "least liked" - they seemed to have adapted and accepted those other areas of their job except the remuneration part. In the 2016 Employee Job Satisfaction and Engagement survey of the Society for Human Resource Management (SHRM), the top reasons for job satisfaction were salary/pay rates, benefits, and respectful work environment (Stephen Miller, 2019)

Recommendations

Based on the outcomes, this study would offer the following recommendations:

1. A review of the compensation package and/or salary scheme of clerical personnel is imperative and urgent. When conducting the review, it is recommended to revisit and update the job description of clerical personnel to perhaps justify the movement in job classification and remuneration and:

2. Revision of the exit interview survey is also an urgent matter that needs attention to include updated survey item questions relevant to the current digital age.

It is hoped that this study will be considered in future of revising the job classification and reconsider the compensation assigned to personnel in the clerical category after evaluation of their actual job details and responsibilities.

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EVALUATION OF THE EFFECTIVENESS OF THE FACULTY TRAINING AND DEVELOPMENT AT THE EMILIO AGUINALDO COLLEGE-CAVITE, PHILIPPINES

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KEYWORDS:

- **Human resource**
- **Teacher training**
- **Training needs assessment**
- **Impact of trainings**
- **Return of investment**

Abstract. Transfer of knowledge is the highest objective of trainings. The efficacy of trainings given to employees in an organization must be measured and evaluated to determine whether there was return of investment on the part of the company and actual improvement on the part of the employees. This study sought to present whether or not the trainings conducted for the teaching personnel during the pandemic were effective or not. The data were sourced from the responses of the teaching personnel who attended the trainings corresponding to the institutional approved forms sent out to them one - immediately after the training and the other given to attendees one month after the training. The study revealed that the trainings conducted were effective but with certain improvements that needed attention as well. Based on the findings of the study, it was recommended that this study will inspire further modifications to the existing training and development process of the institution and true engagement on the part of the teaching personnel.

Evaluation of the Effectiveness of the Training and Development of Faculty at the Emilio Aguinaldo College-Cavite, Philippines

INTRODUCTION

Training and development is one of the most fluid among the various dimensions of human resource functions. It needs constant review, analysis, modification, and revision to respond to the needs of the personal and professional growth of the employees in any institution. Due to the sudden demand to quickly adapt to digital technology caused by the COVID-19 pandemic, it is with greater reason that trainings conducted as part of the training and development plans of the institution must be subjected to regular evaluation to measure whether they have been effective or not (Toquero, 2020).

To determine training effectiveness, the entire training and development procedure starting from conducting the training needs survey until its last phase after the trainings are implemented must be considered and included in the assessment (Dhankar, 2021). It is greatly expected that after the trainings are implemented, the institution will reap the benefits of improved skills, productivity and employee engagement and retention (Verma, 2022). On the part of the employees, training effectiveness may be manifested in positive transformations in terms of individual knowledge, skills and attitude. Thus, the purpose of training evaluation is to predict the extent to which the trainee's work performance will improve, to authenticate training as a trade instrument, to examine return on investment, and to adjust course content and training techniques (Tarik, 2018).

Based on the approved and registered training and development procedure of EAC Cavite, there are two classifications of trainings available to faculty members: internal or in-house trainings and external trainings. The internal or in-house trainings are those facilitated and conducted by the institution based on the annual approved training and

development plan and are provided to all faculty members free of charge. The external trainings are specialized paid trainings that are unique to the profession or teaching are of the faculty members - full time faculty members may avail of this privilege as part of the training and development program of the institution. This study focused on the evaluation of the internal or in-house trainings conducted for the school year 2020-2021, the time when all of the human resource processes abruptly transitioned to online or digital format. Hence, all trainings evaluated in this study were conducted virtually which probably even more heightened the gap between mere compliance to implement the training plan for the year and the effectiveness of the trainings conducted.

This study is based on the Kirkpatrick model of training evaluation. This approach requires that the evaluation begin at the first level and then move to levels two, three, and four in line with the time and resources available. Data from all prior levels can be utilized as a foundation for the examination of the levels to follow. Each succeeding level therefore gives an ever more precise estimate of the course's effectiveness while simultaneously necessitating a significantly longer and more challenging assessment.

Without a question, Kirkpatrick's four-level approach is the most extensively used and required method for evaluating training in businesses today. For almost 30 years, many different sorts of businesses have used the Kirkpatrick model as a primary training assessment method. It is obvious that the vision of Kirkpatrick has had a good impact on training assessment procedures in general. (Rafiq, 2015)

The primary goal of assessing a training program is to determine whether or not it has attained its objectives. The examination of the training event using proper evaluation tools has the potential to considerably enhance the outcomes of future trainings. This training efficacy is critical to the EAC Cavite's overall efforts to improve its programs, services, and benefits.

The general aim of this study was to provide inputs to improve the institutional faculty training and development program of EAC-Cavite. Specifically, it sought to determine the number of trainings conducted for the teaching personnel during the pandemic period, the perceptions of the teaching personnel about

the trainings being conducted by the institution, the impact of the training to the teaching personnel, as an individual or as a professional and finally, the challenges encountered, and solutions made during and after the training.

METHODOLOGY

Study Design

The scope of this research was confined to assessing the training effectiveness of the institutional training and development program in EAC-Cavite for the school year 2020-2021. Its respondents included all EAC-Cavite teaching employees or academic personnel including deans, directors, and faculty members, regardless of employment status. The participants of the study are the faculty and academic personnel who are all currently working at EAC-Cavite whether full time or part time.

Sources of Data

The result of the training effectiveness survey for the one-year faculty development plan school year 2020-2021 was the source of data of this study.

Research Locale

This research was administered at Emilio Aguinaldo College – Cavite, located in the City of Dasmariñas, Province of Cavite, Philippines with the academic personnel for the year 2021.

Sampling Technique

The participants (N=317) were chosen using the Convenience Sampling Method.

Data Gathering Procedure

The researchers, as human resource personnel, administered a survey questionnaire using the Google forms and sent them to all at EAC Cavite academic employees. The training

effectiveness survey were given to attendees of the training at least 1 month after the trainings were conducted. Said training effectiveness survey form was instrument validated with ANOVA reliability value of of 0.97 or Excellent.

Research Instrument(s)

The researcher-made questionnaire instrument used was reviewed and validated by three former members of the Committee on Faculty Development. It contained eight positive statement items based on the Kirkpatrick Training Evaluation model which respondents answered using the ratings of 1 to 5 wherein 5 is the meant that they strongly agree.

Data Analysis (Statistical Tool and Treatment of Data)

The study used the quantitative and qualitative approaches. These were statistically analyzed and interpreted based on the framework by Kirkpatrick. The analysis of the data utilized the weighted mean and ranking. Since this study was qualitative, it provided some themes to improve the trainings conducted at EAC Cavite based on the result of the study.

Ethical Consideration

The approval of the conduct of this research was obtained from the Institutional Ethics Research Board of EAC Cavite upon proposal presentation stage. Consent were obtained as well from respondents as the survey instrument indicated the statement to this effect and the purpose of this study.

RESULTS

Table 1. *Trainings Conducted for teaching personnel for the year 2021*

TRAININGS CONDUCTED	DATE	NUMBER OF ATTENDEES n=317	% ATTENDANCE
Digital Tools And Strategies For Teachers Toward Collaborative And Interactive Learning Engagement	3/19/2021	293	92.43
Designing An Outcomes-Based Online Assessment Task	4/16/2021	200	63.09
Test Construction And Measurement For Teachers	4/30/2021	207	65.30
Quality Assurance In Online Teaching	05/03/2021	193	60.88

Table 1. Trainings Conducted for teaching personnel for the year 2021

Table 1 shows the percentage attendance data and the number of training conducted during the pandemic period. The table includes the date when the training were conducted to indicate that they were done during the pandemic period and all of the four (4) trainings were conducted in a virtual or online arrangement.

The first training on "Digital Tools And Strategies For Teachers Toward Collaborative And Interactive Learning Engagement" had 293 attendees out of the 317 faculty members at the time that the training was conducted or a total of 92.43% faculty members were able to attend the said training. The second training on "Designing An Outcomes-Based Online Assessment Task" had 200 attendees out of the 317 faculty members at the time that the training was conducted or a total of 63.09% faculty members were able to attend the said training. The third training on "Test Construction And Measurement For Teachers" had 207 attendees out of the 317 faculty members at the time that the training was conducted or a total of 65.30% faculty members were able to attend the said training. The fourth training on "Quality Assurance In Online Teaching" had 193 attendees out of the 317 faculty members at the time that the training was conducted or a total of 60.88% faculty members were able to attend the said training.

Table 2. *Perceptions of the teaching personnel about the trainings conducted*

TRAINING EFFECTIVENESS SURVEY QUESTIONS	Digital Tools And Strategies For Teachers Toward Collaborative And Interactive Learning Engagement	Designing An Outcomes-Based Online Assessment Task	Test Construction and Measurement For Teachers	Quality Assurance In Online Teaching

Motivation to improve work performance	4.21	4.23	4.24	4.45
Motivation to attend similar trainings or seminars in the future.	4.21	4.18	4.14	4.48
Changes in personal work values, attitude and behavior since the training/se minar were significant	4.10	4.19	4.13	4.44
Changes in work values, attitude and behavior of co-workers since the training/se minar were significant	3.94	4.10	4.08	4.21
Learnings shared during the training or seminar	4.05	4.15	4.13	4.38

were useful/applicable to job functions				
A clear understanding of job functions was realized since the training/seminar	4.15	4.18	4.18	4.41
Work efficiency and effectiveness since the training/seminar were observed	4.12	4.15	4.12	4.43
Overall result was desirable	4.10	4.21	4.20	4.46
Weighted Mean	4.11	4.17	4.15	4.41
Verbal Interpretation	Agree	Agree	Agree	Strongly Agree

4.21 - 5.00 Strongly Agree | 3.41 - 4.20 Agree | 2.61 -3.40 Disagree | 1.21 - 2.60 Strongly Disagree | 1.00 - 1.20 Not Applicable

Table 2. Perceptions of the teaching personnel about the trainings conducted

Table 2 shows the perceptions of the teaching personnel about the trainings conducted by the institution and based on its training and development plan for the school year covered.

For the first training conducted with the topic "Digital Tools And Strategies For Teachers Toward Collaborative And Interactive Learning Engagement", the results showed a 4.11 weighted mean indicating that the respondents Agree that the said training is effective. The second training conducted with the topic "Designing An Outcomes-Based Online Assessment Task" showed a 4.17 weighted mean indicating that the respondents Agree that the said training is effective. The third training conducted with the topic "Test Construction And Measurement For Teachers" showed a 4.15 weighted mean indicating that the respondents Agree that the said training is effective. The fourth training conducted with the topic "Quality Assurance In Online Teaching" showed a 4.41 weighted mean indicating that the respondents Strongly Agree that the said training is effective.

TRAINING EFFECTIVENESS SURVEY QUESTIONS	Digital Tools And Strategies For Teachers Toward Collaborative And Interactive Learning Engagement	Designing An Outcomes-Based Online Assessment Task	Test Construction And Measurement For Teachers	Quality Assurance In Online Teaching	Weighted Mean	Verbal Interpretation
Motivation to improve work performance	4.21	4.23	4.24	4.45	4.28	Strongly Agree
Motivation to attend similar trainings or seminars in the future.	4.21	4.18	4.14	4.48	4.25	Strongly Agree
Changes in personal work values, attitude and behavior since the training/seminar were significant	4.10	4.19	4.13	4.44	4.22	Strongly Agree

Changes in work values, attitude and behavior of co-workers since the training/seminar were significant	3.94	4.10	4.08	4.21	4.08	Agree
Learnings shared during the training or seminar were useful/applicable to job functions	4.05	4.15	4.13	4.38	4.18	Agree
A clear understanding of job functions was realized since the training/seminar	4.15	4.18	4.18	4.41	4.23	Strongly Agree
Work efficiency and effectiveness since the training/seminar were observed	4.12	4.15	4.12	4.43	4.21	Strongly Agree
Overall result was desirable	4.10	4.21	4.20	4.46	4.24	Strongly Agree

4.21 - 5.00 Strongly Agree | 3.41 -
4.20 Agree | 2.61 -3.40 Disagree |
1.21 - 2.60 Strongly Disagree | 1.00 -
1.20 Not Applicable

Table 3. Impact of the training to the teaching personnel

Table 3 presents the impact of the training to the teaching personnel, as an individual or as a professional. On the survey question item number 1, the respondents answered that they Strongly Agree that they felt motivated to improve their work performance since the training/seminar having gathered a weighted mean of 4.28. On the survey question item number 2, the respondents answered that they Strongly Agree that they felt more encouraged to attend similar trainings or seminars in the future having gathered a weighted mean of 4.25. On the survey

question item number 3, the respondents answered that they Strongly Agree that they have made a significant change in their work values, attitude and behavior since the training/seminar having gathered a weighted mean of 4.22. On the survey question item number 3, the respondents answered that they Agree in noticing a significant change in the work values, attitude, and behavior of their co-workers since the training/seminar having gathered a weighted mean of 4.08. On the survey question item number 4, the respondents answered that they Agree they were able to use/apply the learnings shared during the training or seminar to their job functions having gathered a weighted mean of 4.18. For survey question item number 5, the respondents answered Strongly Agree that they were able to have a clear understanding of their job functions since the training/seminar having gathered a weighted mean of 4.23. On the survey question item number 4, the respondents answered that they Strongly Agree that they are more efficient and effective in their work since the training/seminar having gathered a weighted mean of 4.21. To summarize the results, the respondents answered Strongly Agree that the overall training/seminar was beneficial to their work having gathered a weighted mean of 4.24.

DISCUSSION

A total of four institutional trainings were conducted for the school year 2020 to 2021 for Emilio Aguinaldo College Cavite. This is based on the approved institutional training and development plan for the said school. Table 1 shows the percentage attendance data and the number of training conducted during the pandemic period which includes the date when the trainings were conducted to indicate that they were done during the pandemic period thus all of the four (4) trainings were conducted in a virtual or online arrangement due to the restrictions of national and local government units in terms of physical gatherings. Aside from that, all faculty members are conducting classes online and were not required to go to the school premises to ensure compliance to the health and safety protocols. It would be noted that the first training on "Digital Tools And Strategies For Teachers Toward Collaborative And Interactive Learning Engagement" gathered 293 attendees out of the 317 faculty members at the time that the training was conducted or a total of

92.43%. The following three trainings on the other hand gathered quite low attendance percentage ranging from 60.88% to 65.30%.

The perceptions of the teaching personnel about the trainings conducted by the institution and based on its training and development plan for the school year covered revealed that one out of the four trainings only got the highest weighted mean equivalent to Strongly Agree. Although the remaining four showed that the respondents Agree to the trainings being effective. The survey question items used to measure training effectiveness through it impact on the personal level of motivation of the faculty members and on the performance of their job. This supports EL Hajjar and Alkhanai, 2018 who pointed out that it is important to consider training as an essential element for to promote the competence and productivity among employees.

Although the other three trainings obtained only "Agree" ratings it is still deemed significant especially during the pandemic were the faculty members required the much needed support in terms of transitioning from traditional to online ore blended learning (Turnbull et. Al., 2021)

Using the Kirkpatrick Four Levels of Training Evaluation, it may be gleaned that question number 1 and 2 from the training effectiveness survey questionnaire seeks to evaluate how valuable the training to the faculty members or their reaction was. On the survey question item number 1, the respondents answered that they Strongly Agree that they felt motivated to improve their work performance since the training/seminar having gathered a weighted mean of 4.28. On the survey question item number 2, the respondents answered that they Strongly Agree that they felt more encouraged to attend similar trainings or seminars in the future having gathered a weighted mean of 4.25. On this level of evaluation, the reaction of the participants signifies the way in which they perceive or evaluate the training subjectively in terms of relevance and quality (Farjad, 2012).

The reactions to trainings conducted is significant to the result of the employees 'commitment to the objectives of any organization through their perceptions and behaviors. (Lin et. Al., 2011)

Conclusion

The institutional training implemented for faculty members during the pandemic appears highly effective even at this challenging time. The trainings conducted benefitted the faculty members especially that the topics addressed their needs to adjust to demands of digital technology. However, it cannot be overemphasized that the institutional training development plan needs to undergo constant review and continuous improvement. The response of the participants to the trainings conducted was positively appreciated however, the challenges of determining whether the expected outcomes were actually produced is still at hand.

Recommendations

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

1.As the results of the study showed that the trainings conducted showed a low percentage of attendance among faculty members, the training and development team of the institution must devise ways to promote the benefits and importance of attending institutional trainings implemented for their professional development and encourage higher participation among faculty members.

2.The Training Effectiveness tool may also be revised to specifically outline the Kirkpatrick Framework of other known models of measuring training effectiveness. The procedure for the conduct of training which includes the training effectives assessment in its last part may also be revisited to include appropriate modifications especially considering the application of online or virtual trainings in place of the usual face to face trainings.

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Assessment of Cybercrime Awareness Among Senior High Students in EAC-Cavite, Philippines: Basis for Cybersecurity Programs and Guidelines.

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KEYWORDS:
- **Cybercrime awareness**
- **Cybersecurity**
- **Cybercrime Prevention Act of 2012**
- **Routine Activity Theory**
- **Senior high school**

Abstract. This study sought to assess the cybercrime awareness of senior high school students in Emilio Aguinaldo College-Cavite, City of Dasmariñas, Province of Cavite, Philippines. Specifically, it sought to (1) determine the demographic profile of the respondents, (2) determine the different ways to stay safe online, (3) determine if the respondents know the cybercrime offenses that are punishable by Philippine laws, (4) determine if there is a significant difference in the knowledge of cybercrime offenses when grouped according to age, sex, grade level and strand; and (5) design a framework to uphold cybersecurity awareness. This study utilized descriptive research through the online survey administration to 2,262 senior high school students selected via convenience sampling. Results showed that the respondents were active online users considering the frequency of use of the Internet, chat rooms/instant messaging, email, and social network sites (SNS). The common ways they keep themselves safe online was through non-disclosure of social media and apps passwords, use of strong and unique passwords, and opening of known and trusted attachments and links. They were also knowledgeable of

cybercrime offenses punishable by Philippine laws. Further, findings showed that there was a significant difference in the knowledge of cybercrime offenses when grouped according to grade level, age and strand. Considering the respondents' active online engagement and limited awareness of other self-protective measures and not all were knowledgeable of cybercrime offenses and its legal consequences, a cybersecurity awareness program for the institution was proposed.

Assessment of Cybercrime Awareness Among Senior High Students of EAC-Cavite, Philippines: Basis for Cybersecurity Programs and Guidelines

INTRODUCTION

Almost all companies shifted their business operations through online delivery of services which gave birth to the virtual world. Technology has shaped how people live and engage with the world around them. Nowadays, most of the people depend on computers, the Internet and cellular phones for doing business, purchasing products, communicating with loved ones, working from home, reading the news, and recreation. In the Philippines, statistics in January 2021 showed that there were 73.91 million Filipino Internet users out of a total population of 110.3 million and there was a significant increase by 4.2 million (+6.1%) between 2020 and 2021. In terms of social media usage, there were 89 million social media users equivalent to 80.7% of the total population and there was a significant increase of social media users by 16 million (+22%) between 2020 and 2021 (Kemp, 2021).

Considering people's technological dependence, the incidents of cybercrime have also increased rapidly and had become a problem, and one of the most affected are the academic institutions with very susceptible stakeholders. This condition requires strong programs that will protect them from being a victim of cybercrime. The public is also not sufficiently aware of the severity of the problem. Most of the progressive countries like Canada, Australia and those belonging to Europe established the *Prevention of and Fight against Cybercrime Program through the Budapest Convention Joint by the Council of Europe in 2001* with the key goal of increasing the awareness of the public, children, and teenagers on the issues related to cybercrime and illegal use of the Internet (Council of Europe, n.d.).

Studies on cybercrime awareness and cybersecurity suggested for collaboration between universities on cybersecurity capacity building and awareness due to the lack of or moderate knowledge on cybersecurity among students (van den Berg, 2018; Ariola, Laure, Perol, & Talines, 2018; Afrozulla, Vaishnavi & Arjun, 2018; Karagiannopoulos, Sugiura & Kirby, 2019).

In the Philippines, several laws have been established to describe and penalize different cybercrimes. Among these laws are the Anti-Photo and Video Voyeurism Act of 2009, Anti-Child Pornography Act of 2009, RA 10175 or Cybercrime Prevention Act of 2012, Data Privacy Act of 2012 and the Act No. 3815 otherwise known as the Revised Penal Code. A few studies focused on determining students' awareness of cybercrimes and Cybercrime Prevention Act of 2012, and results vary.

It is for these reasons that the researchers decided to pursue this study to gauge the cybercrime awareness of students in a senior high school in Cavite. Specifically, the researchers hoped to identify the actions employed by the students to protect themselves online and determine their knowledge of the online behaviors that are considered as cybercrimes and punishable under the Philippine laws. At the end of this study, the researchers hoped to design a framework that will guide the cybersecurity awareness programs of a higher education institution.

Objectives of the Study

This study aims to:

1. Determine the demographic profile of the respondents in terms of age, sex, grade level, track/strand, devices used to go online, and use of web programs;
2. Know the respondents' measures to stay safe online;
3. Determine the respondents' knowledge on cybercrime offenses that are punishable by Philippine laws;
4. Determine the significant difference in the knowledge of cybercrime offenses when grouped according to age, sex, grade level and track/strand; and,
5. Propose a framework to uphold cybersecurity awareness.

Hypothesis

Ho$_1$: There is no significant difference between knowledge of cybercrime offenses and age.
Ho$_2$: There is no significant difference between knowledge of cybercrime offenses and sex.
Ho$_3$: There is no significant difference between knowledge of cybercrime offenses and grade level.
Ho$_4$: There is no significant difference between knowledge of cybercrime offenses and strand.

Theoretical Framework

This study is supported by the Routine Activity Theory (RAT) developed by Cohen and Felson (1979) as mentioned in Bossler (2020). This theory has been identified by scholars as a potential useful framework for examining risk factors of cybercrime victimization. RAT claims that the everyday routines of social actors place individuals at risk for victimization by exposing them to dangerous people, place, and situations (Marttila, Koivula & Rasanen, 2021). It argues that three elements should converge in both space and time for a crime to occur: (1) a motivated offender, (2) a suitable victim or target, and (3) the absence of a capable guardian who can prevent the crime from happening. There are individuals who are committed to commit a variety of online offenses, such as hackers, phishers, fraudsters, and harassers. Suitable targets include individuals, files, sensitive data, and computer systems and networks. Capable guardianship could refer to technical guardianship such as anti-virus software and password protections; social guardianship such as peers protecting individuals from online harassment; and, personal guardianship such as knowledge of technology and security precautions, including not sharing passwords or sensitive information (Bossler, 2020).

Conceptual Framework

Figure 1 below shows the interaction of the variables under study. The respondents are the senior high school students and their demographic profiles were determined. Their cybercrime awareness was measured in terms of self-protective measures and knowledge of online behaviors considered as cybercrime offenses. The final output of the study is a cybersecurity

awareness program, which is discussed in the recommendation section.
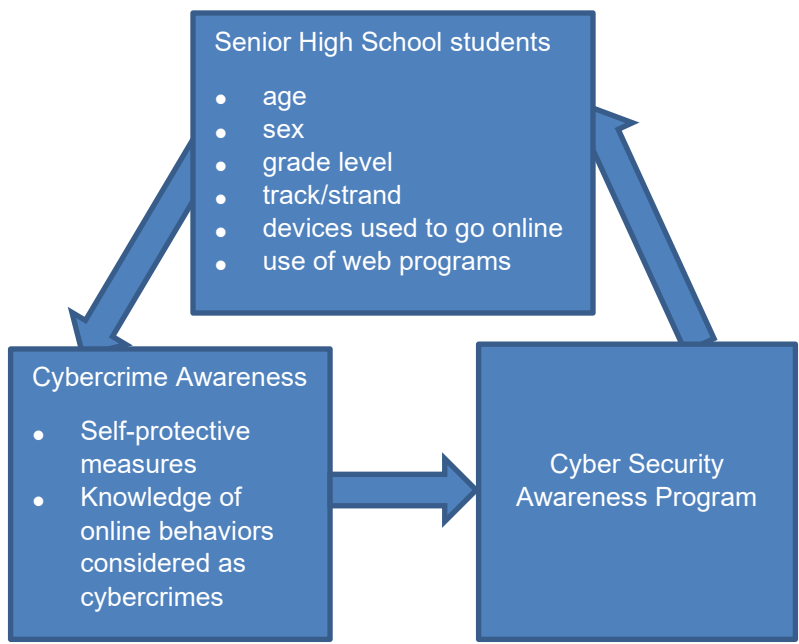
Figure 1. Paradigm of the Study

Scope and Limitation

This study focused mainly on determining the cybercrime awareness of the senior high school students of Emilio Aguinaldo College-Cavite in terms of self-protective measures and knowledge of online behaviors considered as cybercrimes. College students and employees were not included in this study. Considering the limited studies on cybersecurity among students in Emilio Aguinaldo College-Cavite, the researchers chose to conduct this study to add more information to existing literatures and develop a framework to guide cybersecurity awareness programs in the senior high department of the said school.

Review of Related Literature

Cybercrime awareness

Cybercrime refers to crimes where the perpetrator uses special knowledge about cyberspace. Offenders utilize computers and cellphones to communicate and develop subcultures online, target sensitive resources and engage in crime and deviance, and facilitate the offense and provide evidence of criminal activity both online and offline (Holt, Bossler & Siegfried-Spellar, 2018).

The variables pertaining to the study of cybercrime awareness vary. Cybercrime awareness could be measured with the knowledge of cybercrime threats and risks (Karagiannopoulos, Sugiura & Kirby, 2019), internet usage (i.e. mode, frequency and purpose), changing and using User IDs and passwords, and familiarity of the term "cybercrime" and types of cybercrime offenses (Afrozulla, Vaishnavi & Arjun, 2018). Other variables include source of awareness of cybercrime, knowledge about the different cyberattacks (e.g. phishing, SQL injection, malware), knowledge of agencies related to cyber security, and prevention of cyber attacks (Meena, Sankhla, Mohril & Kumar, 2020). The study by Meena et. al. (2020) found that the most of the respondents have known cybercrime through the Internet, newspaper and television. Computer viruses, spamming and cyberstalking were among the top three known cyberattacks. Antivirus/malware software and firewall configuration were known to prevent cyberattacks. In a small sample of South African students, results showed that majority are not sure or have no knowledge about cybercrime activities, and have not suspected being locked out of their account and mysterious posts as cybercrime activities (van den Berg, 2018).

A Philippine study assessed awareness of phishing, spamming, anti-virus and cyberbullying among senior high school students in Dolores National High School. Findings of the study revealed that STEM students have the best cybercrime awareness among the strands (Abuda, Rivera & Norona, 2020).

Factors such as age, sex and level of education affect the awareness of students towards cybercrime. Males and females differ significantly in their awareness, but females showed more awareness toward cybercrime (Prabu, 2015 as cited in Ariola,

Laure, Perol & Talines, 2018), have more affirmative insights (Hasan, Raman, Abdillah & Omar, 2015) and have superior ethical values than males (Titi, 2003 as cited in Hasan et. al., 2015). However, the study of Verma and Kushwaha (2021) revealed that sex is not a predictor of cybercrime awareness to secondary student samples. In terms of age, previous findings persistently reported that younger people are more likely to be victimized than older people due to lack of awareness. Students aged 18-23 years old have lower perception and awareness of cybercrime than those aged 24 years and above (Hasan et. al., 2015). Also, a Nigerian study found that the prevalence of cybercrime awareness increases as Internet users get older (Nzeakor, Nwokeoma & Ezeh, 2020). Moreover, those with higher academic qualifications are more aware at cybercrime, thus, are cautious about the same (Hasan et. al., 2015).

Cybercrime Awareness and Philippine Laws

The Philippine Republic Act No. 10175, otherwise known as the "Cybercrime Prevention Act of 2012" discussed the various types of cybercrime offenses punishable under the Act. Cybercrime offenses against confidentiality, integrity and availability of computer data and systems involves illegal access, illegal interception, data interference, system interference, and misuse of devices. The Act also mentioned computer-related offenses such as forgery, fraud and identity theft as well as online child pornography, cyber-squatting, cybersex, and cyber-libel.

The study of Tarun (2018) determined the perspectives of the social networking users on the legal consequences of some social networking malpractices. Findings revealed that majority of the respondents believed that most of the malpractices identified do not have legal consequences which are contrary to R.A. 10175 or the "Cybercrime Prevention Act of 2012." This result is attributed to the possibility that the respondents are "barely aware" of the cybercrime offenses identified in R.A. 10175.

Balilo and Laviña (2016) assessed the awareness of Computer and IT students on cybercrime offenses under RA 10175 using scenarios and examples. Results showed that students have high awareness on almost all identified offenses under the law. The authors posited that the high awareness makes it possible for students to be aware of the consequences

the cybercrime offenses may bring. Nevertheless, the respondents were constrained to become more aware of the cybercrime law due to the absence of or limited discussion of the cybercrime offenses and the law in the classroom and not reading computer-related laws. To increase their awareness of cybercrime offenses and laws, the respondents recommended to provide lectures and seminars on computer-related crimes and laws, discussion of the topic in the classroom, inclusion of the discussion in the University calendar of events, use of social media and creation of a forum or group focused on the awareness of cybercrime offenses and laws, and improve the course syllabus.

Susceptibility to Cybercrime

Demographic characteristics such as age, sex and education level make a person vulnerable to cybercrime. The younger the Internet user, the higher the risk of victimization (Mikkola et. al., 2020; Nasi et. al., 2015). This could be due to their high technical literacy, resulting to more frequent use of the internet, combined with a lack of appreciation for the capacity for criminal behavior in others (Bolimos and Choo, 2017 as cited in Karagiannopoulos, Sugiura and Kirby, 2019). They are more diverse in their online use and are therefore more exposed to a variety of online risks (Nasi, Danielsson & Kaakinen, 2021). A study in Netherlands for citizens aged 15 and older found that younger users have the higher risk to being a hack victim. However, men and women of all ages have an equal chance of becoming a victim of identity theft (Leukfeldt & Yar, 2016).

The role of sex in victimization is mixed. Evidence in Finland showed that males are more likely to be victims than females (Nasi et. al., 2015). Moreover, female adolescents and young adults from Finland, Germany, the UK and the USA are more likely to be victims of sexual harassment, while defamation and threats of violence tend to be more common among males (Nasi et. al., 2015). Conversely, the findings of Nasi, Danielsson and Kaakinen (2021) among Finns sample found that young women were more at risk for non-sexual online harassment, yet gender did not play a significant role in online sexual harassment. In terms of identity theft, men and women have equal chance to be victims. A study from a sample of Singaporean students revealed that females and victims of physical bullying were more

likely to experience cyber and mobile phone-based bullying victimization (Holt, et. al., 2014).

Educational level also makes a person susceptible to some types of cybercrime victimization, for instance, consumer fraud. People who are less educated and without paid work have a greater risk to be victims of fraud (Leukfeldt & Yar, 2016). However, Nasi, Danielsson and Kaakinen (2021) found that education does not play a clear role in online victimization.

Individual involvement in routine activities that increase exposure to motivated offenders may increase the risk of victimization. The more active people are online, the more exposed to potential offenders and other dangers, the more likely they are to become victims (Nasi, Danielsson & Kaakinen, 2021; Cheng, Chan & Chau, 2020). Chatting in chat rooms, direct communication via MSN and Skype, and use of online fora and social networking sites led to an increased risk of hacking victimization (Leukfeldt & Yar, 2016). Time spent using the internet, targeted and untargeted browsing, online shopping, downloading and gaming were all related to malware victimization (Leukfeldt & Yar, 2016; Leukfeldt, 2018). Making purchases online is a risk-increasing activity for online fraud (Leukfeldt & Yar, 2016). The number of hours spent in online communication (instant messaging) led to online harassment by a non-stranger (Ngo & Paternoster, 2011). Other online activities such as using danger sites more often, sharing content online, and sending offending messages increase the risk of victimization (Mikkola et. al., 2020). Ngo and Paternoster (2011) found that engaging in virtual offending leads to greater risk of experiencing online harassment by a stranger, receiving unwanted pornographic materials and encountering online defamation. Also, posting phone numbers, home address and other info increases the risk for being victims of computer virus, harassment by nonstranger, unwanted porn, sex solicitation and phishing (Ngo, Piquero, LaPrade & Duong, 2020).

Moreover, user's skills or information technology efficacy is also positively related to cybercrime victimization (Cheng, Chan & Chau, 2020; Nasi, Danielsson & Kaakinen, 2021). This means that user's skills tend to reflect more active use of technology, thus exposing them to various cyber risks.

Self-protective measures

Students show behaviors to protect themselves from cybercrime. A small sample of South African students claimed that they will not reveal personal information on social media sites and will read articles and/or blogs about cybercrime. However, some potential protective measures students simply ignore are clicking the "save your password" option when using public computers, not reporting suspicious activities to the administrator, accept friend requests from unknowns, not changing their passwords regularly, and not attending to their privacy settings on their social accounts. Majority of the students have anti-virus software installed on their PCs, laptops, tablets and smartphones, and about one third are not protected from virus. In receiving spam on social media accounts, more than half immediately delete the message without reading it. The University of Johannesburg has a Cybercitizenship Awareness Module to make students more knowledgeable on different modes of cyberattack, preventive measures and consequences of not protecting their devices and information (Van den Berg, 2018).

People with a higher risk awareness ("not opening emails from unknown senders," "use of strong passwords") are better equipped to guard themselves against hacking, identity theft and consumer fraud. However, it does not play a role in malware victimization. A user with virus scanner remains receptive to infections of new or unknown malware types (Leukfeldt & Yar, 2016). This supports a previous finding that having security software does not necessarily equate to not obtaining a computer virus. This could somehow provide a false sense of security for users, making them engage in online activities that makes them vulnerable as suitable targets or victims (Ngo & Paternoster, 2011).

The UK study in 2019 found that the adoption of protective measures, such as installing antivirus software and reviewing social media privacy settings, was patchy with very few respondents did nothing at all to protect themselves. Trusted adults and teachers are the main sources of online safety advice and guidance, thus, the need to steer cyber-awareness sessions towards parents/guardians and teachers rather than young people themselves (Karagiannopoulos, Sugiura & Kirby, 2019). Evidence

supports that living with one's parents protects against the potential for online victimization (Nasi et. al., 2015).

Synthesis

A survey of literature on cybercrime awareness showed that most of the studies focused on students as their respondents. The researchers focused on measures such as knowledge of cybercrime threats and risks, internet usage, types of cybercrimes, source of awareness of cybercrime. In the local setting, studies on cybercrime are relatively few. This study proposes to add to the body of knowledge about senior high school students' awareness of the cybercrimes that are punishable by Philippine laws. It is believed that their knowledge of punishable offenses will deter them from committing the same offenses. Also, this study will measure the significant difference in the knowledge of punishable cybercrime offenses according to sex, age, grade level and track/strand from a Filipino senior high school student sample.

Researchers have likewise focused on self-protective measures as part of cybercrime awareness, most especially in foreign countries. Limited research was found to describe how Filipino students protect themselves online, hence, this study is proposed to target this gap.

METHODOLOGY

This study utilized descriptive approach using the online survey method. The study was conducted to the Senior High School Department of Emilio Aguinaldo College, City of Dasmarinas, Cavite. This school, which started operations in 2016, has a population of 4,766 students enrolled for School Year 2021-2022. Students are distributed to the ABM, HUMSS, STEM, TVL-Home Economics (TVL-HE) and TVL-Information and Communications Technology (TVL-ICT) strands.

Using the Raosoft sample size calculator, the ideal sample size for a population of 4,766 senior high students is 356 at 95% confidence level and 5% margin of error. However, the researchers floated the survey questionnaire via google form to all

senior high students enrolled for the Second Semester Academic Year 2021-2022 and retrieved data from 2,262 senior high school students who answered the survey using the convenience sampling technique.

Prior to the data gathering, the researchers sought the permission of the Vice President for Academic Affairs and the Principal of the Senior High School to conduct the study. Upon approval, they coordinated with the Senior High School Principal to disseminate the link of the online Cybercrime Awareness Survey through the respective Classroom Advisers. Respondents aged 18 and below were given informed consent which includes permission from the parent/s. The online responses were collected, tallied and analyzed.

This study utilized a researcher-made survey questionnaire called Cybercrime Awareness Survey to gather information. Part 1 consists of the demographic profile in terms of sex, grade level, track/strand, age, civil status, devices used and frequency of use of web programs. Part II consists of a self-report checklist of self-protective measures under six (6) categories: (a) password management, (b) online account management, (c) handling emails, (d) secure internet browsing, (e) security software, and (f) protecting data. Also, it has an open-ended question asking respondents to identify topics they are interested to learn in relation to the use of Internet and protection of social media account. Part III consists of 13 questions that ask respondents' knowledge of certain online behaviors as criminal offenses answerable by "yes," "no" and "not sure." The survey questionnaire was reviewed as valid and pretested to selected senior high school students who were excluded in this study. The questionnaire achieved a good internal consistency with a reliability score of Cronbach alpha .803.

Data on demographic profile, self-protective measures, and knowledge of cybercrime offenses were analyzed using frequency and percentage distribution. The tests of significant difference were analyzed using Independent Samples Kruskal-Wallis Test and post-hoc Tukey Analysis. Responses to open ended questions were transcribed and content analyzed.

Ethical Consideration

The researchers assured the voluntary participation of the respondents in this study and provided them with sufficient information about taking part in this study. They also considered the confidentiality and anonymity of the respondents. The research was subjected to ethics review and was given clearance certification by the Institutional Ethics Review Board.

RESULTS

Profile of the Respondents
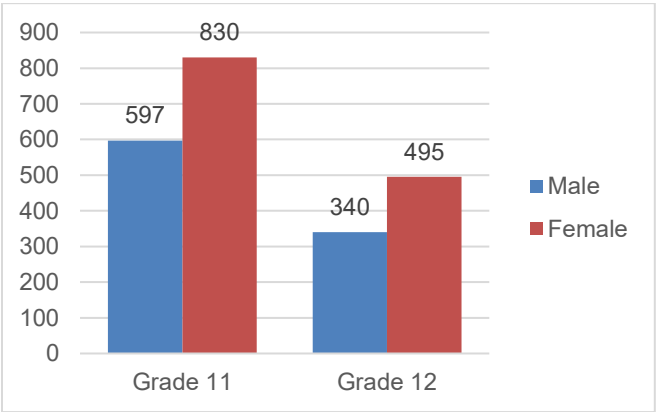
Figure 2. Sex of the respondents

Figure 2 shows that most of the respondents were females as reflected in a total of 1,325 female respondents (59%) compared to 937 males (41%). This is due to the fact that there were more females than males in the campus. Based on the school enrollment record for the 2nd Semester SY 2021-2022 with a population of 4,766 senior high school students, females comprised of 54% compared to males at 46%.
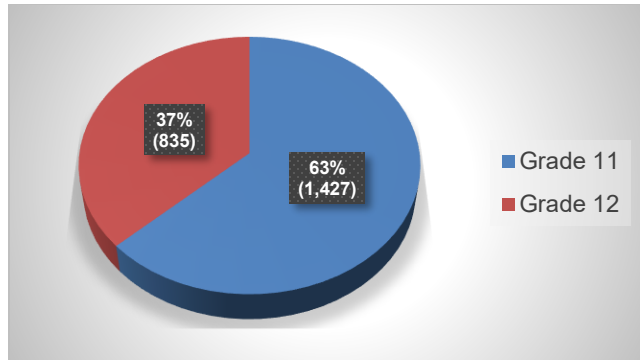
Figure 3. Grade level of the respondents

Figure 3 shows that majority of the respondents were Grade 11 students. Based on the school records, the enrollment in Grade 11 did not differ much with the enrollment of 12. The data merely showed that the participation of Grade 11 students in this study was higher than that of Grade 12.
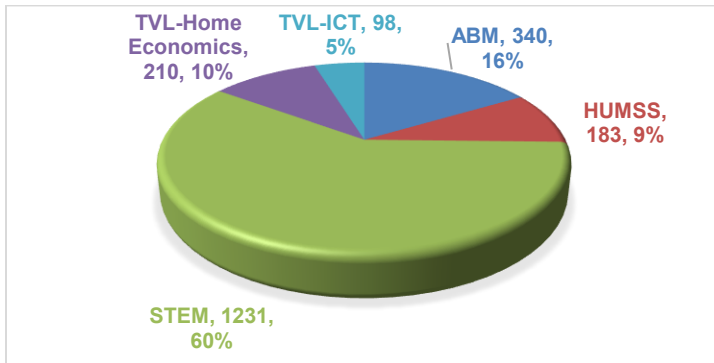
Figure 4. Strand the respondents belong to

Figure 4 shows that majority of the respondents came from Science, Technology, Engineering and Mathematics (STEM) (60%), followed by Accountancy and Business Management (ABM) (16%), Technical-Vocational-Livelihood Home Economics (TVL-HE) (10%), Humanities and Social Sciences (HUMSS) (9%), TVL- Information and Communications Technology (TVL-ICT) (5%). Within the institution, more than half of the population of senior high students came from STEM followed by ABM, HUMSS, TVL-HE and TVL-ICT. However, in this study, the number of HUMSS respondents was lower compared to TVL-HE and TVL-

ICT which showed low participation of students from the said strand.
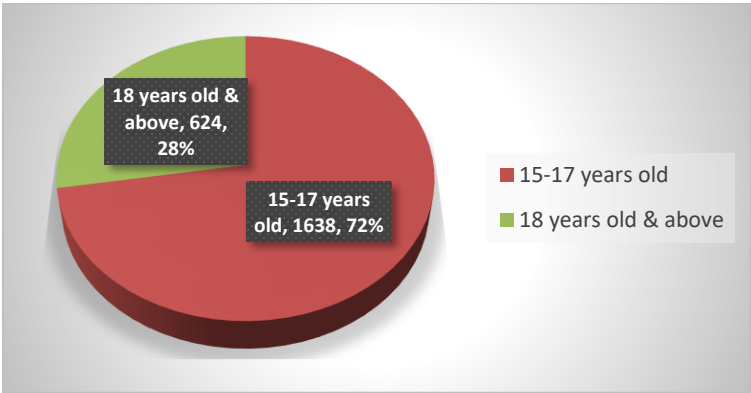
Figure 5. Age of the respondents

Middle adolescence begins at 15 to 17 years of age and late adolescence was identified with the age bracket 18 to 21 (Allen & Waterman, 2019). Figure 5 shows that majority of the respondents (72%) were between 15-17 years old and only 28% of the respondents were 18 years old and above. Most of the Grade 11 respondents were between 16-17 years old and the Grade 12 respondents were mostly between 17-18 years old.

Moreover, almost all respondents are single (99.65%). Only 0.27% are married and 0.09% are widowed.

Table 1

Devices used to go online

Devices	Frequency	Percentage
Cellphone	1703	75.29%
Tablet	119	5.26%
Laptop	1274	56.32%
Desktop Computer	550	24.31%
Other (Ipad, Android TV, Chromebook, TV)	6	0.27%

Table 1 shows that a majority of the respondents used cellphone (75.29%) and laptop (56.32%) to access the Internet. There were 24% using desktop computer, 5% using a tablet and 0.27% using other gadgets such as IPad, Android TV and Chromebook.

For the number of devices used to go online, 46% (n=1,073) were using only one device and 47% (n=1,039) were using a combination of two devices to access the Internet. Interestingly, among the respondents using only one device, 48% (n=496) claimed to use cellphone only, 34% (n=349) used laptop only, 16% (n=168) used desktop computer only and the remaining 3% (n=26) used either tablet or IPad only. Moreover, 6% of the total respondents (n=133) claimed to use a combination of three devices and 1% (n=17) used a combination of four devices to gain access online.

Table 2

Use of Web Programs

Web programs	Mean	Description
Internet (to purchase goods and merchandise, do research, gather information, etc.)	4.36	Constantly
Email	3.505	Several times a day
Chat rooms/Instant messaging (IM)	4.49	Constantly
Online gaming	3.32	Twice a day
Active on online forums	2.75	Twice a day
Active on social network sites	3.905	Several times a day

Table 2 shows that generally, the respondents used the Internet and chat rooms/instant messaging constantly, which means that they used these programs with minimal rest in a day. Moreover, they used the email and were active on social network sites several times in a day, which means that they used these programs between 3-5 times a day.

Self-Protective Measures

Table 3

Frequency of scores for the respondents' actions to stay safe online

Actions	Frequency	Percentage
Password Management		
Only me knows my social media account and Apps password	1,971	87.14
Used strong, unique passwords for my social media/email accounts	1,706	75.42
Updated my passwords	798	35.28
Used different passwords for different sites / apps	824	36.43
Locked my devices with PINs/passcodes/biometrics	1,367	60.43
Used two-factor authentication on the Apps that offer this feature	1,036	45.80
Online Account Management		
Only opened my social media/email account in my personal device or home computer	1,356	59.95
Logged out from my social media/email account when I am not using it	627	27.72
Changed my privacy settings in social media websites (for example, Facebook) and Apps to limit who can see my posts	1,268	56.06

Actions	Frequency	Percentage
Reduced the amount of personal information I disclose on my social media account	1,366	60.39
Handling Emails		
Only opened emails from people I know	1,333	58.93
Only opened attachments or links if I'm sure I know who it's from and what it is	1,612	71.26

Table 3 *(continued)*

Actions	Frequency	Percentage
Secure Internet Browsing		
Used my cellular data instead of connecting to public Wi-Fi	910	40.23
Used a Virtual Private Network (VPN) on my device when connecting to public Wi-Fi	317	14.01
Turned off bluetooth, Share It or other transfer Apps from my device when I 'm not using it	1,340	59.24
Only visited sites if I know and trust them	1,457	64.41
Security Software		
Installed antivirus software on one or more of my devices	1,131	50.00
Updated the antivirus software on my devices regularly	781	34.53
Updated the Operating System and Apps on my devices regularly	848	37.49
Protecting Data		
Made another digital copy ("back-up") of essential files stored in my device	805	35.59
Stored the back-ups of my essential files from my device to another location	754	33.33

Table 3 presents the respondents' actions to keep themselves safe online.

On password management, a majority of the respondents claimed that they keep their social media account and apps passwords to themselves (87%), used strong and unique passwords for their social media accounts (75%) and locked their devices with PINs, passcodes or biometrics (60%). However, less than half of the total respondents claimed that they used two-factor authentication on their apps (45%) and only one-thirds used different passwords for different apps (36%) and updated their passwords (35%).

In terms of online account management, most of the respondents reduced the amount of personal information they disclosed on their social media account (60%), opened their social media/email account only in their personal devices or computer at home (60%) and changed their privacy settings in social media websites (for example, Facebook) and apps to limit who can see their posts (56%). Only 28% of the respondents claimed that they logged out from their social media/email account when they are not using it.

On handling emails, majority of the respondents claimed that they only opened attachments or links if they were sure they know who it is from and what it is (71%) and only opened emails from people they know (59%).

In terms of secure Internet browsing, most of the respondents claimed that they only visited sites that they know and trust (64%) and turned off Bluetooth, Share It or other transfer apps from their device when not in use (59%). However, less than half of the respondents claimed to use their cellular data in browsing instead of connecting to public wifi (40%) and only 14% claimed to use a Virtual Private Network on their device when connecting to public wifi.

On the use of security software, only half of the respondents claimed to have installed antivirus software on one or more of their devices (50%). Only one-thirds claimed that they updated the Operating System and apps on their devices regularly (37%) and updated the antivirus software on their devices regularly (35%).

In terms of protecting their data, one-third of the respondents claimed that they make another digital copy ("back-up") of essential files stored in their device (36%) and stored the back-ups of their essential files from their device to another location (33%).

When asked about the things that the respondents wanted to learn in relation to Internet and social media use, 143 respondents expressed their interest to learn about online account management such as how to protect their online accounts from getting hacked, how to secure their online accounts, how to lock their social media profiles to maintain privacy of account, how to retrieve lost or hacked accounts, and how to track hackers/stalkers among others. There were 42 respondents who expressed their interest to learn about secure internet browsing measures such as how to use the Virtual Private Network (VPN), data security, safe browsing online and use of incognito. Twenty-six (26) respondents expressed interest in enhancing their knowledge about security software such as knowledge of anti-virus software, installation of anti-virus software and protecting devices from virus and malware. There were 16 respondents who expressed their interest to learn about password management, six (6) respondents on backing up of files and four (4) respondents on knowing the security features of their devices.

Knowledge of Cybercrime Offenses Punishable by Philippine Laws

Table 4

Knowledge of the Respondents regarding Online Behaviors considered as Cybercrime Offenses

Cybercrime Offenses	Yes	%	No	%	Not Sure	%
1. Hacking into someone else's device or online accounts	2,029	89.70	179	7.91	54	2.39

2. Creating or distributing viruses or other harmful software	1,986	87.80	193	8.53	83	3.67
3. Defrauding someone online so they lose money	2,030	89.74	182	8.05	50	2.21
4. Using someone's personal information to gain money	2,053	90.76	184	8.13	25	1.11
5. Sharing a naked picture of someone else without their permission	2,039	90.14	186	8.22	37	1.64
6. Sharing videos of sexual activities between adults	1,852	81.87	241	10.65	169	7.47
7. Sending unwanted pornographic messages, pictures or videos	1,960	86.65	210	9.28	92	4.07
8. Child pornography	2,049	90.58	187	8.27	26	1.15
9. Posting or sharing threatening messages	1,972	87.18	199	8.80	91	4.02

10. Posting or sharing rude or offensive messages	1,702	75.24	268	11.85	292	12.91
11. Posting or sharing racist messages	1,866	82.49	218	9.64	178	7.87
12. Soliciting sex over the Internet	1,948	86.12	206	9.11	108	4.77
13. Sending emails that look like those coming from legitimate businesses including financial institutions or government agencies asking for personal data such as usernames and passwords	1,866	82.49	208	9.20	188	8.31

Table 4 shows the frequency of responses on the respondents' knowledge of cybercrimes punishable by the Philippine laws. The mean scores shows that majority of the respondents answered "yes" which means that they were knowledgeable of the cybercrime offenses that are punishable by Philippine laws, most especially using someone's personal information to gain money (identity theft) (90.76%), child pornography (90.58%), sharing a naked picture of someone else without their permission (90.14%), defrauding someone online so they lose money (computer fraud) (89.74%), and hacking into someone else's device or online accounts (illegal access) (89.70%).

It is interesting to note that posting or sharing rude or offensive messages obtained the lowest frequency, or 75.24% of the respondents thought it is a criminal offense. There were 11.85% who said "no" and 12.91% were not sure if it is a criminal offense. Nowadays, the social media has become an avenue to exercise freedom of expression, which includes posting or sharing toxic and offensive messages. The lack of "sanctions" for people who are openly rude or troll around could have brought about the confusion whether such behaviors are criminal offenses or not.

Tests of Significant Difference

Table 5

Difference in Knowledge of Cybercrime Offenses when Grouped According to Sex

Sex	Sig Value	P value	Decision	Remarks
Male Female	0.000	<0.05	Reject Ho	Significant

Table 5 shows that with the significant value of 0.000 and the p value of <0.05, the null hypothesis is rejected, which means that there was a significant difference in the knowledge of cybercrime between male and female respondents. This further means that females were more knowledgeable of online behaviors considered as criminal offenses compared to males.

Table 6

Difference in Knowledge of Cybercrime Offenses when Grouped According to Grade Level

Grade Level	Sig Value	P value	Decision	Remarks
Grade 11 Grade 12	0.109	<0.05	Accept Ho	Not Significant

Table 6 shows that with the significant value of 0.109 and the p value of <0.05, the null hypothesis is accepted, which means that there was no significant difference in the knowledge of cybercrime between Grade 11 and Grade 12 respondents. This further means that Grade 11 and Grade 12 respondents did not differ in their knowledge of online behaviors considered as cybercrime offenses.
Table 7

Difference in Knowledge of Cybercrime Offenses when Grouped According to Strands

Strands	Sig Value	P value	Decision	Remarks
ABM HUMSS STEM TVL-HE TVL-ICT	0.000	<0.05	Reject Ho	Significant

Table 7 shows that with the significant value of 0.000 and the p value of <0.05, the null hypothesis is rejected, which means that there was a significant difference in the knowledge of cybercrime among respondents belonging to the different strands. Using the post-hoc Tukey analysis, there was a difference between Accountancy and Business Management (ABM) and Technical-Vocational-Livelihood Home Economics (TVL-HE); Science, Technology, Engineering and Mathematics (STEM) and TVL-HE; STEM and Technical-Vocational-Livelihood- Information and Communications Technology (TVL-ICT), and Humanities and Social Sciences (HUMSS) and TVL-HE. This further means that respondents from ABM and HUMSS were more knowledgeable of online behaviors that are considered as cybercrime offenses than TVL-Home Economics. Further, respondents from STEM were more knowledgeable than TVL-Home Economics and TVL-ICT; and respondents from HUMSS were more knowledgeable than TVL-Home Economics.

Table 8

Difference in Knowledge of Cybercrime Offenses when Grouped According to Age

Age	Sig Value	P value	Decision	Remarks
15-17 years old	0.010	<0.05	Reject Ho	Significant
18 years old and above				

Table 8 shows that with the significant value of 0.00 and the p value of <0.05, the null hypothesis is rejected, which means that there was a significant difference in the knowledge of cybercrime between the age groups 15-17 and 18 above. This further means that respondents between 15-17 years old were more knowledgeable of cybercrime offenses than respondents aged 18 years old and above.

DISCUSSION

The results of this study revealed that a greater number of senior high school students who participated in the study were females, enrolled in Grade 11, single and at the age of 17. With the implementation of online classes, all respondents have gadgets to access the Internet. Some afforded only one device (i.e. cellphone, laptop, desktop) and the others a combination of two to three devices.

Data showed that the respondents were active online users considering the frequency of use of the Internet, chat rooms/instant messaging, email, and social network sites (SNS). These digital engagements were attributed to the observance of community quarantine protocols during the COVID-19 pandemic, especially during the implementation of online classes and travel restrictions. Students were obliged to access the Internet to attend online classes and fulfill asynchronous tasks and assignments, along with watching entertainment and maintaining communication with others on social media sites and chatrooms. Social networking sites (SNS) were very useful because they facilitate the connection of students with their teachers about

assignments/projects. Also, SNS allowed for connections with friends for academic-related activities and entertainment/relaxation (Teves-Pinili & Ridad, 2018).

The drawback, however, with becoming frequent online is the students' vulnerability to cybercrimes. The more active people were online, the more exposed to potential offenders and other dangers, the more likely they become victims (Nasi, Danielsson & Kaakinen, 2021; Cheng, Chan & Chau, 2020). There is evidence that chatting in chat rooms, use of online fora and social networking sites led to an increased risk of hacking victimization (Leukfeldt & Yar, 2016). Also, time spent using the internet, online shopping, downloading and gaming were all related to malware victimization (Leukfeldt & Yar, 2016; Leukfeldt, 2018).

The self-report of protective measures showed that the common ways the respondents keep themselves safe online were through non-disclosure of social media and apps passwords, use of strong and unique passwords, and opening of known and trusted attachments and links. This indicates that these behaviors were commonly known and practiced by the majority of the respondents. However, the least common ways on how respondents protect themselves were updating passwords, using different passwords for different sites/apps, updating antivirus software, regular updating of Operating System and apps, backing up of files, logging out from social media accounts when unused, and using Virtual Private Network (VPN). The low frequency of responses in the checklist revealed that several self-protective measures were not practiced by the respondents, which could be due to limited awareness and knowledge of these measures. Hence, there is a need to increase their awareness of cybersecurity measures.

The high percentage of respondents knowledgeable of cybercrime offenses punishable by Philippine laws was impressive. This indicates that the majority of the respondents were informed about online behaviors that are illegal and were aware of the consequences when these offenses are committed. There are various sources to learn these things from, whether through social media, online news bits, or television. However, there were still a number of students who were unsure or not knowledgeable, which indicates a need to increase awareness of the cybercrime offenses and cybercrime-related laws.

Further, there was evidence that the females were more aware than male respondents on cybercrime offenses. This finding supported the study of Prabu (2015) that females showed more awareness toward cybercrime. Females usually become victims of online harassment (Nasi et. al., 2015; Nasi, Danielsson & Kaakinen, 2021) and stalking, hence they were more cautious and motivated to learn more about cybercrimes and cybercrime-related laws to stay protected.

Also, this study found that middle adolescents (ages 15-17) who were mostly Grade 11 students were more knowledgeable of cybercrime offenses than late adolescents (ages 18 above) who were mostly Grade 12 students. These findings contradicted the previous studies which claimed that younger individuals were less aware of cybercrimes than older individuals (Hasan et. al., 2015; Nzeakor, Nwokeoma & Ezeh, 2020). The findings of the current study may be attributed to the recent intense campaign of the Department of Education (DepEd) on cybersafety and responsible use of social media platforms during the community quarantine (deped.gov.ph). The campaign began in April 2020 when the Grade 11 respondents were still in Junior High School. It is presumed that these respondents have had more exposure to cybersafety programs since their junior high years, which contributed to their higher level of awareness.

Moreover, it is quite ironic that TVL-ICT has a relatively lower mean score on knowledge of cybercrime offenses compared to ABM, HUMSS, and STEM. This implies less interest among the respondents to learn about the topic, or a gap exists in the discussion of this topic in the classroom. Balilo and Laviña (2016) stated that the lack of awareness among Computer Science and IT students is, in part, due to the absence of or limited discussion of the cybercrime offenses and the law in the classroom and not reading computer-related laws. TVL-Home Economics and TVL-ICT needed to be given considerable attention in terms of increasing their awareness of cybercrime offenses and cybercrime-related laws.

Conclusion

This study supports the initiative of increasing the cybercrime awareness and knowledge of cybercrime-related laws among senior high school students taking into consideration that (a) the students have active online engagement which exposes them to online risks, (b) students have limited awareness of other significant self-protective measures, and (c) not all students are knowledgeable of cybercrime offenses and its legal consequences.

Recommendations

Since the Internet is highly integrated into the individual's system and school's programs, the school can make a big impact on the students' protection by providing a cybersecurity awareness program, which could include the development of a cybersecurity manual or inclusion in the student Manual, creation of a poster for posting in the institution's Facebook fan page and orientation/reorientation recordings for webinars/lectures programs.

Also, to further improve this study, interested researchers may revise the questionnaire using a Likert scale to know the extent of performance of the identified self-protective measures and the extent of knowledge of cybercrimes. Also, they may consider examining other variables such as cybercrime victimization. Since this study focused on senior high school students, it is also recommended to investigate the cybercrime awareness of college students, teaching, and non-teaching staff for the further enhancement of cybersecurity programs and guidelines to be developed.

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Career Demographics as Basis of Developing an Institutional Pre-placement Career Program

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- **Career construction theory**
- **Pre-placement activities**

Abstract Despite of the efforts of schools to develop the needed competencies among the graduates, there are certain competencies that may still need to be discovered in the real world of work wherein, the discovery of those competencies could be a basis in developing pre-placement program. Through the lens of Career Construction Theory, quantitative and qualitative approach using simple coding analysis, this research was conducted. Integrity was found to be present in both learned and unlearned competency classifications. The instrument of the study was composed on 60 rating scale items with two qualitative types of questions focusing on learned and unlearned competencies and suggested activities. The results further revealed that the suggested activities were focused on the development of interpersonal skills. Recommendations with provision of conducting this current study in the future was presented by the researchers.

Career Demographics as Basis of Developing an Institutional Pre-placement Career Program

INTRODUCTION

With the changes brought in learning and the demand of the job market, graduating students were challenged to get a job after graduation or be able to apply their skills of putting their own business or practice their profession. However, their training may not be at par with the standards of the job market. This was a challenge to all educational institutions in which, their focus is to study the caliber of their graduates through a tracer study.

The Emilio Aguinaldo College – Cavite as an institution that is dedicated to excellence and quality, to improve its graduates in terms of competencies is an important indicator of this thrusts. The continuous dedication to quality shall materialize in developing effective program and services of both academic and non-academic departments. With this focus, an improved placement program is an essential move towards quality. However, the effective programs shall not end in the implementation stage alone, but it calls for an effective evaluation strategy to secure its effectiveness and further improve it in the coming days if necessary. As a result, students, parents, and the EAC-C community shall produce graduates that is at par with standards of the labor market both local and global. According to UNESCO (2021) "career development is an important aspect of continuous process throughout life. It is fundamental to the smooth transitions of young people as they, in ever greater numbers, are presented with choices about continuing education and training and to adults needing to upskill, reskill or to move within the labor market".

This research utilized the Career Construction Theory (Savickas, 2005). In this theory, one of its components is career adaptability. In terms of career adaptability schools has major roles as they provide the learned competencies, however, in the real world of work there are unlearned competencies that were

necessary to be explored as the needed competencies in the job market are changing tremendously. Career construction theory explains the nature of the mobile employees even in the current times that they are confused with the restructuring of occupations, transformation of the labor force, and multicultural imperatives as well as the demand of the technological revolution. This changes in the world of work are making it increasingly challenging with just person-environment and vocational development models. Such changes made the graduates harder to adjust in the world of work. According to Yadir and Deniz (2016) one of the most important factors of adjusting to a successful career in the world of work is through the existing future career plan. Those plans can be included in school programs specifically, it may call for its inclusion in the pre-placement program. In addition, still from Yadir and Deniz, the school administration and the guidance office may take necessary action on the importance of early career counseling of the students.

In the study of Lonogan (2020), they found that Filipino medical technology students found to have demonstration of professional responsibility, professional laboratory skills and among others. This means that the graduate respondents of Lonogan's (2020) study were prepared by their institution to adjust in their future world of work. In adjusting to the first job of the graduates Khalid, Musa, and Alkhemeiri (2020) emphasized the importance of career competencies specifically to the graduates with low proactive personality. They further discovered early-career employees with low proactive personality benefit from high career competencies in landing a successful career.

Therefore, thorough investigation in the unlearned competencies was necessary to be discovered to bridge the gap between the employees' needed competencies in the world of work to make them successful in their career. In the study of Chen et al (2020), they highlighted the importance of career construction as one of important aspect to consider in studying career adaptability. In fact, in that same study, career construction ranked number four among the forty-three keywords relating to career adaptability. In addition, According to Bocciardi et al., 2017 in Khalid (2020), there is a limited information in career adaptability of early-career employees. Since it is crucial for early-career employees to plan for career development, career opportunity and career transition, it would be important to study their

demographics. Lee et al (2021) stated that the career development competencies can be a predictor for school adaptation, academic performances, and labor market rewards in general. It is vital for all people of any status in life. Therefore, it is justifiable to argue the importance of equal access in career development.

This paper answered the following statement of the problem; *1.) What is the profile of the respondents in terms of: acquired competencies; and unlearned competencies? 2.) What pre-placement activities can be designed based on the demographic profile?* and, *3.) What are the areas/factors to be considered in developing a pre-placement program plan?* The Objectives of the Study are: *1.) To determine the profile of the respondents in terms of a.) acquired competencies;* and *b.) unlearned competencies, 2.) To design capacity development activities that will improve the soft skills of the graduating students,* and *3.) To develop a pre-placement program plan for the graduating students.*

Bautista et.al. (2017) suggested that a career guidance program is necessary at aiming the student's self- awareness of their personality, interests, strengths and weaknesses, among others. From that, the guidance counselor can provide career counseling and services towards orientation and choice of track, a need towards pursuing the right careers.

Significance of the Study

The output of this research was useful in the operation and implementation of the institutional placement program for the next batch of graduating students of EAC-Cavite. Furthermore, it gave benefit to the students and the institution as it focused on producing quality graduates and future leaders in different program offerings of the school. The institution and the respondents complied with the quality standards set by both local and global job market.

Scope and Limitation

This research was restricted to the graduates of different programs. Its focus was to identify important demographics data to develop an improved placement program. This study included

only two academic years of graduates (2017-2018). Inclusion of other academic year can be explored by future researchers in another study.

METHODOLOGY

This research utilized a descriptive research design that was appropriate in determining the objective or problem of the study. According to Barrot (2017), Descriptive research design's goal is to observe and report certain phenomenon. This defined that a descriptive research design is used to interpret the status of a population, individual, condition, or event. This research design was used in this study to determine the profile of the respondents, to design capacity development activities, and to develop a pre-placement program plan. The locale of the study is the EAC-Cavite. Specifically, it inlcuded the graduates as respondents. The graduates who spent their undergraduate study at EAC-C for four to five years. The respondents of this research are the graduates of different programs. From the emailed respondents, there were 30 who voluntarily responded the google form. This research maximized a convenience sampling technique. A technique that is based on the purpose and goal of the study. According to Dörnyei, Z. (2007) in Alkassim and Tram (2016) convenience sampling (also as Haphazard Sampling or Accidental Sampling) is a type of non-probability or non-random sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study. In this study, the criteria were at least a graduate of Emilio Aguinaldo College-Cavite in any programs and at least already working. They were selected through the graduate list provided by the placement office and registrar's office.

When the researchers received approval to conduct the study, the researchers distributed the instrument to the respondents including the informed consent via online platform due to the pandemic. All information submitted to the researchers shall remain anonymous and highly confidential and there is no apparent risk in participating in this study. Name of the respondents are optional in the instrument. Through google form, the respondents were given enough time to answer the

questionnaire. The researchers guaranteed that respondents' answers were used for research purposes only. In the data analysis, mean, ranking and simple coding were utilized to interpret the research data. The steps of data gathering are as follows: *1.) Preparation of letters and instrument 2.) Validation, 3.) Conversion of instrument into google format, 4.) Data gathering via online, and 5.) Data analysis.*

Ethical Consideration

Data gathering was done in 2022. The researchers provided a letter of request asking for permission to the registrar to get the total population as well as the information of the alumni. At the same time, a letter was signed and approved by the Ethics Committee and the Research Director of Emilio Aguinaldo College – Cavite for the conduct of the institutional research utilizing humans as respondents.

RESULTS

The result of the study was presented below. A total of only thirty (30) respondents replied to the invitation to participate in the data gathering. Table 1a and table 1b is focused on the learned and unlearned competencies while table two (2) and three (3) presents the qualitative responses about suggested activities for pre-placement program and considerations of its future implementation.

Table 1a

The profile of the respondents in terms of acquired competencies

Competencies	Mean	Descriptive Interpretation	Ranking
Integrity	3.39	Very high	1
Flexibility	3.32	Very high	2.25
Commitment to excellence	3.32	Very high	2.25
Collaborative learner	3.29	Very high	4
Avid learner	3.25	Very high	5.5

Indicators	Mean	Descriptive Interpretation	Ranking
Teamwork	3.25	Very high	5.5
Career focused	3.21	Very High	7.5
Monitoring	3.21	Very high	7.5

The table showed the acquired competencies of the respondents while they were still studying in school, specifically, in the collegiate level. Rank one (1) is integrity with a mean of 3.39 (Very high). Flexibility and commitment to excellence shares the same rank of 2.25 and being followed by collaborative learner. Being career focused and monitoring competencies also shares the same rank of 7.5. All competencies were under very high descriptive interpretation.

Table 1b

The profile of the respondents in terms of unlearned competencies

Indicators	Mean	Descriptive Interpretation	Ranking
Integrity	3.46	Very high	1
Career focused	3.36	Very high	2.5
Problem solving	3.36	Very high	2.5
Avid learner	3.32	Very high	6
Being observant	3.32	Very high	6
Flexibility	3.32	Very high	6
Empathy	3.32	Very high	6
Results driven	3.32	Very high	6
Collaboration	3.29	Very high	9.5
Planning	3.29	Very high	9.5
Communication/Teamwork	3.25	Very high	11

The same as the learned competencies, integrity is surprisingly in rank 1, (mean=3.46). Career focused and problem solving were in the same rank of 2.5 (mean=3.36). Avid learner, being observant, flexibility, empathy and results-driven shared the

same rank of 6 (mean=3.32). Communication and teamwork are in rank 11 (mean=3.25). All the competencies presented in Table 1b falls under very high verbal interpretation.

Table 2

The suggested pre-placement activities

Indicators	Freq	Ranking
Team building	6	1
Collaborative learning	4	2
Leadership training	3	3
More extra-curricular activities	2	4
Applications	1	6
Job fair	1	6
Planning activities	1	6

In the conducted simple coding, team building was in rank one (1) (f=6) among the suggested pre-placement activities. It was followed by collaborative learning (f=4) (rank 2). Leadership training and more extra-curricular activities were in rank three and rank four respectively. The last rank (6) with one frequency were applications, job fair and planning activities. There were total of 16 respondents answered the suggested pre-placement portion of the instrument.

Table 3

Considerations in developing pre-placement plan

Indicators	Freq	Ranking
Building good relationship	4	1.5
Time management	4	1.5
Be organized in planning	3	4

Follow health protocols	3	4
Willingness to participate	3	4
Flexibility	1	6.5
Applications	1	6.5

In terms of considerations in developing pre-placement activities, building good relationship and time management shares the same rank of 1.5 (f=4). On the other hand, organized planning, follow of health protocols and willing ness to participate were in rank 4 (f=3). Rank 6.5 (f=1) were flexibility and applications. A total of 20 respondents answered the portion of the instrument referring to considerations in developing pre-placement plan.

DISCUSSION

The result of the study generally fell under very high level of either learned or unlearned competencies. Integrity as the most learned competency of the respondents indicates the effectiveness of some related courses taken during their schooling. In fact, in the works of Reyes-Chua et al (2020) and Leocario et al (2020) they found out that Emilio Aguinaldo College-Cavite graduates possess the 21st century lifelong learning qualities and competencies in the world of work. Aside from being in rank 1 (integrity) in the learned competencies, it also got the highest rank (1) in the unlearned competencies.

The result was parallel to the study of Lonogan (2020) wherein, the respondents gained very high in upholding integrity of the profession and she also found that the respondents possess the competency of upholding the moral and ethical values in terms of service and practice of their profession. This suggested that whatever the changes and challenges in the world of work, integrity may emerged to be necessary as basis of maintaining other related construct such as career adapt-abilities (Savickas, 1997 in Kadir and Deniz 2016). Another learned competency found in the responses were *commitment to excellence* and *flexibility*. These learned competencies in school indicates the influence of the school courses that contained lesson pertaining to the said competencies. Perhaps the practices pertaining to

quality of instructions could be contributed to the learned competencies.

In the aspects of unlearned competencies, *career focused* and *problem solving* in rank 2.5 were important construct to be included in the pre-placement program for the current students. According to career construction theory (Savickas, 1997, 2005), an individual is capable of relational progress where they can impose meaning and direction in their career. Career focused can be highlighted in the pre-placement program as it can give better career directions. Furthermore, the inclusion of such competencies may help in eradicating disengagement in the future career of the prospective participants of the pre-placement program. As argued by Bautista et.al. (2017) a career guidance program is necessary at aiming the student's competencies that may start in school and the counselor can provide the services that may promote the best career-fit to the students.

In terms of suggested activities and considerations in planning and implementing the pre-placement program, the themes were focused on camaraderie of students (teambuilding, collaborative learning, and building good relationship) that may be helpful in the development of interpersonal skills. This result also entailed that the lacking aspects of the academic experiences of the respondents is more on socialization even before the pandemic as they are graduates of either 2017, 2018 or 2019.

Conclusion

Integrity is both learned and unlearned competencies based on the result of the study. This competency being highlighted in the result needs proper attention and shall be integrated in the proposed program. Integrity and other competencies highlighted in the profile of respondents as graduates such as flexibility and commitment to excellence were indications of how the institutional programs and quality practices are translated as competencies. On the other hand, the highlighted unlearned competencies were areas to work on and shall be included in the pre-placement program including integrity, career focused, problem solving, and avid learner and among others. Results from the suggestions and considerations in implementing the pre-placement service shall be included in

crafting the program. Collaboration as the theme of most suggestions from the respondents shall be included as well and collaboration itself shall be considered as an approach in planning of the pre-service program where support is truly expected from different employees and offices.

The quest to a successful career is a continuous process throughout life as advocated by UNESCO (2021). Unemployed, graduating students and even the non-graduating need an effective placement program.

Recommendations

As stated in the objective of the study, this research is intended to be a basis for pre-placement program for the current students at Emilio Aguinaldo College, Cavite. To make it possible it shall require careful planning and decision-making. The program designer shall consider the results and integrate them in the program. This study can be further conducted to a bigger population as there were only 30 respondents who accepted the invitation to be part of the study. A mixed method approach is also a good option to further investigate the constructs most especially the unlearned. In the implementation of the program, an effective evaluation strategy shall be implemented as well in accordance with the drafted objectives. The support of both academic and non-academic community is highly encouraged including the school administration. Lee et al (2021) emphasized the advantage of the high participation rate of career programs and classes in order to ensure equal outcomes of an effective career development. Support in all aspects especially in the area of participation is very important. Integrity shall be given importance in the program development and shall be reviewed thoroughly in the evaluation stage after its implementation.

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Effects of Virtual Learning Related Stressors on the Academic Performance of BSBA Students at EAC-C, Philippines

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KEYWORDS:
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- **online learning**
- **virtual learning**
- **academic performance**
- **Business students**

Abstract: The research sought to know the effects of virtual related learning (VRL) stressors on the scholastic achievement of EAC Bachelor of Science in Business Administration (BSBA) students for SY2020-21, The study further dealt with the extent these virtual stressors are experienced by the students based on age, sex, and academic program. The proponents tested family size and income in moderating the effect against these VRLs. Frequency and percentage answered the profile of respondents (SOP#1), weighted mean determined the scholastic achievement of students (SOP#2), extent these VRLs are experienced by students (SOP#4). ANOVA determined the variation between the students' grade point average (GPA) for two semesters in terms of age and academic program (SOP #3). It Also determined the significant difference in the extent the virtual stressors are experienced based on age, sex & academic program (SOP#6). while T-test was used to answer the same based on sex (SOP#3). Linear regression tested the VRL's influence (SOP#5) and used for moderating variables family size

and family income (SOP#8), moderated the effect of VRLs on the scholastic achievement of students (SOP#7). Most respondents are aged 19-22, female, BAMM, 4 & below, with family income of Php15,000-Php25,000. Academic performance varies by semester and females performed better than males. Psychological stressors have significant effect on females. Resource based stressors though weak but financial struggles are real, so they partially partake in and value virtual learning. Family income moderates the effect of resource-based stressors on students' academic performance. The researchers recommend research on a larger scale to include other departments to increase accuracy as well as support findings from the previous research. Future researchers are encouraged to delve on other virtual related learning stressors (VRLS) not tackled in this study.

Effects of Virtual Learning Related Stressors on the Academic Performance of BSBA Students at EAC-C, Philippines

INTRODUCTION

The word "stress" originated from physics in 1920 when Hans Selye, used the term after his medical education from Montreal University. It was called stress hormones which caused human abnormal functions (Centre for Studies on Human Stress [CSHS], 2020). The human body's call for change is called stress. Hans Selye is a Hungarian Canadian endocrinologist who introduced the concept of stress in 1936. General Adaptation Syndrome (GAS) which was experimented in laboratory mice and developed into dealings between the environment and the individual (Rosch, n.d.). Stress can be addressed by recognizing the source, only then, effective interventions can be laid down and implemented. Stress is part of life, it can aggravate physical and mental health of individual, emotional wellbeing, as well as academic success, proper stress management is a must, (New York University, n.d.), otherwise, it will lead to depression and anxiety and other serious illnesses (Jain, et. al., 2017).

The onset of COVID-19 pandemic shifts the paradigm from traditional to online platform of learning has its share of advantages and challenges. The method of instruction from face-to-face learning has shifted abruptly to virtual learning. The initial stage of the learning process was face-to-face, which is normal for traditional mode of learning (Sutarto et al., 2020), but online learning platform was launched using several platforms (Nasir et al, 2018). In online learning, the transfer of knowledge as well as interaction between teachers and students is done virtually using platforms like Gmeet, Zoom, etc. This minimizes the presence of professors and learners to share a physical room to conduct learning. Several challenges make it arduous for students to cope with stress specifically in higher education levels where significantly higher levels of stress were observed in comparison to students in the intermediate and secondary levels students. These changes occur due to the transformation of collegiate

learners to adulthood who have diverse needs for independence and varied roles to perform.

The depth of stress encountered by students become deeper since online learning is an integral part of the students' regular tasks and basis for academic performance. The challenge of navigating different platforms abruptly contributed to the stress because of the academic expectations of submitting online tasks (Irawan, et al, 2020). The absence of suitable place to study, disruptions, inadequate in-school resources, coupled with challenges in coping with the deadlines, stress abounds. The move from traditional learning to virtual learning instantaneously coupled with the complexity of navigating the needed technology platforms in a short period of time aggravates the situation (Russo, 2021). Anxiety manifests in several forms and exists in all throughout college life even thereafter. For instance, anxiety revolves within technology. From the simple attachment of the correct assignment to the dilemma of meeting the time frame set by the professor in submitting the assignment. The challenge of login for a timed test poses also additional burden on the part of the students which is caused by slow internet connections. Everybody experiences anxiety only with different reasons (Russo, 2021).

There are countries that report stress, fatigue, and anxiety experienced by students in an online learning scenario (e.g., Adnan & Anwar, 2020 in Pakistan; Arinto, 2016 in the Philippines; Henaku, 2020 in Ghana; Matswetu, et al., 2020 in Zimbabwe; Subedi et al., 2020 in Nepal; and Dhawan, 2020 in India). Emerging concerns in online class like poor internet connections, insufficient learning materials, power stoppages, ambiguous learning resources, too much online activities, inadequate teacher scaffolds, lack of peer communication, conflict with housework, poor physical environment, money problems, physical and mental health issues (Rotas and Cahapay, 2020). In places where power interruption is a perennial problem, it is predictable that this will affect the virtual classroom situation (Castillo, 2020). Students residing in remote areas find online learning very challenging due to the absence of power, if they have, power interruption becomes an issue Sarwar et al. (2020), Subedi et al. (2020), and Verawardina et al. (2020). In an online learning environment, learners experience problems with internet connection (Bao, 2020; Henaku, 2020; Entsie, 2020; Wisconsin, 2020; and

Baticulon et al., 2020). Weak internet connection is a prevailing problem in the Philippines. Amadora (2020) said that while there are plenty of internet bundles available, there is an issue with voltage fluctuation as well as internet speed and stability. The workload brought about by synchronous online classes, submission of virtual requirements and exam preparation has a substantial load on learners (Hansen, n.d.). Another challenge for students in the virtual learning environment is to have a decent gadget (Domingo-Marasigan, 2020). In a study by Henaku (2020) findings suggest that students cannot solely take part and gain from online learning without sufficient learning materials. Mendoza (2020) said that for successful learning takes place with adequate resources like laptops, mobile phones, desktops equipped with audio and video capabilities, etc. Saavedra (2020) stated that these technical resources are vital for students as educational institutions shift from traditional to digital learning.

The more substantial consequences of parental income than wealth on the academic performance were reflected within the families could suggest that parental wealth is evidenced with assets such as property, consistent with the buying lifestyle. The bigger parental wealth where assessments between the families could suggest that wealthy families are sorted into community with access to good schools (Lin & Lv, 2017).

The main goal of this research is to discuss the population or events sequentially and correctly. Since students are the most susceptible, these challenges causing stress are investigated in this study. These are some of the reasons why the proponents had this notion to know the effects of virtual related learning stressors on the academic achievement of business administration. students.

The following statement of problems were answered in this study, namely: 1. What is the profile of respondents in terms of: 1.1. age; 1.2.sex; 1.3. academic program; 1.4. family size; and 1.5. family income? 2. What is the academic performance of students for the first and second semester of academic year 2020-2021? 3. Is there a significant difference between the students' GPA (grade point average) in the two semesters? 4.. To what extent are the following virtual learning related stressors are experienced by the students: 4.1. resource based stressors; 4.2. psychological stressors, and 4.3. academic related stressors?

5. What is the effect of the virtual learning stressors on the academic performance of students? 6. Is there a significant difference in the extent the virtual stressors are experienced based on: 6.1. Age; 6.2. Sex; and 6.3. Academic program? 7. Does family size moderate the effect of virtual learning stressors on students' academic performance? 8. Does family income moderate the effect of virtual learning stressors on students' academic performance?

Scholastic achievement is the measurement of learner's performance on numerous school disciplines. The learner's achievement is evaluated utilizing grade point average abbreviated GPA (Balotpedia, 2021). GPA contributes to the anxiety, stress, dignity, and satisfaction that shows a vital role in achieving goals after secondary education. GPA can impact student's visualization depending on how much value they place on their grades and GPAs, which positively affect how a person imagine themselves. While maybe not changing a person's view of himself, it can correct how a student feels about themselves. GPA also influences how a human being thinks that others see them- if others regard them highly or not. The notion of a weighted grade is appealing to many persons, but the complexity and rigidity of honors classes can make the likelihood of achieving that grade slim (Lee, 2018).

The following hypotheses were tested. 1.There is no significant difference between the students' GPA in the first semester based on age. 2.There is no significant difference between the students' GPA in the in the first semester based on sex. 3.There is no significant difference between the students' GPA in the first semester based on academic program. 4.There is no significant difference between the students' GPA in the second semester based on age. 5.There is no significant difference between the students' GPA in the in the second semester based on sex. 6.There is no significant difference between the students' GPA in the second semester based on academic program. 7.Resource based stressors have negative effect on the academic performance of students in the first semester. 8. Psychological related stressors have negative effect on the academic performance of students in the first semester. 9. Academic related stressors have negative effect on the academic performance of students in the first semester. 10. Resource based stressors have negative effect in the academic performance of students in the

second semester. 11.Psychological related stressors have negative effect in the academic performance of students in the second semester. 12.Academic related stressors have negative effect in the academic performance of students in the second semester. 13.There is no significant difference in the extent the resource based related stressors are experienced based on age. 14.There is no significant difference in the extent the resource based related stressors are experienced based on sex. 15.There is no significant difference in the extent the resource based related stressors are experienced based on academic program. 16.There is no significant difference in the extent the psychological related stressors are experienced based on age. 17.There is no significant difference in the extent the psychological related stressors are experienced based on sex. 18.There is no significant difference in the extent the psychological related stressors are experienced based on academic program. 19.There is no significant difference in the extent the academic related stressors are experienced based on age. 20. There is no significant difference in the extent the academic related stressors are experienced based on sex. 21. There is no significant difference in the extent the academic related stressors are experienced based on academic program 22.Family size does not moderate the effect of resource based related stressors on students' academic performance. 23.Family size does not moderate the effect of psychological related stressors on students' academic performance. 24.Family size does not moderate the effect of academic related stressors on students' academic performance. 25.Family income does not moderate the effect of resource-based related stressors on students' academic performance. 26.Family income does not moderate the effect of psychological related stressors on students' academic performance. 27.Family income does not moderate the effect of academic related stressors on students' academic performance.

METHODOLOGY

This study utilized descriptive research..

Research Locale. Emilio Aguinaldo College Cavite (EAC-C) Philippines is the setting of the study, which is located along Congressional East, Burol Main, Dasmarinas, Cavite.

Research Participants. BSBA students with complete GPA for the first and second semester of academic year 2020-2021 were the respondents of the study. During the first semester of AY 2021, there were 262 enrolled students, while 246 students were enrolled during the second semester of AY 2021 in the BSBA program. The number of enrolled students were averaged during the two semesters which yielded a population of 254, with the use of Slovin's formula the sample size determined was 156 respondents.

Sampling Technique. The first sampling technique used in this study is purposive sampling. This type of sampling technique is selected based on the criteria set by the researchers. This type of sampling technique is distinct from accidental sampling where respondents are chosen by the researchers themselves (Crossman, 2020). The second sampling technique used in this study is criterion sampling. Only BSBA students who have complete grade point average (GPA) for the first and second semester of school year 2020-2021 were the respondents of the study. This kind of sampling technique utilizes sample based on existing conditions. This is important to the researchers because a specific criterion helps one understand its consequences. This helps the proponents to study the criteria deeper and its importance (Criterion sampling in research, 2021).

Data Gathering Procedure. Information used in this study was taken from the survey questions made entirely by the proponents. Secondary data were taken from unpublished theses, books, journals, blogs, essays, periodicals. and all written and online resources which will support the background, results, and discussions of the study.

Research Instrument. The researchers utilized a survey they crafted personally. This questionnaire has two parts. The first part is the personal profile of the participants. The second part contains the survey proper where the effects of virtual learning related stressors on the academic achievement of the BSBA were determined. The consent of the research participants was taken prior to answering the survey which was included in the research instrument.

Reliability Test. Reliability test was done as the research instrument was pre-tested to similar respondents. The pilot test was done online; a link was sent to the respondents where they answered the survey via Google forms. Target similar respondents were 65. The actual respondents who answered the pilot test were 63. The raw data taken from the pilot test were subjected to Cronbach Alpha for reliability test. The proponents administered the pilot test five times because the psychological factors did not yield satisfactory results on the first four tries. Luckily, on the fifth try, the researchers got a considerable high result for psychological factors. The following were the result of reliability test using Cronbach Alpha: For resource-based stressors, the result of the test was 0.828, for psychological based stressors, the result of the test was 0.881 and for academic stressors, the result of the test was 0.819. Cronbach Alpha overall result was 0.863. The threshold for Cronbach Alpha is 0.70 which is interpreted as good. Actual survey of respondents was conducted after the pilot test passed the reliability test.

Data Analysis. The proponents used the following for its analysis of data. Frequency and percentage distribution, weighted mean, One-way analysis of variance (ANOVA), T test and linear regression were used to treat the data.

Frequency and Percentage Distribution. This statistical tool was employed to know the personal information of the participants of the study which answered SOP #1. The gap depends on the information being analyzed and the goals of the statistician (Young, 2020). It is a tool in which the individual responses are expressed as percent of the entirety which is 100. (Statistics, Canada, 2019).

Weighted Mean. To determine the scholastic achievement of students for the first and second semester of school year 2020-2021, this tool was used for SOP #2. Furthermore, weighted mean was also utilized to figure out to what extent these virtual learning related stressors were experienced by students. This answered SOP #4. Weighted mean formula is a method used in statistics to calculate the average by multiplying the mean weights and getting its total. The importance of every observation is known by assigning weights to each value, then the average is taken (Keni, n.d.).

One Way Analysis of Variance (ANOVA). This statistical technique revealed the considerable variation between the students' GPA in the two semesters based on age and academic program. This was used to answer SOP #3. Moreover,

ANOVA was used to know if the significant difference in the extent the resource based, psychological and academic related stressors were experienced based on age and academic program. This answered SOP # 6. Analysis of variance (ANOVA) is a statistical tool that divides the studied combined variances found in the set of information composed of systematic and unplanned factors. This has a relative effect on the given data set, while unplanned factors do not. Statisticians use this test to know the effect of stand-alone from the dependent aspects in a regression analysis (Kenton, 2021).

T-test. This statistical technique was used to get the significant difference between the students' GPA in the two semesters based on sex. This was used to answer SOP #3. Additionally, t-test was utilized to figure out of the significant difference in the extent the resource based, psychological and academic related stressors are experienced based on sex. This answered SOP #6. T-test is a tool used to compare the means of two groups. It is utilized in testing the hypothesis to check whether a process or treatment influences the population, or the two groups are distinct from one another (Bevans, 2020).

Linear regression. This statistical treatment was used if resource based, psychological and academic related stressors have negative influence on the scholastic achievement of students for both semesters of AY2020-2021. This was used to answer SOP #5. This will also be utilized to know if family size will moderate the effect of resource based, psychological and academic related stressors on students' academic performance. This answered SOP #7. Likewise, this tool was used to determine if family income moderated the effect of resource based, psychological and academic related stressors on students' academic performance. This answered SOP #8. Linear regression measures the relationship between one or more predictor and one outcome variable. Linear regression is used for predictive analysis and modeling (Bock, 2018).

Ethical Consideration

The researchers got the consent of the participants of the study prior to answering the survey which was included in the research instrument. The study was evaluated by a board before the researchers proceeded with the study.

RESULTS

Data Analysis

The results of the study are designed based on the sequential arrangement of the problem statement. In this part of the study, results are thoroughly discussed. Specific information was examined and shown in table form in order to enhance the clarity of describing facts.

Table1 *Profile of respondents as to age*

Rank	Age bracket (years)	N	%
1	19-22	155	89.08
2	23-26	14	8.05
3	27 & above	3	1.72
4	18 & below	2	1.15
		174	

As to the profile of respondents, ages 19-22 years old got the highest number at 155 or 89.08 percent, followed by 27 and above with 3 or 1.72%, and 18 years old and below got the lowest with 2 or 1.15% of the total population as shown in table 1 above.

Table 2 *Profile of respondents as to sex*

Rank	Sex	N	%
1	Female	114	65.52
2	Male	60	34.48
		174	

Table 2 above exhibited that with regards to the sex of respondents, most of the respondents are female with a total of 114 or 65.52 percent, male population is 60 or 34.48 percent of the total population.

Table 3 *Profile of respondents as to academic program*

Rank	Program	N	%
1	BAMM	67	38.51
2	BAFM	66	37.93
3	BAHR	24	13.79
4	BAOM	17	9.77
		174	

With regards to the academic program under SOP number 1, table 3 displayed BAMM has the highest number of respondents at 67 or 38.51%, and BAOM has the least number with 17 respondents or 9.77%. There were 4 majors, namely: marketing management, financial management, human resource management and financial management. There are 67 BAMM (marketing management) students, 66 BAFM (financial management) students, 24 BAHR (human resource) students, and 17 BAOM (operations management) students for a total of 174 students in the business administration department. 192 respondents answered the survey. 18 out of 192 respondents do not have complete GPA, so they were taken out. After cleaning the responses, 174 of the respondents were found qualified.

Table 4 *Profile of respondents as to family size*

Rank	Family Size	N	%
1	4 & below	59	33.91
2	5	48	27.59
3	6	33	18.97
4	7 & above	34	19.54
		174	

Table 4 above exhibited that with regards to family size under SOP number 1, table 4 showed 4 and below family members ranked first, with 59 respondents or 33.91%, and lastly, 7 and above has the least, with 34 respondents or 19.54%.

Table 5. *Profile of respondents as to family income*

Rank	Family Income	N	%
1	Php 15,000-25,000	78	44.83
2	25,001-35,000	42	24.14
3	45,001 & above	34	19.54
4	35,001-45,000	20	11.49
		174	

Table 5 above showed that with regards to family income under SOP no. 1, family income of Php15,000-25,000 ranked first with 78 respondents or 44.83%, and Php35,001 – 45,000 has the least respondents of 20 or 11.49%.

Table 6   *Average GPA for 1st & 2nd semester AY 2020-2021*

Semester	Highest	Lowest	Average
1st	1.08	3.00	1.68
2nd	1.25	3.15	1.85
Ave. GPA	1.23	2.77	1.77

Table 6 as shown above presents the average GPA for the first semester which is 1.68, and 1.85 for the second semester. The overall average GPA for the two semesters of AY 2020-2021 is 1.77, and it was calculated using Microsoft Excel.

Table 7 *Significant difference between the students' GPA in the first semester based on age*

ANOVA: Single Factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between groups	1.65	3.00	0.55	4.59	0.00	0.07	0.79	0.06
Within Groups	20.35	170.00	0.12					
Total	22.00	173.00	0.13					

For the question, is there a significant difference between the students' GPA (grade point average) in the first semester based on age. The proponents employed ANOVA single factor for this question as shown in table 7 above. Notice that the p-value of .00 is less than .05, it is concluded that null hypothesis number 1 is rejected, which means there is a significant difference between the students' GPA in the first semester based on age.

Table 8 *Significant difference between the students' GPA in the first semester based on sex*

	Male	Female
Mean	1.86	1.59
Variance	0.18	0.08
Observations	59.00	115.00
Hypothesized mean difference	0.00	
df	84.00	
t Stat	4.39	
P (T<=t) one-tail	0.00	
t Critical one-tail	1.66	
P (T<=t) two-tail	0.00	
t Critical two-tail	1.99	

Table 8 showed that for this question, is there a significant difference between the students' GPA (grade point average) in the first semester based on sex, the researchers employed two tailed t-test assuming unequal variance as shown in table 8 above. When the p-value of .00 is less than .05, the researchers found out that null hypothesis number 2 is rejected, which means there

is a significant difference between the students' GPA in the first semester based on sex.

Table 9 *Significant difference between the students' GPA in the first semester based on academic program*

ANOVA: Single Factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between groups	0.80	3.00	0.27	2.13	0.10	0.04	0.21	0.02
Within Groups	21.20	170.00	0.12					
Total	22.00	173.00	0.13					

Table 9 showed that for the question, is there a significant difference between the students' GPA (grade point average) in the first semester based on academic program. The proponents employed ANOVA single factor for this question as shown in table 9 on page 33. When the p-value of .10 is more than .05, it is understood that the null hypothesis number 3 is accepted, which means there is no significant difference between the students' GPA in the first semester based on academic program.

Table 10 *Significant difference between the students' GPA in the second semester based on age*

ANOVA: Single Factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between Groups	1.2933	3.0000	0.4311	3.4684	0.0175	0.0577	0.6579	0.0408
Within Groups	21.1295	170.0000	0.1243					
Total	22.4228	173.0000	0.1296					

For the question, is there a significant difference between the students' GPA (grade point average) in the second semester based on age. The proponents employed ANOVA single factor for this question as shown on table 10 above. From the result, the p-value of 0.0175 is less than .05, so, null hypothesis number 4 is rejected, which means there is a significant difference between the students' GPA in the second semester based on age. This answers SOP number, null hypothesis 4.

Table 11 *Significant difference between the students' GPA in the second semester based on sex*

	Female	Male
Mean	1.77	2.00
Variance	0.10	0.15
Observations	115.00	59.00
Hypothesized Mean Difference	0.00	
df	98.00	
t Stat	-3.83	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.66	
P(T<=t) two-tail	0.00	
t Critical two-tail	1.98	

For the question, is there a significant difference between the students' GPA (grade point average) in the second semester based on sex. The researchers employed two tailed t-test assuming unequal variance as shown on table 11 above. Because the p-value of .00 is less than .05, so, null hypothesis number 5 is rejected, which means there is a significant difference between the students' GPA in the second semester based on sex.

Table 12 *Significant difference between the students' GPA in the second semester based on academic program*

ANOVA

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between Groups	0.96	3.00	0.32	2.53	0.06	0.04	0.21	0.03
Within Groups	21.46	170.00	0.13					
Total	22.42	173.00	0.13					

For the question, is there a significant difference between the students' GPA (grade point average) in the second semester based on academic program. The proponents employed ANOVA single factor for this question as shown on table 12 above. Based on the result of the p-value of .06, it is more than .05, the proponents can say that null hypothesis number 6 is accepted, which means there is no significant difference between the students' GPA in the second semester based on academic program.

For the question, to what extent the students experience resource-based, psychological, and academic related virtual learning stressors; tables 13 to 15 present the result of the extent that these stressors affected the respondents during an online learning.

Table 13 *Extent of resource-based stressors as experienced by students*

Resource based stressors	Standard deviation	Mean	Interpretation
2.1.1. How often are you confronted with financial problems?	0.86	3.43	Very often
2.1.2. Do you have an issue with mobile phones, tablets, or laptops during virtual class?	1.14	3.18	Sometimes
2.1.3. Do you have concern with internet connectivity?	0.94	3.64	Very often
2.1.4. How often do you encounter electric power interruption?	0.92	2.77	Sometimes
Grand Mean		3.25	Sometimes

Statistical limit : 4.21-5.00 Always; 3.41-4.20-Very often;
2.61-3.40-Sometimes; 1.81-2.60-Rarely; 1.00-1.80-Never

Table 13 presents the extent of the resource-based related stressors as experienced by the students with a grand mean of 3.25 with a descriptive rating of sometimes. The respondents said that they do have concern with internet connectivity very often with a mean of 3.64, which ranked number 1, and problems with electric power interruption with a mean of 2.77 which ranked last. The standard deviation is closely related to the mean (0.86, 0.94, 0.92 respectively, apart from the issue with mobile phones, tablets, or laptops during virtual class in which standard deviation is widely spread at 1.14).

Table 14 *Extent of psychological-related virtual learning stressors as experienced by students*

Psychological related stressors	Standard deviation	Mean	Interpretation
2.2.1. Does virtual learning causes you stress?	0.96	3.76	Very often
2.2.2. Does virtual learning causes you fatigue?	1.10	3.55	Very often
2.2.3. Does virtual learning causes you anxiety?	1.09	3.64	Very often
2.2.4. Does virtual learning causes you depression?	1.22	2.98	Sometimes
Grand Mean		3.48	Very often

Statistical limit : 4.21-5.00 Always; 3.41-4.20-Very often;
2.61-3.40-Sometimes; 1.81-2.60-Rarely; 1.00-1.80-Never

Table 14 presents the extent of psychological based stressors as experienced by the students with a grand mean of 3.48 with a descriptive rating of very often. The students said that they are stressed with virtual learning with a mean rating of 3.76 and a descriptive rating of very often and less likely to experience depression with a mean rating of 2.98 with a descriptive rating of sometimes. Standard deviation of .96, 1.09, 1.10 are closely related to the mean except for the last standard deviation, which is widely spread at 1.22, on the question, does virtual learning causes depression.   .

Table 15 *Extent of academic-related virtual learning stressors as experienced by students*

Academic related stressors	Standard deviation	Mean	Interpretation
2.3.1. Do you experience heavy workloads in your virtual learning?	0.92	3.83	Very often
2.3.2. Are you pressured before an online exam?	0.94	4.13	Very often
2.3.3. Do you face challenging assignments in online learning?	0.89	3.82	Very often
2.3.4. How often are you confronted with shorter deadlines for course work?	0.92	3.66	Very often
Grand Mean		3.86	Very often

Statistical limit : 4.21-5.00 Always; 3.41-4.20-Very often;
2.61-3.40-Sometimes; 1.81-2.60-Rarely; 1.00-1.80-Never

Table 15 showed the extent of academic related virtual stressors as experienced by the students with a weighted mean of 3.86 with a descriptive rating of very often. The respondents said that they are pressured before an online exam with the highest

mean rating of 4.13 with a descriptive rating of very often, and less likely confronted with shorter deadlines for course work with the lowest mean rating of 3.66 which means very often. Standard deviation is closely related to the mean (.94, .92, and .89 respectively).

For SOP number 5, on the question, what is the effect of the virtual learning stressors on the academic performance of students, table 16 to 21 present the result of the effect of resource based virtual learning stressors on the academic performance of students.

Table 16   *First semester resource based virtual learning stressors on the academic performance of students*

Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
0.2335	0.0545	0.1150	0.0365	3.1496	0.0019	0.0429	0.1871

Table 16 exhibited the result of the first semester resource based virtual learning stressors on the academic performance of students. Since the p-value of 0.0019 is less than the significance level of 0.05, therefore, null hypothesis number 7 is rejected, which means that resource based virtual learning stressors have a negative effect on the academic performance of the students during the first semester of AY 2020-2021.

Table 17   *First semester psychological based virtual learning stressors on the academic performance of students*

Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
0.0544	0.0030	-0.0211	0.0296	-0.7143	0.4760	-0.0796	0.0373

Table 17 displaced the first semester psychological based virtual learning stressors on the academic performance of students. Since the p-value of 0.4760 is more than the significance level of 0.05, therefore, null hypothesis number 8 is accepted, which means that psychological based virtual learning stressors have no negative effect on the Learners perform academically during the first semester of AY 2020-2021.

Table 18 *First semester academic based virtual related learning stressors on the academic performance of students*

Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
0.0144	0.0002	-0.0071	0.0375	-0.1885	0.8507	-0.0810	0.0669

Since the p-value of 0.8507 is more than the significance level of 0.05, therefore, null hypothesis number 9 is accepted, which means that academic related based virtual learning stressors have no negative effect on the scholastic achievement of learners during the first semester of AY 2020-2021.

Table 19 *Second semester resource based virtual learning stressors on the academic performance of students*

Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
0.2039	0.0416	0.1014	0.0371	2.7319	0.0070	0.0281	0.1747

Since the p-value of 0.0070 is less than the significance level of 0.05, therefore, null hypothesis number 10 is rejected, which means that resource based virtual learning stressors have a negative effect on the academic performance of the students during the second semester of AY 2020-2021.

Table 20 *Second semester psychological based virtual learning stressors on the academic performance of students*

Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
0.0589	0.0035	-0.0231	0.0299	-0.7709	0.4418	-0.0821	0.0360

Since the p-value of 0.4418 is more than the significance level of 0.05, therefore, null hypothesis number 11 is accepted, which means that psychological based virtual learning stressors have no negative effect on the academic performance of the students during the second semester of AY 2020-2021.

Table 21 *Second semester academic related virtual learning stressors on the academic performance of students*

Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
0.0144	0.0002	-0.0071	0.0375	-0.1885	0.8507	-0.0810	0.0669

Since the p-value of 0.8507 is more than the significance level of 0.05, therefore, null hypothesis number 12 is accepted, which means that academic related based virtual learning stressors have no negative effect on the scholastic achievement of the students during the second semester of AY 2020-2021.

For the question, is there a significant difference in the extent the virtual stressors are experienced based on age, sex and academic program, the following tables present the significant difference the virtual stressors are experienced by the respondents based on age, sex, and academic program for the two semesters of academic year 2020-2021.

Table 22 *Significant difference the resource based virtual stressors are experienced based on age for the first semester of AY2020-21*

ANOVA: Single Factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between Groups	0.7228	3.0000	0.2409	0.4553	0.7139	0.0080	0.3877	-0.0095
Within Groups	89.9557	170.0000	0.5292					
Total	90.6785	173.0000	0.5242					

Since the p-value of 0.7139 is more than the significance level of 0.05, therefore, null hypothesis number 13 is accepted, which means that there is no significant difference in the extent the resource based virtual related learning stressors are experienced based on age.

For the question, is there a significant difference in the extent the resource based virtual stressors are experienced in the first semester based on sex. The researchers employed two tailed t-test assuming unequal variance as shown on table 23.

Table 23 *Significant difference in the extent the resource based virtual related learning stressors are experienced based on sex for the first semester of AY2020-21*

	Female	Male
Mean	3.28	3.22
Variance	0.50	0.58
Observations	115.00	59.00
Hypothesized Mean Difference	0.00	
df	110.00	
t Stat	0.47	
P(T<=t) one-tail	0.32	
t Critical one-tail	1.66	
P(T<=t) two-tail	0.64	
t Critical two-tail	1.98	

Since the p-value of 0.64 is more than .05, therefore, null hypothesis number 14 is accepted, which means there is no significant difference in the extent the resource based virtual related learning stressors are experienced based on sex.

Table 24 *Significant difference the resource based virtual stressors are experienced based on academic program for the first semester of AY2020-21*

ANOVA: Single Factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between Groups	0.4217	3.0000	0.1406	0.2647	0.8507	0.0046	0.0977	-0.0128
Within Groups	90.2569	170.0000	0.5309					
Total	90.6785	173.0000	0.5242					

Upon checking the result, the p-value of .8507 is more than .05, the proponents conclude that null hypothesis number 15 is accepted, which means there is no significant difference in the extent the resource based virtual related learning stressors are experienced based on academic program as shown on table 24.

Table 25 *Significant difference in the extent the psychological based virtual stressors are experienced based on age for the first semester of AY2020-21*

ANOVA: Single Factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between Groups	1.8023	3.0000	0.6008	0.6973	0.5549	0.0122	0.2717	-0.0052
Within Groups	146.4668	170.0000	0.8616					
Total	148.2690	173.0000	0.8570					

Since the p-value of .5549 is more than .05, therefore, null hypothesis number 16 is accepted, which means there is no significant difference in the extent the psychological based virtual related learning stressors are experienced based on age as exhibited in table 25.

Table 26 *Significant difference in the extent the psychological based virtual stressors are experienced based on sex for the second semester of AY 2020-2021*

	Female	Male
Mean	3.69	3.08
Variance	0.73	0.86
Observations	115.00	59.00
Hypothesized Mean Difference	0.00	
df	109.00	
t Stat	4.26	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.66	
P(T<=t) two-tail	0.00	
t Critical two-tail	1.98	

Based on the result, p-value of .00 is less than .05, so, null hypothesis number 17 is rejected, which means there is significant difference in the extent the psychological based virtual related learning stressors are experienced based on sex.

Table 27 *Significant difference in the extent the psychological based virtual stressors are experienced based on academic program for the second semester of AY2020-2021*

ANOVA: Single Factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between Groups	0.3795	3.0000	0.1265	0.1454	0.9325	0.0026	0.0505	-0.0150
Within Groups	147.8895	170.0000	0.8699					
Total	148.2690	173.0000	0.8570					

When the p-value of .9325 is more than .05, it is a must that null hypothesis number 18 is accepted, which means there is no significant difference in the extent the psychological based virtual related learning stressors are experienced based on academic program as shown on table 27.

Table 28 *Significant difference in the extent the academic based virtual relatedstressors are experienced based on age for the second semester of AY2020-2021*

ANOVA: Single factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between Groups	2.7038	3.0000	0.9013	1.7076	0.1673	0.0291	0.3698	0.0120
Within Groups	90.2548	171.0000	0.5278					
Total	92.9586	174.0000	0.5342					

Because the p-value of .1673 is more than .05, the proponents can safely say that null hypothesis number 19 is accepted, which means there is no significant difference in the extent the academic based virtual related learning stressors are experienced based on age as exhibited in table 28.

Table 29 *Significant difference in the extent the academic related virtual stressors are experienced based on sex for the second semester of AY2020-2021*

	FEMALE	MALE
Mean	3.9196	3.7881
Variance	0.5280	0.5729
Observations	115.0000	59.0000
Hypothesized Mean Difference	0.0000	
df	113.0000	
t Stat	1.0990	
P(T<=t) one-tail	0.1370	
t Critical one-tail	1.6585	
P(T<=t) two-tail	0.2741	
t Critical two-tail	1.9812	

Based on the result of the p-value of 0.2741, it is more than .05, so the researchers concluded that null hypothesis number 20 is accepted, which means there is no significant difference in the extent the academic related virtual related learning stressors are experienced based on sex.

Table 30 *Significant difference in the extent the academic virtual stressors are experienced based on academic program for the second semester of AY2020-2021*

ANOVA : Single Factor

Sources	SS	df	MS	F	P value	Eta-sq	RMSSE	Omega Sq
Between Groups	1.4653	3.0000	0.4884	0.9095	0.4377	0.0158	0.1934	-0.0016
Within Groups	91.2976	170.0000	0.5370					
Total	92.7629	173.0000	0.5362					

Upon checking the result of the p-value of .4377 which is more than .05, it is safe to say that null hypothesis number 21 is accepted, which means there is no significant difference in the extent the academic related virtual related learning stressors are experienced based on academic program.

For the question, does family size moderate the effect of virtual learning stressors on students' academic performance. The researchers used linear regression to answer the question and the hypotheses.

Table 31 *Moderating effect of family size on the resource-based related stressors on students' academic performance*

	Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
FAMILY SIZE	0.0388	0.0015	0.0250	0.0492	0.5088	0.6116	-0.0720	0.1220

Based on the results of the study, the p-value of .6116 is more than .05, so the researchers concluded that null hypothesis number 22 is accepted, which means family size does not moderate the effect of resource based related stressors on students' academic performance.

Table 32 *Moderating effect of family size to the psychological related stressors on students' academic performance*

	Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
FAMILY SIZE	0.0802	0.0064	0.0662	0.0627	1.0552	0.2928	-0.0576	0.1899

Because the p-value of .2928 is more than .05, so, null hypothesis number 23 is accepted, which means family size does not moderate the effect of psychological based related stressors on students' academic performance.

Table 33 *Moderating effect and family size to the academic related stressors on students' academic performance*

	Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
FAMILY SIZE	0.0535	0.0029	0.0349	0.0497	0.7023	0.4835	-0.0632	0.1330

From the result of the study, the p-value of .4835 is more than .05, so, null hypothesis number 24 is accepted, which means family size does not moderate the effect of academic related stressors on students' academic performance.

For SOP #8 on the question, does family income moderate the effect of virtual learning stressors on students' academic performance. The proponents utilized linear regression to answer the statement of the problem and its corresponding hypotheses.

Table 34 *Moderating effect of family income to the resource-based related stressors on students' academic performance*

	Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
FAMILY INCOME	0.1878	0.0353	-0.1170	0.0467	-2.5075	0.0131	-0.2092	-0.0249

Because the p-value of .0131 is less than .05, so, null hypothesis number 25 is rejected, which means family income moderates the effect of resource-based stressors on students' academic performance.

Table 35 *Moderating effect of family income to the psychological related stressors on students' academic performance*

	Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
FAMILY INCOME	0.0506	0.0026	0.0403	0.0607	0.6641	0.5075	-0.0795	0.1601

Because the p-value of .5075 is more than .05, so, null hypothesis number 26 is accepted, which means family income moderates the effect of psychological-based stressors on students' academic performance.

Table 36 *Moderating effect of family income to the academic related stressors on students' academic performance*

	Multiple R	R2	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
FAMILY INCOME	0.0231	0.0005	0.0145	0.0481	0.3025	0.7627	-0.0803	0.1094

Upon checking the result of the p-value of .7627, it is more than .05, so null hypothesis number 27 is accepted, which means family income moderates the effect of academic-related stressors on students' academic performance.

DISCUSSION

College students commonly experience stress. Due to COVID-19 pandemic, numerous higher education institutions (HEIs) in the Philippines migrated from traditional in-campus to virtual learning to anticipate and level up their learning systems, the stress of college students had also leveled up. This paper intends to know the effect of virtually related learning stressors on the scholastic achievement of BSBA students.

Most of the respondents were females, ages 19 to 22, third-year students taking BSBA major in Marketing Management, with family size of 4 and below, and with family income ranging from Php15,000 to Php25,000. Students who responded to the questionnaires performed differently in their academic performance for both the first and second semesters. Based on the results, females performed better compared to males. The same findings were found in Gnaulati (2018) and O'Dea, et al. (2018) as females tend to perform better in academics because they are more pertinent to planning, setting academic goals, and putting effort into achieving those goals. Even though females surpass males in terms of academic performance, it turns out that psychological stressors had a significant effect on them. This study shows that females are more susceptible to psychological

stressors than males which supports the findings of Harutyunyan, et. al (2020), Vigna, et al. (2019), and Ishiguro, et al (2019).

Three virtual-related stressors were used to find the effects on students' academic performance based on student profiles – resource-based stressors, psychological-related stressors, and academic-related stressors. Although weak, resource-based stressors affect the academic performance of college students in both semesters. Many students experienced financial struggles (Adle, 2020). To cope up and meet the academic requirements, students were challenged to have appropriate virtual learning devices (Coleman, 2011; Saavedra 2020; and Henaku, 2020). This result may indicate that students cannot fully partake in and value virtual learning. Problems in internet connectivity still exist (Bao, 2020; Henaku, 2020; Entsie, 2020; Wisconsin, 2020; and Baticulon et al., 2020). Considering the Philippines as a developing country, poor internet connection is a common major problem (Aboagye et al., 2020) which may impede the practice of virtual learning. Experiencing power outages during remote classes is an inescapable problem in virtual classroom set-ups (Castillo, 2020). Evidence from Rotas & Cahapay (2021) supports this finding as experienced by some respondents situated in areas where electricity is scarce even during the time before the pandemic.

Based on the results of this research, the two moderators, family income and family size identified by the researchers, only family income moderates the effect of virtual related learning stressors in the academic performance of students specifically resource-based stressors. It means that the higher the income the family income generates the more capable the student sustains sufficient resources relevant to participating virtual learning resulting to perform better in the academics.

It was found that family income moderates the effect of resource-based stressors on students' academic performance. Family income has considerable effect on learners' educational attainment, which is expected to be raised with the rising income. A wealthy family can provide more, especially learning resources. For lesser-income families, parents are bustle around for life and expect little from their off-springs. Moreover, they may prioritize food before the education of their children. This also means that a college education is a passport for enhancement of life because

the gap between the rich and the poor is widening (Gratzbc & Wiborga, 2022).

As the effect of the COVID-19 pandemic, it continues to account for more people without work (Coibion et al., 2020; Mastropietro et al., 2020; Stevenson et al., 2020) and a stable or momentary unemployment which leads to income reduction through retrenchment or redundancy issue of the company (ILO, 2020). For online learning to be successful, supplementary materials like mobile phones, laptop and internet connectivity needed in this type of learning leave parents and students financially handicapped, more so for low-income families. The cost for installing internet connection and buying sufficient learning supplies may stem from money-related problems as the learning environment shifts (Cahapay, et al., 2020).

Conclusion

This migration from traditional class setting to online learning environment has revealed the following are the conclusions based on this research paper. First is that scholastic achievement of college students varying in terms of semester periods. Second, females performed better in academics but are more prone to psychological related stressors in virtual learning than males; Third, resource-based stressors, which includes financial problems, virtual learning devices, poor internet connection, and power outage, have a weak negative effect on the academic performance of college learners.. And finally, family income moderates the effect of resource-based stressors on students' academic performance that as a student have higher family income, he/she is more capable to buy necessary

Recommendations

This study has its limitation and was conducted as purposive sampling where the data gathered can be manipulated and may have caused invalid research outcomes. Another is that the researchers of this study wanted to recommend conducting a larger sample size which might include other schools/departments to increase more accuracy and support the findings from the previous research. Finally, to the future researchers who wanted to continue this research paper, to consider and explore other virtual learning stressors that are experienced by college students which are not included in this study.

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The Application of Restorative Justice in the City of Dasmariñas, Cavite, Philippines: A Developing Response to Crime Prevention

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- **Restorative justice**
- **Peace and order**
- **Barangay justice system**
- **Mediation process**
- **Crime prevention**

Abstract. This study sought to determine how restorative justice was applied by the barangays in the City of Dasmariñas in the Province of Cavite as a response to crime prevention. Specifically, it sought to (1) determine the restorative justice processes implemented in the various barangays of the City of Dasmariñas, (2) determine the outcomes of the restorative justice processes in relation to the peace and order in the barangays, and (3) propose a restorative justice program for the barangay level. The restorative justice framework provided by Van Ness and Strong (2015) served as the foundation of this study. This study used descriptive research through the survey method in gathering data. Participants were 68 barangay captains out of 75 barangays in the city. Most of the respondents were males and many were between 40 to 60 years old. Results showed that the inclusion process and encounter procedures were always implemented in the barangay level. The outcomes in relation to reintegration process were always observed, and the results of the process of making amends were often observed. Findings revealed that the concept of restorative justice was partly implemented in the city and the process of building accountable and responsible constituents was still in the development stage. To address this concern, a three-year comprehensive restorative justice program was proposed.

The Application of Restorative Justice in the City of Dasmariñas, Cavite, Philippines: A Developing Response to Crime Prevention

INTRODUCTION

Restorative justice has emerged as a new pattern of thinking in response to the dissatisfaction with modern criminal justice especially in the Western world. It is a shift in responsibility for addressing crime (Gavrielides, 2019). Traditionally, punitive justice was dominant in the criminal justice system. However, it was found that punishment, for instance, incarceration, has little effect on the offenders' behavioral changes, and relatively few initiatives helped to heal crime victims (Armour & Umbreit, 2018). On the other hand, restorative justice humanizes justice, bringing victims and offenders together where victims receive explanation and reparation, and offenders become accountable to the victim and community (Umbreit, 1998 as cited in Naude, 2006). It is a promising response as it acknowledges the interpersonal nature of the crime. Through mediated dialogues between the victim and offender, the negative energy or pain from the harm done is channeled to the offenders bringing positive energy or healing, and offenders use that pain "to give back to the victims through remorse-driven responses and behaviors." However, it should be clear that restorative justice practices complement rather than replace the existing criminal justice system.

Restorative justice is not a new concept in criminal justice. This victim-centered response has been evident in ancient Arab, Greek, Roman, and Asian civilizations, which required compensation for the victims of crime. It was also dominant in indigenous communities in South Africa, Australia, New Zealand, and Canada. In 1974, Western countries re-discovered restorative justice, refocusing on the rights and needs of crime victims. By the end of the 1990s, most Western countries had embraced restorative justice programs and made legislative provisions for restorative justice (Naude, 2006).

Restorative processes possess values and follow principles for it to maintain their restorative nature. Values such as the inclusion of affected parties, encounter programs, making amends and reintegration of offenders into the community all contribute to a comprehensive restorative practice (Van Ness & Strong, 2018). Restorative justice is applicable in the barangays, courts, schools, and religious organizations (Garcia, 2019). However, this study will be focusing on restorative justice in the barangays taking into consideration the application of restorative values in the barangay justice system.

There is lacking evidence of the application of restorative justice in the local setting. Also, a review of foreign literature shows that the majority of the studies focused on the experiences of the victims and offenders. The need for studies obtaining the point of view of the government leaders and facilitators was strongly suggested as these entities are equally important in implementing and evaluating restorative justice programmes (UNODC, 2016).

In the Philippines, restorative justice was reflected in the role of the Katarungang Pambarangay or the Barangay Justice System, which manages community and family conflicts and disputes within its scope. The present study examined the restorative processes and outcomes of the Barangay justice system in the City of Dasmariñas, Cavite in addressing crimes and conflicts. A restorative justice program was developed to address peace and order in the barangays (villages).

Objectives of the Study

The study aimed to determine how restorative justice was applied by the barangays (villages) in the City of Dasmariñas in the Province of Cavite as a response to crime prevention. Specifically, this study sought to:

6. determine the restorative justice processes implemented in the various barangays (villages) of the City of Dasmarinas;
7. assess the outcomes of the restorative justice processes in relation to the peace and order in the barangays (villages); and,

8. propose a restorative justice program for the barangay level.

Theoretical Framework

This study was based on the restorative justice theory authored by Van Ness and Strong (2015). According to the authors, restorative justice emphasized repairing the harm caused or revealed by criminal behavior and is best accomplished through cooperative processes that include all stakeholders (i.e. victim, offender and affected communities including the families of victims and offenders).

Restorative processes and practices reflect certain values for it to maintain being restorative rather than destructive. Braithwaite (2002) claimed that restorative justice is founded by core values of "healing rather than hurting, moral learning, community caring, respectful dialogue, forgiveness, responsibility, apology and making amends" (p.11). Van Ness and Strong (2015) identified corner post values that should influence restorative justice programs and processes such as:

(a) *inclusion*, which engages all affected parties in the restorative processes in response to crime,

(b) *encounter*, which gives all affected parties the opportunity to meet in a safe environment to discuss the offense, harms and courses of action,

(c) *amends*, which encourages offenders to take responsibility to repair the harm to the extent possible. An offender can make amends through apology, changed behavior, restitution and generosity;

(d) *reintegration*, which gives parties the means and opportunities to rejoin and contribute to their communities.

In the present study, the role of the barangay government in crime prevention and participation in restorative justice was scrutinized. The application of restorative justice in the Barangay justice system was analyzed using the cornerpost values

suggested by Van Ness and Strong (2015). As shown in Figure 1, this study examined the current practices of *inclusion* and *encounter* to provide insight on the restorative justice approaches implemented in the barangays (villages). The current practices on making *amends* and *reintegration* gave insights on their restorative justice outcomes. Altogether, the combination of best practices in both restorative justice processes and outcomes translated into a restorative justice program applicable to the barangays (villages).
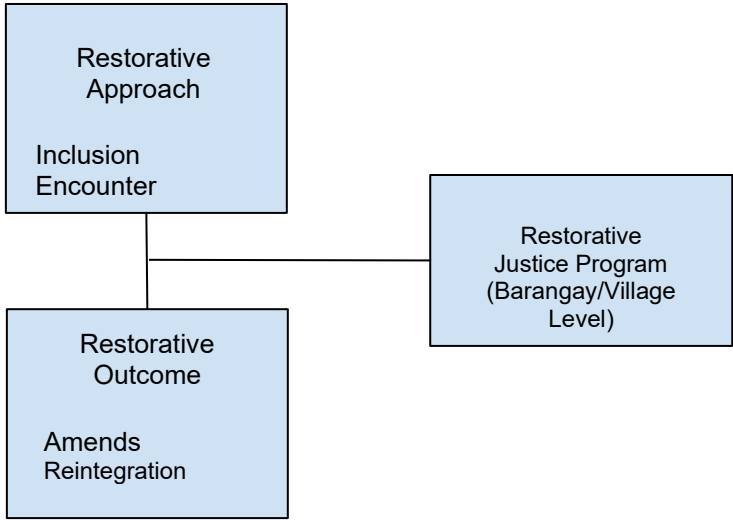
Figure 1. Paradigm of the Study

Scope and Limitations

This study focused mainly on determining the restorative justice processes and restorative outcomes of the Barangay justice system in the City of Dasmariñas, Province of Cavite, Philippines as the basis for designing a restorative justice program applicable for the barangays (villages). The City of Dasmariñas was chosen as the research locale due to the record of having the highest number of crime incidents in Cavite in the year 2015 according to the Cavite Socio-economic and Physical Profile 2015.

Review of Related Literature

Restorative justice practices

The implementation of restorative justice in countries follows a set of standards. The UN Commission on Crime Prevention and Criminal Justice, Canada approved a resolution to encourage countries, including the Philippines, to adopt the Basic Principles on the Use of Restorative Justice Programmes in Criminal Matters. In 2002, this resolution was adopted by the Economic and Social Council of the UN Organization, which has become the standard in the field of mediation and restorative justice (Skelton, 2019). Since these standards are not country-specific, individual countries may set more detailed standards such as legislation or codes of conduct. However, it is more favorable to use a value-infused approach than to have a set of inflexible procedural rules, which may be more harmful as it defeats the purpose of what restorative justice aims to achieve (Skelton, 2019).

Restorative justice processes can be applied in a variety of contexts at the formal or informal levels. Naude (2006) stated that at a formal level, restorative justice can be applied during the pre-trial process, during the pre-sentencing process as part of a condition for a sentence, or in pre-release programmes. At the informal level, it can be applied to resolve corporate conflicts and disputes and community conflicts, such as bullying in schools, neighborhood conflicts, and family conflicts (alternative dispute resolution) (Naude, 2006).

The role of the restorative justice practitioners/facilitators can either hinder or contribute to the success of restorative justice. For instance, Chinese facilitators are more successful when they pay more attention to engaging participants in the mediation process with culture-specific skills such as "building trust, respecting family values, balancing power, and ultimately aiming to restore relationships" (Wong & Lui, 2019). The *Basic Principles* require that facilitators receive training and should have an understanding of the local culture and communities (UNODC, 2016). Also, victims wish for facilitators they know or trust, those who will not approach them as commodities through a sales pitch (Gavrielides, 2019). The UNODC (2016) enumerated the basic skills required of facilitators such as the ability to create a safe

environment for parties, communication skills, active listening skills, the ability to manage and help people deal with emotional intensity, ability to help parties say and hear different things, ability to balance the interest/power of participants and ability to express support and empathy. It is therefore imperative that countries develop standards/protocols and ethical guidelines for restorative justice facilitators which deal with aspects such as the "training and education of practitioners, the handling of the restorative justice process, victim and offender safety, victim and offender choice, the importance of impartiality and neutrality of the facilitator, confidentiality and the exchange of information, professional advice, how to avoid manipulative or intimidating negotiating techniques, informed negotiations and/or dialogue, costs, and fees, advertising, relationship with other professionals, media policy, facilitating when different cultural and racial groups are involved, screening of cases, follow-up procedures and quality control through program evaluation" (Naude, 2006).

Research and Restorative justice

International evaluations of restorative justice utilized five success indicators namely, rates of participation, the nature and extent of engagement, participant satisfaction, restoration, and the impact on recidivism rates (Doak and O'Mahoney, 2019).

The willingness to participate and the underlying reasons for participation give useful insight into how victims and offenders perceive restorative justice. Victims opted to participate in restorative justice to bring closure, to have their say and explain the impact of the offenders' actions, and to ask the offender questions. The majority of offenders opted for restorative justice in order to give the victim the opportunity to ask questions, to have their say and explain their actions, demonstrate that they are working to stop offending and offer an apology or compensation (Gavrielides, 2019). There are also instances when victims or offenders do not participate in restorative justice for reasons such as the offense appears negligible or it had a traumatizing effect on the victim (Hartmann, 2019), and the lack of desire to meet the victim or offender (Gavrielides, 2019).

The application of restorative justice showed positive effects compared to contemporary criminal justice. A review of studies by Sherman and Strang (2007) as cited in Van Ness and

Strong (2018) discovered that crime victims do better especially in dealing with post-traumatic stress and have a reduced desire to retaliate against their offenders. Offenders who received restorative justice commit fewer repeat crimes than offenders who do not, thereby leading to substantial crime reductions. Also, restorative justice increases the odds of an offender being brought to justice.

The majority of the evaluations conducted on restorative justice programmes have focused on the experiences of crime victims and offenders (UNODC, 2016). There has been less attention given to the views of the politicians and senior law enforcement and criminal justice personnel. Similarly, there is little focus on the role played by the facilitators in the success of restorative practices.

Barangay Justice System and restorative justice

It has been said that restorative justice models vary from country to country and area to area depending on local needs and customs (Naude, 2006). Examples of models or programmes are victim-offender mediation, community and family group conferencing, circle sentencing, and indigenous and customary forums (UNODC, 2016). The restorative programmes and processes adopted by countries vary depending on their circumstances such as limits in the existing legal framework, limited support from criminal justice officials, and cultural obstacles, among others. In the Philippines, the legal framework that reflects restorative justice is Republic Act 9344 (Juvenile Justice and Welfare Act), Republic Act 10389 (An Act Institutionalizing Recognizance as a Mode of Granting the Release of an Indigent Person in Custody as an Accused in a Criminal Case and for Other Purposes) and Republic Act 7160 (Local Government Code of 1991) which clarified the role of the Barangay Justice System.

The Barangay justice system (Katarungang Pambarangay) was created by Presidential Decree No. 1508 as amended by Republic Act No. 7160 (Local Government Code of 1991). These laws recognized the time-honored tradition of amicably settling disputes at the barangay level to promote speedy administration of justice and decongest court dockets. The Barangay justice system, consisting of the barangay captain and

"peacekeeping committee," provides an avenue to hear and mediate conflicts between residents, and reach an agreement, which is legally binding and recognized by the courts (UNODC, 2016). In a study of restorative justice in Kalinga Province, Garcia (2019) found that the barangay officials observed mediation, conciliation, and arbitration as restorative justice practices. The barangay court resolved light offenses such as violation of rules and ordinances, as well as crimes that do not fall under the jurisdiction of the Regional Trial Court such as public disturbances, oral defamation, non-payment of monetary obligations, less serious physical injuries, land disputes, unjust vexation, violations against women and their children, threat, malicious mischiefs, and scandals. As part of the resolution, the barangay court imposes penalties such as reprimand, warning or citation, or returning of the victim's expenses in a reasonable amount of damage or injury. The equivalent payment of the crime committed was said to be favorable to the affected parties.

However, the studies of Parker (2004) and Golub (2003) mentioned in UNODC (2016) stressed that the Barangay Justice System has been criticized due to "unjust outcomes, gender bias, corruption, domination of the process by the local elite and political patronage." Aside from training community leaders and Barangay justice advocates, there is a need to address the "structural problems at the root of corruption and the power imbalances that characterize these informal processes," which hinders fair restorative justice outcomes.

METHODOLOGY

This study utilized the descriptive research design using the survey method in gathering data. The City of Dasmariñas, Cavite was selected as the locale of the study considering the high crime rates in 2015.

The study utilized the purposive sampling technique in selecting the respondents. The barangay (village) captains were chosen as respondents because they chaired the Lupon Tagapamaya, the implementing arm of the Barangay Justice system. The population of barangay captains in the City of Dasmariñas is 75. Using the Raosoft sample size calculator, the ideal sample size is equivalent to 68 at 95% confidence level and

5% margin of error. The researchers intended to distribute the questionnaires to all the barangay captains, but according to the Association of Barangay Councils (ABC) Chairperson, there were seven (7) barangay captains who were not available due to health conditions and leave of absence. As a result, 68 Barangay Captains from the City of Dasmariñas, Cavite participated in this study.

Prior to the data gathering, the researchers submitted a written permission to the Office of the Mayor to conduct the study. Upon approval, the researchers coordinated with the ABC Chairperson for further discussion of the data gathering procedure. Survey questionnaires were administered to the Barangay Captains on the schedule and venue designated by the ABC Chair. The respondents were given the Informed Consent form, which was discussed in a caucus to better understand how this study will become useful to the barangay justice system. After the survey administration, the accomplished questionnaires were collected, tallied, computed, and analyzed.

A researcher-made survey questionnaire with a 4-point Likert Scale was used to gather data about restorative justice processes and restorative justice outcomes in the barangays. It also included a checklist of community service programs and reintegration activities. Prior to its actual administration, the questionnaire underwent validity review and was pretested among 10 first councilors of a selected barangay. Statistics showed that the questionnaire has an excellent internal consistency with a reliability score of Cronbach alpha .97.

Frequency and percentage distribution and Mean were to analyze data. The mean scores for restorative justice processes and outcomes were interpreted as follows:

Range of scores	Interpretation	
	Implementation of Restorative Processes	Outcomes of the Restorative Process
3.26 – 4.00	Always implemented	Always observed
2.60 – 3.25	Often implemented	Often observed
1.76 – 2.50	Sometimes implemented	Sometimes observed
1.00 – 1.75	Never implemented	Never observed

Ethical Consideration

The researchers assured the voluntary participation of the respondents in this study and provided them with sufficient information about taking part in this study. They also considered the confidentiality and anonymity of the respondents. The research was subjected to ethics review and was given clearance certification by the Institutional Ethics Review Board.

RESULTS

Profile of the Respondents

Table 1

Age of the Respondents

Age	Frequency	Percentage
40-45	4	6%
46-50	12	18%
51-55	17	25%
56-60	14	21%
61-65	7	10%
66-70	2	3%
Not indicated	12	18%
Total	**68**	**100%**

Table 1 showed that there was a considerable number of respondents with ages ranging from 46 to 60. Specifically, 25% were at the age bracket of 51-55, 21% under age bracket of 56-60 and 18% under the age bracket of 46-50. Only 6% are at the age bracket of 40-45 and the senior age of 61 and above.
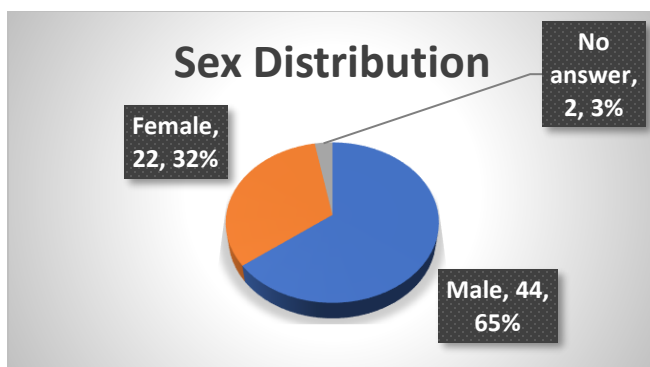
Figure 2. Sex of Respondents

Figure 2 showed that most of the respondents were males (65%) compared to females (32%).

Restorative Process Implemented in the Barangays in the City of Dasmariñas, Cavite

Table 2

Implementation of Inclusion Processes

Process	Mean	Interpretation
1. Victims' preference for the time, date, and place of the meeting is given the greatest weight.	3.00	Often implemented
2. Victims are fully informed about their rights and the nature of the restorative process.	3.53	Always implemented
3. Offenders are fully informed about their rights and the nature of the restorative process.	3.46	Always implemented
4. Parties who wish to observe the proceedings are allowed to do so.	2.84	Often implemented

5. Victims are given the opportunity to seek restitution in the proceedings.	3.50	Always implemented
6. There is an avenue for the victims to appeal when they disagree with the decision.	3.50	Always implemented
7. Offenders are given the opportunity to speak about their case.	3.54	Always implemented
8. Community members affected by the offense are invited to speak on behalf of the community's interest.	3.29	Always implemented
9. Victims and offenders are given complete and accurate information about the alternatives they have for resolving the dispute.	3.62	Always implemented
10. Victims are given the opportunity to air their decision on the matter at hand.	3.41	Always implemented
Average	**3.37**	**Always implemented**

Table 2 showed the implementation of the inclusion process of restorative justice observed in the barangay (village) level with the aim of attaining an orderly community. Data revealed that overall, the inclusion of parties in the restorative processes were always implemented (3.37).

Among the processes that were always implemented, giving information to the victims and offenders on the alternative remedy to resolve them was given the highest priority without disregarding the issue at hand. This was followed by giving offenders the opportunity to speak about their cases. Under the restorative process, the victim was fully informed of their rights and was given the opportunity to disagree, appeal, and decide on their complaint, or to seek restitution in the proceedings either through service by the offender including compensation for damages or community service and restoration of any damage

incurred. The barangay also ensured that the offenders were fully informed of their rights and the nature of the restorative process that is practiced to attain a peaceful resolution of the issue without disregarding the best interest of the community.

The two processes that obtained lower mean scores ("often implemented") were giving victims the preference to choose the time, date, and place of the meeting and allowing parties directly or indirectly affected to observe the proceedings as witnesses. According to the respondents, these were not given the highest priority because they needed to ensure that both sides will be present during the mediation process to ensure that there is a fair and appropriate resolution of the problem. Other parties were sometimes not encouraged to observe as this causes more problem and become the reason for the non-resolution of the case.

Table 3

Implementation of Encounter Procedures

Process	Mean	Interpretation
Victims meet with their offenders.	2.94	Often implemented
Victims and offenders are encouraged to tell their stories.	3.41	Always implemented
The meeting allows both parties to express their emotions (for example, anger, sorrow, fear).	3.38	Always implemented
Both victims and offenders listen with understanding.	3.40	Always implemented
Responsible community members are involved in determining community service that is meaningful for both community and offender.	3.18	Often implemented
The meeting usually ends in an acceptable agreement to make things right.	3.56	Always implemented
Victim safety and dignity are diligently protected.	3.44	Always implemented

Offenders are given respect and are not dehumanized or threatened.	3.46	Always implemented
Average	**3.35**	**Always implemented**

Table 3 showed the implementation of the encounter procedures of restorative justice observed at the barangay (village) level with the aim of giving the affected parties the opportunity to meet in a safe environment to discuss the offense, harm, and courses of action to be taken.

Among the procedures mentioned in the above table, most the barangays usually ended the mediation positively by coming to terms with an acceptable condition agreeable to the aggrieved party. This is in consideration that the impact of the decision will not dehumanize or threaten the well-being of the offenders.

The mediation also ensured that the safety and dignity of the victims will be protected through the execution of the written agreement explicitly stating that all matters discussed pertaining to the case will be treated with confidentiality. The said agreement was signed by both parties and witnessed by the mediation council.

In the proceedings, the victims and offenders were given the opportunity to hear their side, narrate what happened, and explain the causes of any misunderstanding. They were advised to listen and try to understand each side from a more mature perspective. They were also made to understand that emotions which include anger, sorrow and fear are part of the natural reaction of any individual who was a victim of any incident.

The process of involving the community members to determine the community service or any other meaningful activities was least among the procedures which is expected because, in Table 2, it was shown that the barangay limited the parties who can observe the proceedings.

Outcomes of the Restorative Process implemented in the Barangay

Table 4

Outcomes in Relation to Making Amends

Outcome	Mean	Interpretation
The offender offers a written or oral apology to the victim.	3.13	Often observed
Offender chooses to pay back their victim, whether financial or non-financial.	3.02	Often observed
The offender engages in community service.	3.15	Often observed
Average	**3.10**	**Often observed**

Table 4 showed the outcomes in relation to making amends as part of the restorative justice process observed at the barangay (village) level. Amends aim to encourage offenders to take responsibility to repair the harm to the extent possible. This includes the values of confession, repentance, forgiveness, and leniency. Data revealed that good results from making amends are often observed (3.10).

Table 4 showed that the offender accepted his wrongdoings and in return, repaid this through community service and offers both written and spoken apology to the victim. The offender also accepted to pay back the victim in either financial or non-financial means depending on the capability of the offender.

Table 5

Outcomes in Relation to Reintegration Process

Process	Mean	Interpretation
Parties show respect to each other.	3.44	Always observed
Parties are given the material, moral and spiritual assistance they need.	3.29	Always observed

Parties are protected and kept safe.	3.52	Always observed
Community members embrace the victims as part of the community.	3.29	Always observed
Community members embrace the offenders as part of the community.	3.17	Often observed
Community members assist the victims to cope with the painful experiences.	3.21	Often observed
Community members assist in the reformation of the offenders.	3.08	Often observed
Average	**3.29**	**Always observed**

Table 5 showed the outcomes of the reintegration processes implemented at the barangay (village) level with the aim of giving parties the means and opportunities to be active members of the community. Data revealed that the good outcomes of the reintegration process were always observed (3.29).

Table 5 showed a kind of program that will protect both victims and offenders from the discrimination of the other members of the community by giving them the respect they deserve. This was augmented through the incorporation of moral and spiritual programs that boost their sense of dignity. The barangays (villages) also extended material assistance needed to sustain the transformation to becoming a more responsible citizen.

However, though the barangays implemented programs that will assist the victims to cope with painful experiences, encourage community members to embrace them as part of the community, and assist them in the process of change, these were not consistently observed in general.

Table 6

Community service programs adopted in the barangays (villages)

Community Service	Frequency	Percentage
Helping in dealing with street children	26	38%
Cleaning downtown area	23	34%
Tree planting	19	28%
Cleaning of esteros	25	37%
Repair of streets	20	29%
Peer counseling	22	32%
Assisting handicapped	22	32%
Barangay Ronda	21	31%
Giving testimony to the youth	19	28%
Others	6	9%

Table 6 showed that among the commonly adopted community service programs, the top three (3) programs that were implemented at the barangay level for the offenders are helping in dealing with street children, cleaning esteros, and cleaning the downtown area. This may be attributed to the prioritization made by the government regarding the campaign on the welfare of women and children. The conduct of peer counseling and assisting the handicapped were not the priorities since according to the respondents, most of the barangays did not have the capability to implement the program due to lack of qualified experts who will oversee the implementation. Barangay Ronda was also not an option to many as this may compromise the safety of the parties involved considering the COVID-19 pandemic. Seldom adopted were repairing of streets as this requires skills; tree planting requires available spaces which sometimes are not possible since the City of Dasmariñas is already highly populated and government-owned lands were limited. Giving testimony to the youth was also seldom adopted since other programs were not consistently implemented and this may not be to the advantage of the audience.

Table 7

Reintegration Programs adopted in the barangays (villages)

Reintegration Program	Frequency	Percentage
Counseling (whether individual, group or family)	20	29%
Attendance to trainings, seminars and lectures	20	29%
Participation in education, vocation or life skills program	17	25%
Group Therapy Session	10	15%
Spiritual development session/faith-based session	16	24%
Submission to psychological/psychiatric assessment	10	15%

The reintegration process gives both parties the means and opportunities to be active members of the community. Table 7 showed that the reintegration process was not given focus as the result shows the very low adoption of the different suggested reintegration programs. Only 29% of the barangays implemented the counseling activities and attendance to training, seminars, and lectures. Another situation was the lack of implementation with regard to the development of the parties that may give sustainable impact on the changes of a person like education, vocation or life-skills program. Spiritual development was also not consistently encouraged. Another important area that might help to understand both parties were the psychological and psychiatric assessment, however, this was least considered due to the unavailability of free services, including group therapy session.

DISCUSSION

Restorative justice practices as applied in the Criminal Justice System have been based on the premise that crime is a violation of people and of international relationships and therefore it is important to be remedied (Maryfield, Przybylski & Myrent,

2020). To be fully accountable, offenders need to acknowledge their blunders and take responsibility to restore the self-dignity and orderliness of society.

The inclusion process involved the determination of the willingness of the victims to participate in the conference, making them understand their role, and informing them of their rights and the process that they will undertake. Victims must clearly understand that the end objective of the process is to have a peaceful resolution of the problem.

The above findings on the implementation of the inclusion process were always implemented and encounter procedures of restorative justice were always observed in the barangay (village). These demonstrated that the attainment of peaceful resolutions among constituents was given importance and was considered as a best solution in attaining peace and order in the barangay or village.

Further, the outcomes in relation to the reintegration process were always observed and making amends was often observed, which are indications that the barangay was integrated in the process and worked toward the realization of the city's peace and order. However, community service programs and reintegration process needed to be given more focus to make the actors more responsible and thereby realize the long-term solutions to the peace and order problem.

The mediator was usually a member of the barangay council. It would be an advantage if an invitation to responsible non-partisan members of the community will be included in the procedure as this will balance the views of both the victim and the offender.

Each actor was informed of the step-by-step process of the caucus and reminded of their respective responsibility to listen and respect the opinion of the actors present.

Considering these principles, the study revealed that the barangays followed the Inclusion process. The average mean is 3.37 interpreted as Always Implemented. However, it is observed that its difference from Often Implemented is only 0.11 points. This conveys that though the 68 barangays are all located in the

City of Dasmarinas, the implementation of the process varies. There were some who consistently follow the process while others chose only those that are easy and applicable and what they think will give the best result.

The encounter procedure is critical as this stage included the expressions of the victim's emotions, fear, anguish, and dehumanized feelings due to the offense or blunder made by the offender. The role of the mediator is not only to listen but to observe every action of the victim and offender and ensure that alternative measure is in place in case failure of proceedings become evident.

Safety of all parties is a primordial concern; proceedings may be suspended, and rescheduling is an alternative, in case the environment is becoming hostile. On the other hand, a peaceful meeting will give the offender the chance to explain his side, admit the offense, and accept accountability. This is also a good venue to make amends and ask for forgiveness from the victim including a discussion of the compensation for the damages incurred.

The reintegration process is a way to meet the end goal of restoring peace between the victim and offender and will reflect in the community. Parties involved in the mediation process are expected to respect each other. The process of healing includes continuous moral and spiritual assistance from the community members.

It is evident that all processes and procedures of restorative justice were observed and followed, as a result, an agreement between parties was attained. However, the supposed outcome of the program, which is to develop a responsible constituent and build a strong community were not materialized. They seldom implemented the earlier mentioned community service programs which will make the offender and the victim realize the depth of their accountability. Most of the challenges encountered by the barangays were the non-availability of a pool of experts who will study the problem in the interrelationship of people and environment, lack of concern of some community members evident in their low participation in the proceedings, and absence of provision of other services to support the implementation of the community service program.

Conclusion

The results of the study suggested that the concept of restorative justice process was partly implemented in the City of Dasmariñas and the process of building accountable and responsible constituents was still in the development stage. The peace and order in the barangays could be improved if the full implementation of the restorative justice program will be adopted.

Recommendations

Based on the results of the study, the following recommendations are suggested in order to realize the full benefits of the restorative justice program.

1. For the barangay captains to review the existing restorative programs and share their best practices that can be adopted by many barangays.

2. Develop a Three-Year Comprehensive Restorative Justice Program applicable to the type and characteristics of the community.

3. Implement the Three-Year Comprehensive Restorative Justice Program.

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Perceived Development and Relationships of 21st Century Skills on Medical Technology Intern's Attitude and Perceptions Towards Virtually Simulated, Campus-Based and Hospital-Based Internships

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- **Labster**
- **virtual simulations**
- **medical laboratory science**
- **internship programs**

Abstract. Skills to cope up with technological advances during the 21st Century are essential across varied learning platforms. This study aimed to determine the perceived development and relationship of the 21st Century Skills towards the virtually simulated, campus-based, and hospital-based internships. The findings indicate that hospital-based internship significantly ranked first in terms of interns' attitude and perceived development of 21st Century Skills. Interns also significantly rated Campus-Based internship as the highest in terms of general perceptions. Interestingly, attitude to virtual simulations and campus-based internships have a positive relationship towards the perceived development of 21st Century Skills. On the other hand, perceptions to campus-based and hospital-based internship have a positive relationship towards the perceived development of 21st Century Skills.

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INTRODUCTION

Academic skills are important for students' learning development. But other than these, some other important skills that students must possess are the 21st Century skills. According to Stehle et al in 2019, 21st Century skills include knowledge construction, real-world problem solving, skilled communication, collaboration, and self-regulation. It was also stated in their study that employers sought graduates that possess these skills more than those that do not. Students must have these skills so that they can be successful in their field of work after graduation (Bybee, 2013). These skills will also help individuals thrive and survive in a world that never stops to change (Partnership for 21st Century Learning, 2016).

COVID-19 greatly affected not just the healthcare system, but also the education worldwide. Medical programs that require internship program to graduate are severely affected (Hoofman et al. 2021) because medical trainings needed to be suspended and needed undergo drastic changes (Alsoufi et al. 2020). These changes include switching from hands on face-to-face internship training to virtual learning, including laboratory simulations (Hoofman et al. 2021). Laboratory simulations through Labster and other virtual simulation platforms has become normal to students ever since the pandemic has started (Alvarez, 2021). Although real-life experience is still the best way to learn for medical students, virtual simulations also have handful advantages including cost-effectiveness, elimination of biosafety concerns, and increasing engagement to digital platforms (Alvarez, 2021). As the COVID-19 situation started to ease, many institutions start reopening the schools for students, especially the

students enrolled in medical programs. The schools have started to accept students following the health and safety protocols such as wearing of masks and obtaining social distancing (Yuan et al, 2022). In late 2021, interns have also started reporting to their Campus-Based Internship to ready their skills before the Hospital-Based Internship.

In the study we conducted, we focused on how attitude and perceptions affect the Medical Technology Interns' learning development. Some research showed that most students in online courses greatly embraced online learning, and that perceptions of learners are greatly affected by factors such as age, gender, computer literacy, and individual learning styles (Khan et al, 2020). In a study conducted by Yue et al in 2011, they stated that students who preferred virtual learning showed higher course satisfaction than those students who preferred face-to-face or campus-based learning.

Objectives of the Study

This study specifically aimed to:
1. Determine the interns' attitude, perceptions and perceived development of 21st Century Skills when immersed with varied internship platforms
2. Determine relationship of attitude and perceptions towards the perceived development of 21st Century Skills when immersed with varied internship platforms

Scope and Limitations of the Study

Two areas were identified as limitations of the study: generalizability and factors during data collection. The nature of the study research limits the generalizability and factors during data collection as well as the generalizability of the findings. This study is limited only to the medical technology interns in Emilio Aguinaldo College-Cavite who were able to perform all three platforms used. Other universities in the country that do not use Labster simulation may not have the same results with the use of other simulations. When conducting focus groups, there may have been other limitations with responses of other group members of a different group setting.

Review of the Literature

Educators nowadays are considering 21st Century Skills as part of the educational system because it is important to learn and enhance these skills that students can use later in life to adapt and improve in the workplace and to prepare for a better future. Heinrichs (2016) explored the influence of 21st Century Skills in a dual language program. Based on the results, it was concluded that the dual language program should be added to their educational system to provide a cultural and linguistically relevant context for teaching and learning the 21st Century Skills. Chalkiadaki (2018) relates 21st Century Skills with competencies of the information and communications technology development, globalization, and innovation in primary education. The study pointed out the need for students to develop relevant skills and competencies to adopt with the evolution of technology and globalization. Trinidad, et al (2013) studied about the implementation of strategies learned from the teacher professional development program that provide promising evidence of the development of education and improvement of competencies for both teachers' quality of teaching and students' learning. Osman et al (2010) developed and validated the Malaysian 21st Century Skills instrument for science students to capture the skills towards Malaysian students' context. Soh, et al (2010) determined the relations of 21st Century Skills on student's attitudes and perceptions towards Physics, which was the instrument modified and used in this study.

METHODOLOGY

Research Design

This study employed quantitative research method to determine the differences relationships on attitude, perceptions, and perceived development of 21st Century Skills of Medical Technology interns towards different platforms of internships, namely, virtual simulations, campus-based and hospital-based.

Research Instrument

The instrument used in this study is modified from Soh, et al (2010) and is divided into three parts. The first part measured

the attitude of Medical Technology interns toward the three different platforms of internships, namely, virtual simulations, campus-based and hospital-based. The second part of the instrument measured the perceptions of interns towards the aforementioned platforms of internships. And lastly, the third instrument measured perceived development of the 21st Century Skills of interns after they have experienced the three platforms of internships. The items are 21st Century Skills consist of metrics to determine their perceptions toward digital age literacy, inventive thinking, effective communication, high productivity, and spiritual values. Students attitude and perceptions were interpreted as low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0). There are 117 items in the instrument that was content validated by experts. The instrument has a very high internal consistency as its reliability has a Cronbach alpha of 0.965.

Research Sample, Population and Settings

This study was conducted to all 17 enrolled Medical Technology interns who were enrolled during the academic year 2021-2022 and who have experienced all the three platforms of internships. Virtually simulated internship was given during community lockdown with COVID-19 sometime in August-October 2021. Modules for virtual simulations were chosen based on the selected and applicable course packages available in the Labster virtual simulations. All interns were given individual Labster account at the time of matriculation. The campus-based internship was conducted between October-December 2021. The campus-based internship also simulated the clinical sections of the laboratories under the permit of limited face-to-face given by the Commission in Higher Education (CHED) in the Philippines. The hospital-based internship commenced in February 2022 and will end in August 2022. All interns during the hospital-based internship were sent to a tertiary-based hospital owned by the College. Moreover, they all agreed to sign the informed consent as required by the institutional Ethics Review Board (ERB). The questionnaires were digitalized through Google forms and were sent to the official e-mail address of the respondents to affirm the veracity interns' identity.

Data Analysis

Both descriptive and inferential statistics were utilized in this study. One way ANOVA was used to determine the mean

differences in respondents' attitude, perceptions and 21st Century Skills across different platforms of internships. Post-Hoc analysis for mean comparison was done using the least significant difference. P values at ≤ .05 were considered as significant. Pearson correlations were utilized to determine the relationship of the perceived developments of 21st Century Skills to the attitude and perceptions across the different platforms of internships. All data were processed and analyzed using a licensed IBM-SPSS version 26 software.

RESULTS

Attitude Towards Virtual Simulation, Campus-Based and Hospital-Based Internships

Tabulated in Table is the attitude of the respondents toward Labster virtual simulation internship platform. All items were interpreted as "medium" attitude for the said platform except for second item. In this note, majority of the interns surmised that most of the activities that were included in the simulations were perceived to be relevant to medical laboratory science. Item number 8 has the lowest score among the questionnaires. This indicated that interns do not usually enjoy doing laboratory experiments using the said software.

Table 1

Attitude Towards Virtual Simulation (N=17)

Item	Attitude Towards Virtual Simulation	Weighted Mean	Interpretation*
1	The knowledge I gain from Labster Simulations is useful to me.	2.41	Medium
2	I think most of activities included in our simulations is related to my profession.	3.12	High
3	I think the knowledge I acquired from Labster simulations can be used in my daily life as future medical technologist	2.65	Medium
4	I think Labster simulations can improve skills of future medical laboratory scientist.	2.24	Medium
5	I think Labster simulations should be experienced by every medical technology student.	2.53	Medium

Item		Weighted Mean	Interpretation
6	Labster simulations enable me to follow latest developments in science and technology.	2.59	Medium
7	I enjoy doing Labster simulations.	2.24	Medium
8	I love doing experiments in Labster simulations.	2.06	Medium
9	I think the activities in Labster simulations consists of activities or projects that encourage students to explore and investigate.	2.71	Medium
10	I think the activities in Labster Simulations help me prepare to face the challenges of technology in the 21st century.	2.59	Medium
11	I think the activities in Labster simulations can provide basic knowledge to further my studies in Medical Laboratory Science.	2.82	Medium
12	The activities in Labster simulations is very interesting to me.	2.59	Medium

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

Shown in Table 2 is the attitude of interns toward the campus-based internship. All the items received "high" attitude. It is also noteworthy to mention that items number 2 and 3 received the highest rating. These items indicate that activities and knowledge that they gained in campus-based internship are relevant to the practice of the profession. Although it is interpreted as "high", item number 6 received the lowest rating. Interns surmised that campus-based internship was not able to provide them the latest trends and development in the field of Medical Technology since majority of the methods that they performed were either through manual or semi-automated procedures.

Table 2

Attitude Towards Campus-Based Internship (N=17)

Item	Attitude Towards Campus-Based Internship	Weighted Mean	Interpretation*
1	The knowledge I gain from campus-based internship is useful to me.	3.76	High
2	I think most of activities included in our campus-based internship is related to my profession.	3.88	High

Item		Weighted Mean	Interpretation*
3	I think the knowledge I acquired from campus-based internship can be used in my daily life as future medical technologist.	3.88	High
4	I think campus-based internship can improve skills of future medical laboratory scientist.	3.82	High
5	I think campus-based internship should be experienced by every medical technology student.	3.71	High
6	Campus-based internship enable me to follow latest developments in science and technology.	3.41	High
7	I enjoy doing campus-based internship.	3.88	High
8	I love doing activities in campus-based internship.	3.82	High
9	I think the activities in campus-based internship consists of activities or projects that encourage students to explore and investigate.	3.82	High
10	I think the activities in campus-based internship help me prepare to face the challenges of technology in the 21st century.	3.71	High
11	I think the activities in campus-based internship can provide basic knowledge to further my studies in Medical Laboratory Science.	3.82	High
12	The activities in campus-based internship are very interesting to me.	3.82	High

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

Table 3

Attitude Towards Hospital-Based Internship (N=17)

Item	Attitude Towards Hospital-Based Internship	Weighted Mean	Interpretation*
1	The knowledge I gain from hospital-based internship is useful to me.	3.94	High
2	I think most of activities included in our hospital-based internship is related to my profession.	4	High

3	I think the knowledge I acquired from hospital-based internship can be used in my daily life as future medical technologist.	4	High
4	I think hospital-based internship can improve skills of future medical laboratory scientist.	4	High
5	I think hospital-based internship should be experienced by every medical technology student.	4	High
6	Hospital-based internship enable me to follow latest developments in science and technology.	3.94	High
7	I enjoy doing hospital-based internship.	3.82	High
8	I love doing activities in hospital-based internship.	3.88	High
9	I think the activities in hospital-based internship consists of activities or projects that encourage students to explore and investigate.	3.94	High
10	I think the activities in hospital-based internship help me prepare to face the challenges of technology in the 21st century.	3.94	High
11	I think the activities in hospital-based internship can provide basic knowledge to further my studies in Medical Laboratory Science.	3.94	High
12	The activities in hospital-based internship is very interesting to me.	3.94	High

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

Table 3 summarized the attitude of interns toward the hospital-based internship. It is interesting to take note that the interns have high attitude towards hospital-based internship. High attitude was exceptional on the relevance of the hospital-based internship to their profession. They also perceived that the said internship platform could contribute to the improvement of their skills, and they recommend that this must be experienced by every medical technology intern.
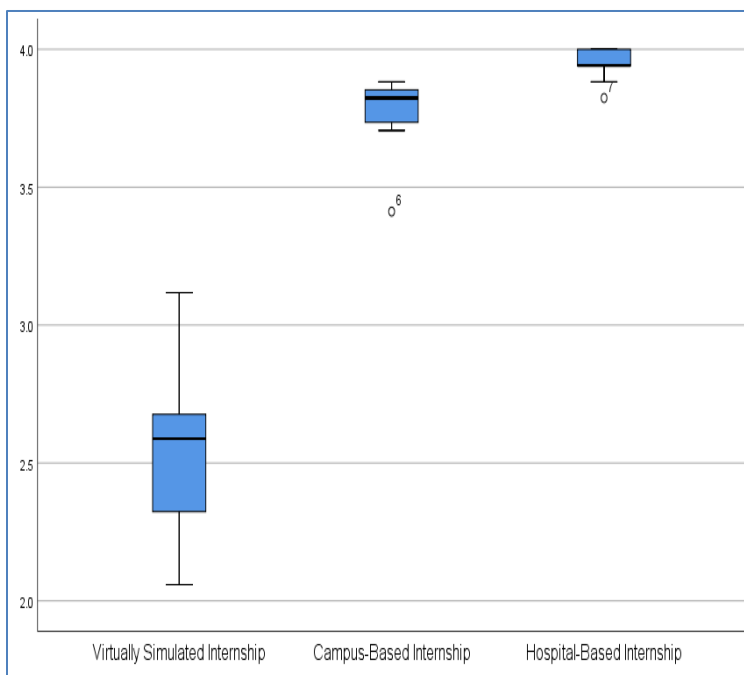
Figure 1 Attitude of Medical Technology Interns Across Varied Internship Platforms (N=17)

Illustrated in Figure 1 is a graph depicting the attitude of Medical Technology interns across varied internship platforms. One Way ANOVA indicate that there is a significant difference in the attitude of interns towards the different platforms of internship, $F_{(2,33)}=208.843$, $p=.000$. Post-hoc analysis showing the least significant difference (LSD) further indicated that Virtual Simulation ($\bar{x}=2.54$) is significantly different from Campus-Based Internship ($\bar{x}=3.78$) and Hospital-Based Internship ($\bar{x}=3.95$), $p=<.001$. Furthermore, attitude towards Campus-Based and Hospital-Based internships are also significantly different, $p=<.05$. Hence, hospital-based internship significantly garnered the highest rank in terms of interns' attitude.

Perceptions Towards Virtual Simulation, Campus-Based and Hospital-Based Internships

Table 4

192

Perceptions Towards Virtual Simulations (N=17)

Item	Perceptions Towards Virtual Simulations	Weighted Mean	Interpretation*
1	I have always been given the opportunity to carry out experiments during Labster simulations.	2.65	Medium
2	I think the practical activities carried out in Labster simulations helped me to understand Medical Laboratory Science more effectively.	2.47	Medium
3	My professors often provide information, applications and advice about actual clinical experience through Labster simulations.	2.76	Medium
4	I think Labster simulations help me to improve my interest in Medical Laboratory Science.	2.18	Medium
5	My professors in Labster simulations often use creative and innovative approach of teaching Medical Laboratory Science.	2.59	Medium
6	My professors in Labster simulations always encourage me to solve problems by finding information from the Internet.	2.47	Medium
7	My professors in Labster simulations has a broad knowledge in Medical Laboratory Science.	2.88	Medium
8	My professors in Labster simulations always show the techniques to handle laboratory equipment effectively.	2.71	Medium
9	My professors in Labster simulations always encourage me to read articles in Medical Laboratory Science.	2.71	Medium
10	My professors in Labster simulations often share the articles in Medical Laboratory Science in the class.	2.47	Medium
11	My professors in Labster simulations always encourage me to use the knowledge in Medical Laboratory Science to produce a product or idea that can be economically profitable.	2.59	Medium
12	My professors in Labster simulations always give me the opportunity to think and give opinions.	2.82	Medium

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

Shown in Table 4 are the general perceptions of interns toward the virtual simulation. It can be gleaned from the tabulation that all items garnered a rating interpretation of "medium".

Interestingly, interns give the highest rating in item number 7 indicating their confidence towards the professor who facilitated the virtual simulations. Apparently, item number 4 received the lowest rating as the interns perceived that the simulations do not seem to help improve their interest toward the medical laboratory science.

Table 5

Perceptions Towards Campus-Based Internship (N=17)

Item	Perceptions Towards Campus-Based Internship	Weighted Mean	Interpretation*
1	I have always been given the opportunity to carry out experiments during campus-based internship.	3.82	High
2	I think the practical activities carried out in campus-based internship helped me to understand Medical Laboratory Science more effectively.	3.94	High
3	My clinical instructors often provide information, applications and advice about actual clinical experience through campus-based internship.	3.94	High
4	I think campus-based internship help me to improve my interest in Medical Laboratory Science.	3.82	High
5	My clinical instructors in campus-based internship often use creative and innovative approach of teaching Medical Laboratory Science.	3.88	High
6	My clinical instructors in campus-based internship always encourage me to solve problems by finding information from the Internet.	3.76	High
7	My clinical instructors in campus-based internship has a broad knowledge in Medical Laboratory Science.	3.82	High
8	My clinical instructors in campus-based internship always show the techniques to handle laboratory equipment effectively.	3.88	High
9	My clinical instructors in campus-based internship always encourage me to read articles in Medical Laboratory Science.	3.59	High
10	My clinical instructors in campus-based internship often share the	3.65	High

	articles in Medical Laboratory Science in the class.		
11	My clinical instructors in campus-based internship always encourage me to use the knowledge in Medical Laboratory Science to produce a product or idea that can be economically profitable.	3.76	High
12	My clinical instructors in campus-based internship always give me the opportunity to think and give opinions.	4	High

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

It can be gleaned from Table 5 that interns have generally "high" perceptions toward campus-based internship. In this inventory, item 12 received the highest rating which can be interpreted that these interns have perceived the clinical instructors in campus-based internship have given them the opportunity to think and express opinions. Although it is still regarded as "high", item number 9 received the lowest rating. It can be surmised that clinical instructors during campus-based internship did not much encourage interns to read articles related to Medical Laboratory Sciences.

Table 6

Perceptions Towards Hospital-Based Internship (N=17)

Item	Perceptions Towards Hospital-Based Internship	Weighted Mean	Interpretation*
1	I have always been given the opportunity to carry out experiments during hospital-based internship.	3.65	High
2	I think the practical activities carried out in hospital-based internship helped me to understand Medical Laboratory Science more effectively.	3.88	High
3	My clinical instructors often provide information, applications and advice about actual clinical experience through hospital-based internship.	3.76	High
4	I think hospital-based internship help me to improve my interest in Medical Laboratory Science.	3.88	High
5	My clinical instructors in hospital-based internship often use creative and innovative approach of teaching Medical Laboratory Science.	3.76	High

6	My clinical instructors in hospital-based internship always encourage me to solve problems by finding information from the Internet.	3.29	High
7	My clinical instructors in hospital-based internship has a broad knowledge in Medical Laboratory Science.	3.88	High
8	My clinical instructors in hospital-based internship always show the techniques to handle laboratory equipment effectively.	3.88	High
9	My clinical instructors in hospital-based internship always encourage me to read articles in Medical Laboratory Science.	3.53	High
10	My clinical instructors in hospital-based internship often share the articles in Medical Laboratory Science in the class.	3.35	High
11	My clinical instructors in campus-based internship always encourage me to use the knowledge in Medical Laboratory Science to produce a product or idea that can be economically profitable.	3.65	High
12	My clinical instructors in campus-based internship always give me the opportunity to think and give opinions.	3.65	High

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

Table 6 indicated that interns have generally "high" perceptions toward the hospital-based internship. This table further amalgamated that item number 6 received the lowest rating although it is still regarded as "high" rating. The item is about the perception of interns towards the clinical instructors in encouraging the respondents to solve problems by finding information on the internet. In this finding, it can also be seen that five items received the highest ratings. Thus, interns generally perceived the hospital-based internship and the assigned clinical instructors have helped them broaden and improved their skills, techniques, interest and understanding the intricacies of Medical Laboratory Science.
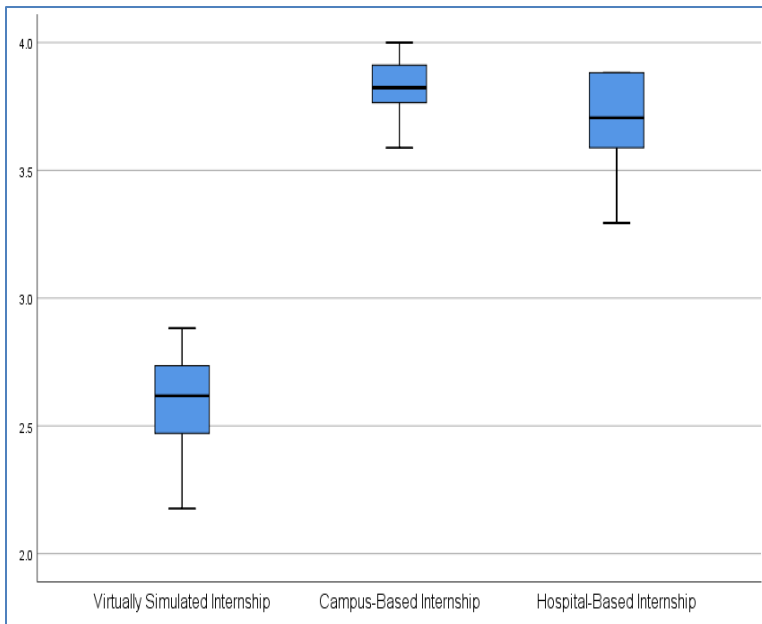
Figure 2 General perceptions toward varied internship platforms (N=17)

Illustrated in Figure 2 is a graph depicting the general perceptions of Medical Technology interns across varied internship platforms. One Way ANOVA indicate that there is a significant difference in the attitude of interns towards the different platforms of internship, $F(2,33)=208.843$, $p=.000$. Post-hoc analysis showing the least significant difference (LSD) further indicated that Virtual Simulation ($\bar{x}=2.61$) is significantly different from Campus-Based Internship ($\bar{x}=3.82$) and Hospital-Based Internship ($\bar{x}=3.68$), $p=<.05$ and $p=<.001$, respectively. Furthermore, attitude towards Campus-Based and Hospital-Based internships are also significantly different, $p=<.05$. Hence, campus-based internship significantly garnered the highest rank in terms of interns' general perceptions.

Perceived Developments of 21st Century Skills When Immersed During Virtual Simulation, Campus-Based and Hospital-Based Internships

Table 7

Perceived Developments of 21st Century Skills in Labster Simulations (N=17)

Item	Perceived Developments of 21st Century Skills in Labster Simulations	Weighted Mean	Interpretation*
1	I can understand the Medical Laboratory Science concepts during Labster simulations in English well.	2.94	Medium
2	I think the issues in biorisk and biohazards must be addressed during Labster simulations.	3.06	High
3	I was able to discuss Labster simulations activities with my classmates using technologies such as chat room to solve problems.	2.41	Medium
4	I always thought a variety of methods and perspectives in solving problem during Labster simulations.	2.76	Medium
5	I set a goal of learning during Labster simulations.	2.59	Medium
6	I always make a hypothesis of my observations during Labster simulations activities.	2.82	Medium
7	During the discussion with Labster simulations, I hear the opinion of other members with utmost respect.	2.94	Medium
8	During Labster simulations, I was able to overcome the conflicts that arise between members of the group.	2.47	Medium
9	I know how to use information and communication technology to share ideas or discuss with friends the Labster simulations.	2.82	Medium
10	I sort tasks in Labster simulations by priority.	2.94	Medium
11	I use appropriate technology such as gadgets and applicable platforms during Labster simulations.	3.18	High
12	I observe 5S which is defined as a methodology that results in a workplace that is clean, uncluttered, safe, and well organized to help reduce waste in my study area and optimize productivity during Labster simulations.	3	Medium
13	I feel grateful to be able to learn more in Medical Laboratory Science through Labster simulations.	2.59	Medium
14	Labster simulations had allowed me to value the concepts in Medical	2.59	Medium

	Laboratory Science as means for saving patients' lives.		
15	I realize during Labster simulations that Science and Technology was helpful for the human ability to use the gift from God prudently.	2.71	Medium

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

Shown in Table 7 is the perceived development of 21st Century Skills when interns were immersed during the virtually simulated internship. The findings were generally perceived as "medium". However, it is noteworthy to mention that item number 11 received a "high" rating since interns were compelled to use appropriate gadgets as hardware requirements for the conduct of virtually simulated internship. On the other hand, item number three received the lowest rating as the interns perceived that virtually simulated internship did not much allow them to effectively communicate and collaborate as a group.

Table 8

Perceived Developments of 21st Century Skills in Campus-Based Internship (N=17)

Item	Perceived Developments of 21st Century Skills in Campus-Based Internship	Weighted Mean	Interpretation*
1	I can understand the Medical Laboratory Science concepts during campus-based internship in English well.	3.76	High
2	I think the issues in biorisk and biohazards must be addressed during campus-based internship.	3.71	High
3	I was able to discuss campus-based internship activities with my classmates using technologies such as chat room to solve problems.	3.82	High
4	I always thought a variety of methods and perspectives in solving problem campus-based internship.	3.82	High
5	I set a goal of learning during campus-based internship.	3.82	High
6	I always make a hypothesis of my observations during campus-based internship activities.	3.76	High
7	During the discussion with campus-based internship, I hear the opinion of other members with utmost respect.	3.76	High

8	During campus-based internship, I was able to overcome the conflicts that arise between members of the group.	3.76	High
9	I know how to use information and communication technology to share ideas or discuss with friends the campus-based internship.	3.65	High
10	I sort tasks in campus-based internship by priority.	3.65	High
11	I use appropriate technology such as gadgets and applicable platforms during campus-based internship.	3.59	High
12	I observe 5S which is defined as a methodology that results in a workplace that is clean, uncluttered, safe, and well organized to help reduce waste in my study area and optimize productivity during campus-based internship.	3.94	High
13	I feel grateful to be able to learn more in Medical Laboratory Science through campus-based internship.	3.82	High
14	Campus-based internship had allowed me to value the concepts in Medical Laboratory Science as means for saving patients' lives.	3.71	High
15	I realize during campus-based internship that Science and Technology was helpful for the human ability to use the gift from God prudently.	3.76	High

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

Summarized in Table 8 is the perceived development of 21st Century Skills of Medical Technology interns after they have undergone campus-based internship. The findings were generally perceived as "high". One of the most pertinent findings in this area is that interns rated item number 12 the highest. Hence, it can be surmised that interns were able to learn and practice the actual 5S to efficiently optimize their work and activities during the campus-based internship.

Table 9

Perceived Developments of 21st Century Skills in Hospital-Based Internship (N=17)

Item	Perceived Developments of 21st Century Skills in Campus-Based Internship	Weighted Mean	Interpretation*
1	I can understand the Medical Laboratory Science concepts during hospital-based internship in English well.	3.88	High
2	I think the issues in biorisk and biohazards must be addressed during hospital-based internship.	3.88	High
3	I was able to discuss hospital-based internship activities with my classmates using technologies such as chat room to solve problems.	3.71	High
4	I always thought a variety of methods and perspectives in solving problem hospital-based internship.	3.82	High
5	I set a goal of learning during hospital-based internship.	3.71	High
6	I always make a hypothesis of my observations during hospital-based internship activities.	3.88	High
7	During the discussion with hospital-based internship, I hear the opinion of other members with utmost respect.	3.88	High
8	During hospital-based internship, I was able to overcome the conflicts that arise between members of the group.	3.76	High
9	I know how to use information and communication technology to share ideas or discuss with friends the hospital-based internship.	3.65	High
10	I sort tasks in hospital-based internship by priority.	3.82	High
11	I use appropriate technology such as gadgets and applicable platforms during hospital-based internship.	3.65	High
12	I observe 5S which is defined as a methodology that results in a workplace that is clean, uncluttered, safe, and well organized to help reduce waste in my study area and optimize productivity during hospital-based internship.	3.82	High

13	I feel grateful to be able to learn more in Medical Laboratory Science through hospital-based internship.	3.88	High
14	Hospital-based internship had allowed me to value the concepts in Medical Laboratory Science as means for saving patients' lives.	3.94	High
15	I realize during hospital-based internship that Science and Technology was helpful for the human ability to use the gift from God prudently.	3.94	High

*Interpretation: low (1.0-2.0), medium (2.01-3.0) and high (3.01-4.0).

Shown in Table 9 is the perceived development of 21st Century Skills of Medical Technology interns after they are being immersed hospital-based internship. The findings were generally perceived as "high". It is noteworthy to mention that two items received the highest ratings, namely, item number 14 and 15. Hence, it can be inferred that interns have seen that the experiences in hospital-based internship as means of saving human lives and perceived as the utilization of God's gift prudently. Incidentally, these two items are part of the spiritual values aspect of the 21st Century Skills. Although item number 11 is still regarded as "high", it was rated the lowest in this tabulation. It can be surmised that interns are generally not allowed to use smart phones during their clinical duties. However, information and communication technology could still be utilized during their research works and seminar classes outside clinical rotations.
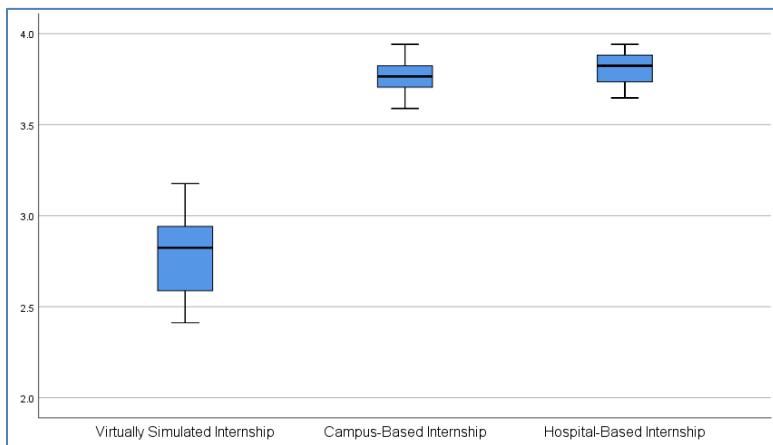

Figure 3 Perceived development of 21st Century Skills across varied internship platforms (N=17)

Shown in Figure 2 is a graph depicting the perceived developments of 21st Century Skills of Medical Technology interns across varied internship platforms. One Way ANOVA indicate that there is a significant difference in the attitude of interns towards the different platforms of internship, $F_{(2,42)}=218.755$, $p=.000$. Post-hoc analysis showing the least significant difference (LSD) further indicated that Virtual Simulation ($\bar{x}=2.78$) is significantly different from Campus-Based Internship ($\bar{x}=3.76$) and Hospital-Based Internship ($\bar{x}=3.81$), $p=<.05$ and $p=<.001$, respectively. Furthermore, perceived development of 21st Century Skills towards Campus-Based and Hospital-Based internships are also significantly different, $p=<.05$. Thus, hospital-based internship significantly garnered the highest rank in terms of interns' perceived developments of 21st Century Skills.

Relationships Among Virtually Simulated, Campus-Based and Hospital-Based Internships

Table 10

Relationship of Attitude and Perceptions Towards the Development of 21st Century Skills When Immersed During Virtually Simulated Internship (N=17)

Criteria	Pearson Correlation Coefficient (r)	Variance (R^2)	Interpretation
Attitude toward virtually simulated internship	.459	21%	Positive moderate relationship
Perceptions toward virtually simulated internship	-.080	.64%	Negative weak relationship

Shown in Table 10 is the relationship attitude and perceptions towards the perceived development of 21st Century Skills when immersed during virtually simulated internship. It can be surmised that only "Attitude" has a positive moderate relationship (r=.459) and 21% of the variance between the interns' attitude and perceived development of 21st Century Skills can be explained by the linear relationship of the aforementioned variables. Hence, attitude positively influence the perceptions of the interns towards the development of 21st Century Skills in a moderate manner. General perceptions, on the other hand, has

a negatively weak relationship (r=-0.080) to the perceived development of 21st Century Skills.

Table 11

Relationship of Attitude and Perceptions Towards the Development of 21st Century Skills When Immersed During Campus-Based Internship (N=17)

Criteria	Pearson Correlation Coefficient (r)	Variance (R²)	Interpretation
Attitude toward campus-based internship	.047	0.22 %	Positive weak relationship
Perceptions toward campus-based internship	.698*	48.7%	Positive moderate relationship

*Correlation is significant at the 0.05 level (2-tailed)

Table 11 summarized the relationship of attitude and perceptions towards the perceived development of 21st Century Skills when immersed during campus-based internship. It can be surmised that only "Perceptions" has a positive moderate significant relationship (r=.698, p=.012) and 48.7% of the variance between the interns' perceptions and perceived development of 21st Century Skills can be explained by the linear relationship of the aforementioned variables. Hence, perceptions significantly and positively influence the interns towards the development of 21st Century Skills in a moderate manner. Interns' attitude, on the other hand, has a positively weak relationship (r=-0.047) to the perceived development of 21st Century Skills.

Table 12

Relationship of Attitude and Perceptions Towards the Development of 21st Century Skills When Immersed During Hospital-Based Internship (N=17)

Criteria	Pearson Correlation Coefficient (r)	Variance (R²)	Interpretation
Attitude toward hospital-based internship	-.159	2.52%	Negative weak relationship

Perceptions toward hospital-based internship	.118	1.39%	Positive weak relationship

Table 12 summarized the relationship of attitude and perceptions towards the perceived development of 21st Century Skills when immersed during hospital-based internship. It can be surmised that only "Perceptions" has a positive weak relationship (r=.118) and 1.39% of the variance between the interns' perceptions and perceived development of 21st Century Skills can be explained by the linear relationship of the aforementioned variables. Hence, perceptions could weakly but positively influence the interns towards the development of 21st Century Skills. Interns' attitude, on the other hand, has a negatively weak relationship (r=-.159) to the perceived development of 21st Century Skills.

DISCUSSION

Attitude and perception towards the different learning platforms are very important factors in the adaptation to the technological advances in the 21st Century Skills. By examining the differences and relation of the attitude and perception of Medical Technology interns towards virtual simulation, campus-based internship and hospital-based internship, a better framework of teaching instruction can be understood and constructed. It is necessary to understand that each platform has its advantages on its own and nevertheless important to consider for both students and educators alike to stay competitive in the changing pedagogy to achieve 21st Century Skills.

This case study explored various aspects and criteria in the way techniques in the laboratory can reach students during this time of pandemic. The attitude and perception towards different platforms can be increased by examining, refining, and improving the approaches and tools to maximize the learning capacity of the student interns. Any factor that can influence the students' perceived development and relationships of 21st Century Skills on Medical Technology interns' attitude and perception should be identified, evaluated and should be the focus of the improvement to meet the needs of the student interns.

Critical thinking is one of the important 21st Century Skills. And since the instructions in critical thinking is necessary in to promote good decision-making and problem solving, including adaptability and flexibility, in real-world applications (Dwyer, Hogan and Stewart, 2014), students' perception on campus-based and hospital-based internship are more likely to be favored than virtual simulations. On the contrary, Piirto (2011) stressed that creativity is one of the important 21st Century Skills that can be improved by elaborating and refining ideas. This can be a benefit of virtual simulations that does not only show experimental processes but also models that can be limited in books and on-site internships. The 21st Century Skills Framework is the combination of different skills that can be supported by a lot of technological advances and tools available for instruction and learning that can help prepare students for the new global economy (Kay and Greenhill, 2010; Chalkiadaki, 2018). Student's attitude and perception of these set of skills can vary depending on the application of this based on student's learning environments (Trinidad et al, 2013; Heinrichs, 2016). In virtual simulations, students pay attention to details of their study and thus, are more focused on knowledge and problem-solving. On the other hand, students are more likely to develop skilled communication and collaboration in campus-based and hospital-based internships since their activities involved actual people and workplaces. Van Laar, van Deursen, van Dijk and de Haan (2017) identified five contextual skills namely ethical awareness, cultural awareness, flexibility, self-direction and lifelong learning. These skills can be greatly developed in campus-based and hospital-based internship due to students' high attitude and perception that can lead to high efficiency and optimized work and activities.

Working in an environment of diverse and open-minded can increase learning effectivity and influence life and career skills (Heinrichs, 2016). Students' relatively higher perceived development of 21st Century Skills across campus-based and hospital-based platforms prove that they prefer real practice and human experience over augmented reality and computer-generated imagery.

Though students' attitude toward virtually simulated internship has positive moderate relationship, their perception has a negative weak relationship. This is because students are very effective in using technology and they need to gain knowledge

even during this time of pandemic. But their perception can be limited, and they need more practical experiments to train and prepare them for the real clinical experience. Students' attitude and perceptions toward campus-based internship have positive weak and positive moderate relationship. Students have access to equipment and laboratory apparatuses in class and their morale is increased because they can work with peers. For hospital-based internship, student's attitude and perception have negative weak and positive weak relationship, respectively. Nonetheless, both attitude and perception acquired high points on each item. Students perceive this as the ideal platform since it is the future of their career, and the on-hand practices will be useful to increase their experience and relevance in the hospital scenario.

Conclusion

Studying student's attitude and perceptions across different platforms provided an important perspective on the extent of perceived development of 21st Century Skills. The students' responses gave insights on how the learning environment affected their interest and engagement to learn and develop new skills in connection to the set standards required in their program. It became apparent that different platforms have their own advantage in terms of perspective to learning and building a mindset for continuing higher education during internship. In addition, the attention to the development of skills using technology and experience has an impact to students' approach to learning.

Medical Technology interns' attitude toward virtually simulated internship has positive moderate relationship, their perception has a negative weak relationship. While attitude and perceptions toward campus-based internship have positive weak and positive moderate relationship. Finally, in hospital-based internship, student's attitude and perception have negative weak and positive weak relationship, respectively.

Recommendations

The possible extension of the study is to further investigate with inclusion of a wider range of interrelated dimensions, such as other factors that can affect not only Medical Technology interns' but also other students' attitude and perception towards the 21st Century Skills. This would give a more holistic and profound visualization of the importance of the 21st Century Skills and the different platforms used. On the contrary, a more specific study for a specific skill of the 21st Century Skills can be conducted focusing on the three categories: learning skills, literacy skills, and life skills. A comparative analysis on these set of skills would provide greater understanding of the strengths and weaknesses of each skill to the training and competencies of the Medical Technology interns. Different student profiles are also variables that can be considered in the future studies. Moreover, a separate study for the teachers and trainers should also provide pertinent information that could help shed light to the concept of 21st Century Skills and its importance to adapt during the evolution of technology and globalization.

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Knowledge and Attitude of Selected EAC Cavite Stakeholders Towards COVID-19 Vaccine: Implications to Immunization Acceptance and Hesitancy

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- **Hesitancy**
- **Knowledge**

Abstract In this study, the researchers determined the knowledge and attitude of selected EAC stakeholders towards COVID-19 immunization. An online, cross-sectional survey was conducted among 211 selected stakeholders of Emilio Aguinaldo College Cavite. Knowledge, attitude, and acceptance were measured using a 5-point Likert scale. These were associated with socio-demographic factors using logistic regression. Results showed that 74.4% of the respondents (157/211) were knowledgeable about Covid19 vaccination. Family monthly income is associated with knowledge (OR=1.6, *p* = 0.0136, 95% CI = 1.10 – 2.35) together with age (OR=1.4, *p* = 0.0935, 95% CI = 0.56 – 1.05). On the other hand, the acceptance rate of the respondents toward vaccination is only 55.9% (118/211) while almost 95% of the respondents (200/211) have positive attitude toward Covid19 vaccination. Statistical analyses suggested that family monthly income is also associated with attitude (OR=2.0, *p* = 0.0064, 95% CI = 1.22 – 3.38). together with comorbidities and health insurance although has a marginal significance (OR=2.0, *p* = 0.0064, 95% CI = 1.22 – 3.38), (OR=2.2, *p* = 0.08, 95% CI = 0.19 – 1.10), respectively. In conclusion, EAC Cavite stakeholders were

knowledgeable and with positive attitude towards COVID-19 vaccination. These results and specifically the low rate of acceptability is a concern to EAC academe since face-to-face classes will resume. There should be further studies on the root causes of this low acceptance rate and the need of awareness campaigns specifically about the safety and efficacy of the vaccines.

Knowledge and Attitude of Selected EAC Cavite Stakeholders Towards COVID- 19 Vaccine Implications to Immunization Acceptance and Hesitancy

INTRODUCTION

In December 2019, a novel coronavirus now known as severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) was first discovered in Wuhan, China (Singhal, 2020). Such virus has caused a local outbreak that later spread to other countries resulting to a global pandemic (Dong, Du and Gardner, 2020). As COVID19 pandemic continues to escalate, several countries including the Philippines were forced to implement extreme measures like lockdowns, mandatory business and school closures and travel restrictions in efforts to reduce the risks of infection and localize transmission (Yu, Aviso, Santos and Tan, 2020). However, such measures have triggered disruption of social, economic and health-care stability. Hence, a better and effective option to address the crisis is through development and efficient distribution of vaccines (Bose et al., 2020).

Vaccination is one of the hallmarks of public health. Vaccines have been credited to the decline of deaths and morbidity of countless infectious diseases by offering direct protection to individuals as well as indirect protection to communities through herd immunity (Dubé et al., 2013). Conversely, despite the vaccine's clear and unambiguous benefits, vaccine hesitancy among the general public still remains a concern of the government that must be addressed.

Vaccine hesitancy is recognized by the World Health Organization as a global health threat and may be attributed to several factors namely: complacency on the possible risks of infection, reduce confidence in vaccine's effectiveness and safety, distrust on the competence of healthcare workers and disbelief in the availability, affordability and delivery of vaccines (Sallam, 2021). Addressing the problem on vaccine hesitancy

among the public is pivotal to obtain a sustainable immunization in order to achieve herd immunity.

The study generally aimed to determine the knowledge, acceptance and attitude of selected EAC stakeholders towards COVID 19 immunization. Specifically, it will measure the association between sociodemographic factors and their knowledge, attitude and acceptance towards immunization.

METHODOLOGY

Research Design and Duration

A cross-sectional study design was used to measure the association between sociodemographic factors and the knowledge, attitude and acceptance of Emilio Aguinaldo College's (EAC) stakeholders towards COVID-19 vaccination. Aside from these measures of association, the study also determined whether the respondents were knowledgeable, with positive attitude and with high acceptance rate on COVID-19 vaccination. The was conducted from February 2022 to March 2022 via an online platform using an anonymous questionnaire.

Sampling Design

The simple random sampling was used in this study utilizing the school's email and social media platform like facebook, messenger, etc. A letter of invitation was emailed to all EAC's stakeholders together with the informed consent. Participants who responded to the invitation were included in the study until the minimum number of respondents were obtained. Using the formula of Kelsey et al. (1996) on the determination of sample size with 95% level of significance, a power of 80% and an odds ratio of at least 3.0, the minimum number of respondents was 202. An additional of 5% was added in case there will be attrition from the study. In this study, inclusion criterion was defined as: (1) EAC stakeholder, and (2), aged 18 years or older, while the exclusion criterion was defined as an EAC stakeholder aged 18 years or older who is not a college degree holder.

Instrument Development and Measurements

The questionnaire used in this study was developed based on literature review (Mohamed et al. 2021) and discussion within the research team. To reduce potential bias introduced by self-reported data, participants were ensured on the confidentiality and privacy of their responses. The questionnaire was designed to reduce survey fatigue and was reviewed by experts in survey research for face validity. A pilot sample (n = 10) was used to improve the wording and clarity of expression of the survey items. Data from the pilot sample was not used in any further analysis. The final version of the questionnaire in English required an estimated time of 5–10 minutes to complete.

Sociodemographic characteristics of the participants were determined in this study. Such characteristics include age, gender, marital status, employment status, geographic residence, academic level, monthly income, presence of financial difficulties, and medical insurance. Additionally, participants were asked to report their history with chronic or comorbid conditions.

Knowledge, Acceptance, and Attitude Toward COVID-19 Vaccine

To assess the level of knowledge, acceptance, and attitude of the respondents, a total of 19 items were given. The knowledge section comprised 8 items while the acceptance section had 6 items and attitude section had 5 items. The response of each item was indicated on a five-point Likert scale (i.e., *"Agree", "Disagree"* and *"Neutral"*). All questions were based on the study of Mohamed et al. (2021 and Islam et al. (2021).

Data Gathering and Statistical analyses

The data such as age, gender, marital status, employment status, geographic residence, academic level, monthly income, presence of financial difficulties, presence of medical insurance and their history of chronic or comorbid conditions were gathered and tabulated. Frequency, percentage, mode, mean, and standard deviation were used in the descriptive statistical analysis. The authors opted to use mode as a measure

of central tendency in a five-point Likert scale. Logistic regression was used to determine the sociodemographic factors that were associated with knowledge, acceptance and attitude. Statistical analysis was done using EpiInfo™ version 7.

RESULTS

Demographic data

A total of 211 respondents participated in this online survey. The mean age was 35.2 years (s=11.9) and 133 (62.6%) of the respondents were female. The detailed characteristics of the respondents are shown in Table 1.

Table 1
Sociodemographic characteristics of the respondents, n = 211.

Characteristics	Categories	n	%
Age group	Mean = 35.2, SD = 11.9		
	20-29	98	46.4
	30-39	46	21.8
	40-49	39	18.5
	50-59	24	11.4
	>60	5	2.4
Gender			
	Male	77	36.5
	Female	132	62.6
	Others	2	0.9
Marital Status			
	Single	122	57.8
	Married	80	37.9
	Annulled/Widowed	9	4.3
Educational Attainment			
	Post-graduate	95	45.0
	Tertiary	115	54.5
	Secondary	1	0.5
Health Insurance			
	Yes	82	38.9
	No	129	61.1
Family Monthly Income (P)			
	Less than 50,000.00	159	75.4
	50,000.01 - 100,000.00	37	17.5
	More than 100,000.01	15	7.1

Comorbid Conditions			
	Cancer	1	0.5
	Chronic Kidney Disease	2	1.0
	Chronic Lung Disease	1	0.5
	Diabetes	7	3.4
	Heart Disease	7	3.4
	Hypertension	32	15.4
	Others	3	1.4
	None	155	74.5

Knowledge regarding Covid19 Vaccines

Seventy-four and one-fourth percent of the respondents (157/211) were knowledgeable about Covid19 vaccination. The statement "COVID19 vaccines stimulate our body to produce antibodies against coronavirus", had the most percentage of correct answer (81.5%), whereas the statement with the lowest percentage of agreement was "COVID19 vaccines can also protect us from influenza" (27.5%). Table 2 shows the knowledge questions and scores for each statement.

Table 2
Knowledge regarding Covid19 vaccines, n = 211.

Knowledge on Covid19 vaccines	Response	n	%
COVID19 vaccines can also protect us from influenza.	Disagree	58	27.4
COVID19 vaccines do not have side effects.	Disagree	145	67.8
COVID19 vaccines protect the receiver from getting COVID19 infection.	Agree	134	63.5
COVID19 vaccines stimulate our body to produce antibodies against coronavirus	Agree	173	81.6
COVID19 vaccines use inactivated coronavirus	Agree	121	57.1
COVID19 vaccines use mRNA from coronavirus	Agree	128	60.4
COVID19 vaccines are useful in controlling the disease.	Agree	175	81.4
Vaccine production involves animal study, and three phases of clinical trials to ensure vaccine efficacy and safety	Agree	149	70.0

Acceptance towards COVID-19 vaccine

The acceptance rate of the respondents toward vaccination is only 55.9% (118/211). Although, they are willing to be vaccinated with one of the COVID 19 vaccines offered by the government (99.1%), they should provide them free. However, some respondents do not still agree to some groups that vaccination are not safe and effective (40.8%). Table 3 shows the acceptance questions and scores for each statement. The results on binomial logistic regression suggested that none of the study variables is associated with acceptance ($p > 0.05$).

Table 3
Acceptance towards Covid19 vaccines, n = 211.

Acceptance on Covid19 vaccines	Response	n	%
Some groups do not agree to vaccination for different reasons. In general, do you agree with these groups? Count	Disagree	32	15.1
Should the government provide free COVID19 vaccines to all Filipinos?	Agree	195	92
Do you believe that there are other (better) ways to prevent vaccine preventable diseases than with a vaccine? Count	Agree	88	41.5
Do you think vaccines should be compulsory?	Agree	83	39.2
Are you willing to be vaccinated with one of the COVID 19 vaccines offered by the government?	Agree	206	97.6

Attitude towards COVID-19 vaccine

Almost ninety-five percent of the respondents (200/211) have positive attitude toward Covid19 vaccination. Almost all indicated willingness to get vaccinated without hesitations. Although two respondents were hesitant about the program. Both reasoned that we should not experiment our body because it will violate our human right. The distribution of each of the attitude items towards the COVID-19 vaccine is presented in Table 4.

Statistical analyses suggested that family monthly

income is also associated with attitude (OR=2.0, *p* = 0.0064, 95% CI = 1.22 – 3.38). Higher income is twice more likely to have positive attitude toward vaccination than those who have lower income. Respondents with comorbidities and insurance are also associated to attitude although has a marginal significance (OR=2.0, *p* = 0.0064, 95% CI = 1.22 – 3.38), (OR=2.2, *p* = 0.08, 95% CI = 0.19 – 1.10), respectively. These findings are congruent with that of Pogue et al (2021) who identified monthly income as one of the influences on attitude regarding COVID-19 vaccination. The family income indeed is a significant factor that would affect the attitude of the public towards willingness to receive COVID-19 vaccine (Wake, 2021).

Table 4
Attitude towards Covid19 vaccines, n = 217.

Attitude toward Covid19 vaccines	Response	n	%
The newly discovered COVID19 vaccine is safe for yourself, child/children and those in your community?	Agree	132	60.8
It is not possible to reduce the incidence of COVID-19 without vaccination.	Agree	119	55.6
I will encourage my family/friends and relatives to get vaccinated.	Agree	174	80.9
COVID19 vaccine is essential for us.	Agree	174	81.3
I will take Covid19 vaccine without hesitations	Agree	206	97.6

DISCUSSION

Vaccine hesitancy has been a significant impediment in achieving herd immunity to COVID-19. Although hesitancy is multifactorial, knowledge, attitude and acceptance played significant role in addressing such problem (Mannan and Farhana, 2020). The hesitancy is quite glaring due to the fact that many vaccines are still in development and clinical trials, hence, it has become a big challenge for many health authorities to promote vaccination especially during the early stage of the pandemic (Abebe, Shitu and Mose, 2021). The general acceptability of the COVID-19 vaccine is a general public issue

regardless and there is no difference whether the respondents are in the medical field or not (Elhadi et al, 2021). Inadequacy of knowledge towards COVID-19 vaccine could be balanced by having positive attitude to address the issues of hesitancy (Islam et al, 2021).

Similarly, results from binomial logistic regression suggested that family monthly income is associated with knowledge (OR=1.6, p = 0.0136, 95% CI = 1.10 – 2.35). Higher income is 1.6 times more likely to be knowledgeable than those who have lower income. Age also is associated to knowledge although has a marginal significance (OR=1.4, p = 0.0935, 95% CI = 0.56 – 1.05). Older people tend to become knowledgeable about vaccination than the younger ones. Interestingly, the respondents in this study do not have knowledge regarding COVID-19 at the expert level. One probable factor is the lack of information from valid sources and the preponderance of fake information circulating in social media regarding the said vaccine (Mahmud et al, 2021). Several factors could be attributable to the level of knowledge towards the said vaccine. However, in this study age and income of the respondents have significant association. The findings further suggest that higher age of the respondents has a significant association to the level of knowledge. This finding is parallel to that of Hammour et al (2022) that implied that age, educational status and inclination to medical sciences would associate the respondents' knowledge and eventual willingness to undergo immunization. It is also noteworthy to take note in this study that respondents in a higher income bracket tend to be more knowledgeable to COVID-19. People who earned higher incomes most likely follow media news and vaccine research at the height of the pandemic (Yang et al, 2021).

Several factors also play key roles regarding the acceptance of general public towards COVID-19 vaccines. These include age, educational attainment and geographic disparities (Malik et al, 2020). Although our study found a 55.9% acceptance of COVID- 19 vaccine, there were noticeable reasons for not having the general public acceptance. One factor is the presence of certain group who were voicing an anti-vaccination campaign. Misinformation and false beliefs being propagated by these groups have generally influenced vaccine acceptance among misguided individuals (Curiel and Ramirez,

2021). Anti-vaccine searches in the context of COVID-19 have had a continued and increasing presence as shown in Google trends reports at the height of pandemic (Pullan and Dey, 2021). Furthermore, most of the respondents (91.9%) in the study believed that government should be giving vaccine to public for free. This is not parallel to the willingness-to-pay (WTP) value for a COVID-19 vaccine. Apparently, high WTP values creates an opportunity for formulating public health policy and may be construed as general acceptance of the public to COVID-19 vaccine (Cerda and Garcia, 2021). The respondents in this study also generally believed that the benefits outweighed the risks for COVID-19. This finding is relevant in this study since individuals that reported vaccine hesitancy were less likely to believe that the vaccine will end the pandemic and benefits of COVID-19 will outweigh the risks (Benham et al, 2021).

Respondents with no comorbidities are twice more likely to have positive attitude toward vaccination than those who have comorbidities. Significant vaccine hesitancy remained in individuals with serious comorbid conditions. It is erroneous to assume that the most vulnerable individuals would willingly to accept COVID-19 vaccine without proper consultations with health-care experts (Tsai, 2022). However, these findings were inconsistent with Brodziak et al (2021) where they postulated that patients with co- morbidities such as cancer have developed positive attitude towards COVID-19 vaccination

On the other hand, respondents with health insurance are twice more likely to have positive attitude toward vaccination than those who have no health insurance. These findings were consistent with Reiter, Pennell and Katz (2020) who surmised that people with either private and public insurance would significantly be more willing to receive vaccination.

Conclusion

The findings of the study suggested that the stakeholders of Emilio Aguinaldo College-Cavite were knowledgeable and with have positive attitude toward Covid-19 vaccination. However, their acceptance rate is only 55.9%, although, they are willing to be vaccinated with one of the COVID 19 vaccines given by the government. Of the demographic factors studied that were associated to knowledge, attitude and acceptance on Covid-19 vaccination, only family income can be associated to the attitude of the respondents.

Recommendations

Even if EAC stakeholders were knowledgeable and with positive attitude towards vaccination, there is a need to determine the root cause of low acceptance rate of COVID-19 vaccination. Moreover, public health officials should be more intentional in giving information to educate the people at the lower strata of income bracket. People with comorbidities should be educated and given more attention regarding COVID-19 vaccination as they tend to have more negative attitude as compared to people with no comorbidities. The hesitancy of such cohort towards COVID-19 immunization must be addressed to promote vaccine acceptance.

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Strategies of Student Services Amid the COVID-19 Pandemic in Emilio Aguinaldo College – Cavite, Philippines

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KEYWORDS:
- **Student Affairs**
- **Campus Activities**
- **Academic Break**
- **Extra-curricular activities**
- **Co-curricular activities**

Abstract. Prior to the pandemic, students always look forward to campus public events whether large or small, but these were quickly discontinued in compliance with the health and safety guidelines issued by the government. These campus activities add to the holistic development and academic success of the students, that is why when the pandemic hit, Student Affairs and Services (SAS) practitioners were required to step up and continue enhancing student engagement activities online. This study aimed to create new strategies for students to bridge gaps during Covid-19 pandemic through online student engagements specifically to determine the online student activities conducted; the challenges encountered; and the new strategies that can be used in online student engagements. The applications for the conduct of online student activities and the post activity evaluation results were gathered and analyzed using inductive content analysis to present the effective strategies to keep students engaged while in an online arrangement. The outcome is offered as a benchmarking guide to SAS practitioners in knowing what activities would be interesting to students and would address their concerns in their adjustment and recovery journey through this continuing pandemic.

Strategies of Student Services Amid the COVID-19 Pandemic in Emilio Aguinaldo College – Cavite, Philippines

INTRODUCTION

We can all clearly remember how during the onset of the pandemic, students started to clamor for Academic Break (Hernando-Malipot, 2020). There were claims that mental health concerns among students escalated when Philippine schools suddenly shifted to online learning due to the restrictions issued by the national and local government hence the need for academic break (Alibudbud, 2021). This pandemic has resulted in a learning crisis that has had a significant impact on the mental and physical well-being of students, teachers, administrators, and non-academic school personnel (Sape et al., 2020). Thus, the need for student affairs practitioners to keep up with the daunting task to see that student's welfare were taken care of and at the same time keep them engaged in the middle of an uncertain situation (Raaper, 2020). Addressing student concerns became quite difficult as personal contact was abruptly out of the picture. The challenge was to develop strategies to engage students in the virtual world, keep them motivated and contribute to their well-being whilst observing the health and safety protocols and doing everything online (Veerasamy & Ammigan, 2021).

During the pandemic, the rapid transition from the traditional face-to-face learning arrangement to an online or virtual learning setup has created an urgency for students, faculty, and staff of educational institutions to adjust and adapt quickly to the challenges at hand (Garcia, 2021). However, educational institutions responded to this challenge expeditiously by training faculty and staff with fewer activities given on the other hand to students who undoubtedly are going through the same rough and involuntary transition. (Neuwirth, Jović, & Mukherji, 2020) Due to this, there was suddenly an urgent requirement for student affairs practitioners to step-up their game and quickly adjust to the demands of online learning environment (Maslang et al., 2021). Campus activities, which may seem irrelevant in the eye of the continuing pandemic, drastically shifted to online activities that

aims to reconstruct student engagement in the virtual setup and maintain students' connection to the institution (Sahlberg, 2020).

In line with this, the Philippine Commission on Higher Education (CHED) issued the timely CHED Memorandum Order No. 08 Series of 2021 which provides for the Guidelines on the Implementation on Flexible Delivery of Student Affairs and Services (SAS) Programs during the COVID-19 Pandemic. This recognized and emphasized the relevance of student services and engagement activities to help students adjust and recover from the ongoing pandemic. CHED urged higher education institutions to strengthen the delivery of SAS programs through innovative flexible learning modality to address students' welfare and concern in terms of adjusting to the online learning environment and prepare them when classes are allowed to resume on a face to face setup under the new normal condition (Loyola, 2021).

When a student's life has experienced a breakthrough, they can have numerous and significant concerns. At times like these, students require the support of their school and the advice of their teachers and mentors more than ever during an event like this. (Evans, 2020) According to Mucci-Ferris, Grabsch, & Bobo, 2021, students require innovative online learning opportunities as well as deliberate distant student experiences aside from exploring the benefits of remote working or studying.

The primary aim of this study is to create new strategies for students to bridge gaps during Covid-19 pandemic through online student engagements. Specifically, this study aims to determine (1) the online student activities conducted during the COVID-19 Pandemic; (2) the challenges encountered in the conduct of the online student activities conducted during the COVID-19 Pandemic; and (3) the new strategies that can be used in online student engagements.

METHODOLOGY

Study Design
     Inductive content analysis was used to identify the effective strategies used by the student services division to enliven student engagement even with this ongoing pandemic in the background. The student activities conducted, and the strategies used to engage students online served as the input which were gathered and analyzed using thematic analysis technique thereby identifying the new and effective strategies in online student engagement.

Sources of Data
     The data was retrieved from post activity evaluation of the online student engagements conducted during the school year 2019 to 2020. The data was analyzed and evaluated using coding and thematic analysis. The post activity evaluation survey are template survey forms used and approved by the institution. This post activity evaluation survey was converted into an online form sent to students who participated in each online activities conducted. Results were gathered and interpreted by the researchers. There were also data obtained from the duly approved student activity application form - a document filed with the Office of Student Affairs by student councils and recognized student organizations to get official approval to proceed with their online events.

Research Locale
     This research was administered at Emilio Aguinaldo College – Cavite, located in the City of Dasmarinas, Province of Cavite, Philippines and with its students for the year 2021 to 2022.

Research Participants/Respondents
     The research participants were the students of EAC Cavite who participated in all the online student engagement activities during the year 2021 to 2022.

Sampling Technique
     The sample size refers to the total number of student councils, academic and non-academic student organizations pertaining the semester identified in the study using the convenience sampling technique and the systematic sampling

technique in which they relied on the available data of the given population.

Data Gathering Procedure
 The data was obtained from the result of the online survey using Google Forms. The pre-approved template of post-activity evaluation was converted into an online format and given to students after the conduct of each online student activity whereas the data obtained from the student activity applications were manually collected and tabulated.

Research Instrument(s)
 The research instrument were the pre-approved post activity evaluation and the student activity application forms of Emilio Aguinaldo College in the City of Dasmariñas, Province of Cavite, Philippines. These forms were registered institutional forms compliant with EAC Cavite's quality management system.

Data Analysis (Statistical Tool and Treatment of Data)
 For data analysis, the researcher used frequency distribution and percentage for the number of student activities conducted and weighted mean for the type of student activities, challenges encountered and strategies.

Ethical Consideration
 The Institutional Ethics Review Board of Emilio Aguinaldo College-Cavite issued the ethics clearance to researchers to proceed with the study. The survey forms contained statements guaranteeing compliance to the Data Privacy Law and Data Privacy Policy of the institution. Included in the survey forms were provisions to ensure confidentiality and informed purpose of the questionnaire.
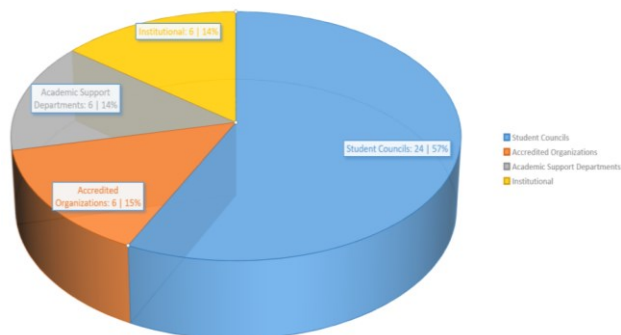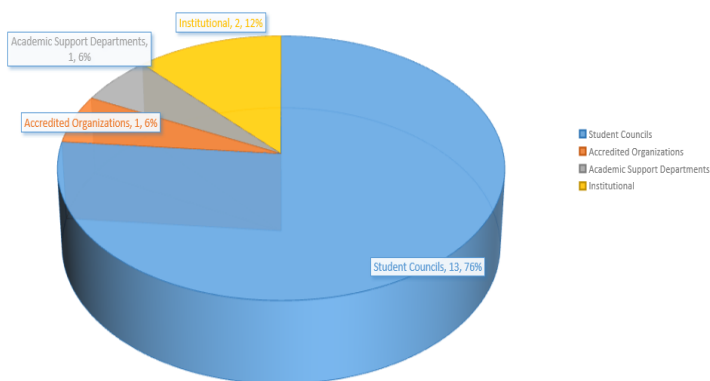
RESULTS

Figure 1.1 Number and Percentage of Student Activities Conducted for the 1st Semester of S.Y. 2021 - 2022 (n=42).

Figure 1.1 illustrates the share of each student services division in the student activities implemented online during the 1st Semester of school year 2021 to 2022. Student councils were able to conduct a total of 25 activities or 57%, whereas accredited organizations held 6 or 15% of online student activities. EAC Cavite events and academic support departments each presented 6 implemented student activities online or 14% of the total number of online student activities conducted for the school year.


Figure 1.2 Number and Percentage of Student Activities Conducted for the 2nd Semester of S.Y. 2021 - 2022 (n=17).

Figure 1.2 illustrates the share of each student services division in the student activities implemented online during the 2nd Semester school year 2021 to 2022. Student councils were able to conduct a total of 13 activities or 76%, whereas Accredited organizations held 1 or 6% of online student activities. EAC Cavite conducted 2 online activities or 12% and academic support departments also implemented 1 student activity online or 6% of the total number of online student activities.
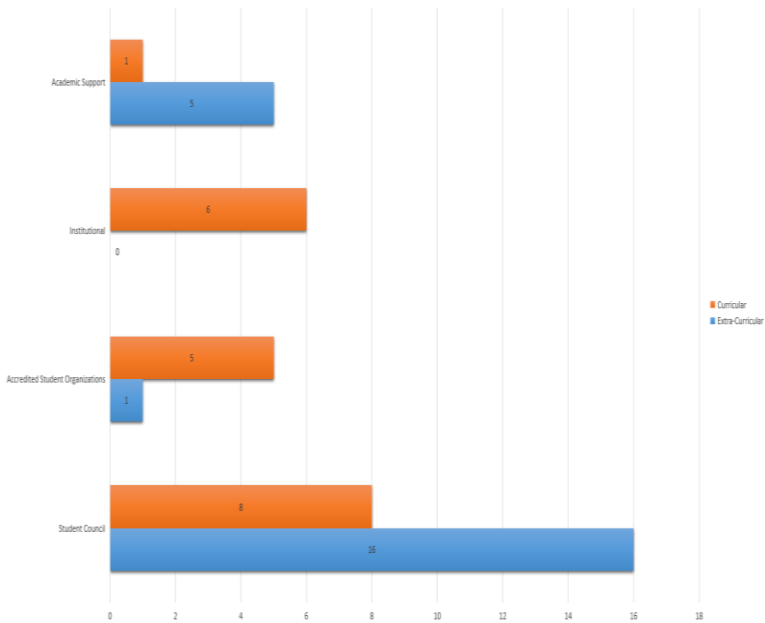
Figure 2.1 Number of Curricular and Extra Curricular Student Activities for the 1st Semester of S.Y. 2021- 2022 (n=42).

Figure 2.1 shows the data on the number of student activities as categorized into extra-curricular and curricular for the 1st Semester of S.Y. 2021-2022. Student councils registered the highest number of extra-curricular activities conducted online of a total of 16 activities followed by academic support with 5 activities and accredited student organizations with 1. Student councils ranked 1st in conducting co-curricular activities with 8 followed by institutional activities with 6 and accredited student organizations with 5.
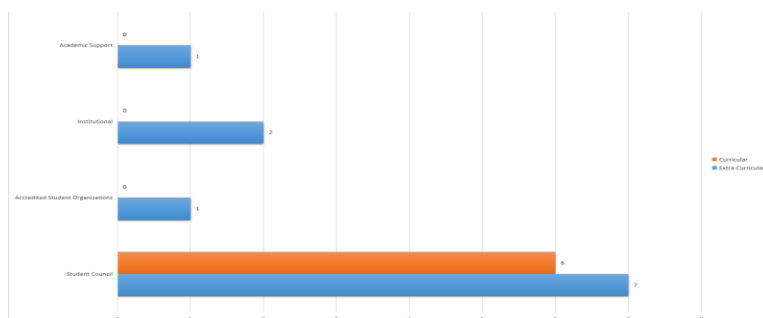
Figure 2.2 Number of Curricular and Extra Curricular Student Activities for the 2nd Semester of S.Y. 2021 - 2022 (n=17).

Figure 2.2 shows the data on the number of student activities as categorized into extra-curricular and curricular for the 2nd Semester. Student councils registered the highest number of extra-curricular (7) conducted online.

EAC Cavite conducted 2 extra-curricular activities then followed by Academic support and Accredited organizations, each having 1 activity of their own. Student councils ranked 1st in conducting co- curricular activities with 6.
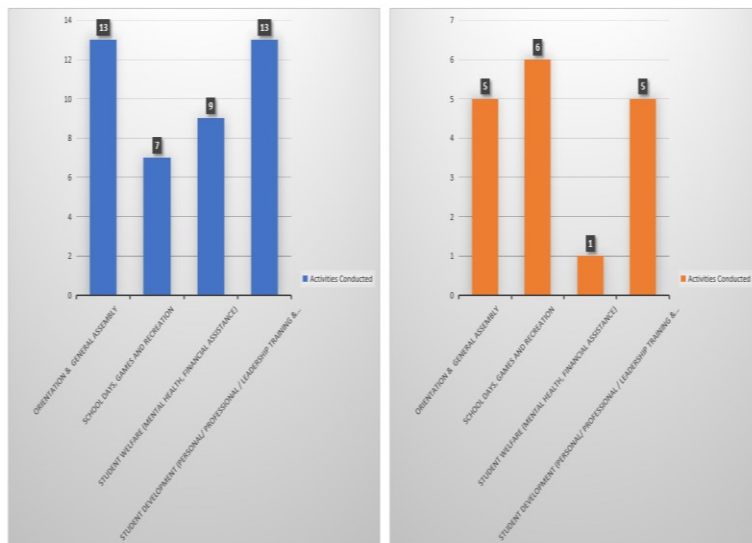

Figure 3. Type of Online Student Activities Conducted during S.Y. 2021-2022.
(*Blue-1st Semester, Orange-2nd Semester)

Figure 3 illustrates the type of online student activities that were conducted in EAC Cavite for the S.Y. 2021-2022. During the 1st Semester, both Orientation, General Assemblies (13) and Student Development Programs (13) ranked 1st. Followed by Student Welfare Programs (9) at 2nd place and School Days, Games and Recreation (7) at 3rd place.

The following semester, School Days, Games and Recreation (6) ranked 1st. Orientation, General Assemblies (5) and Student Development Programs (5) ranked 2nd. Student Welfare Programs (1) at 3rd place.
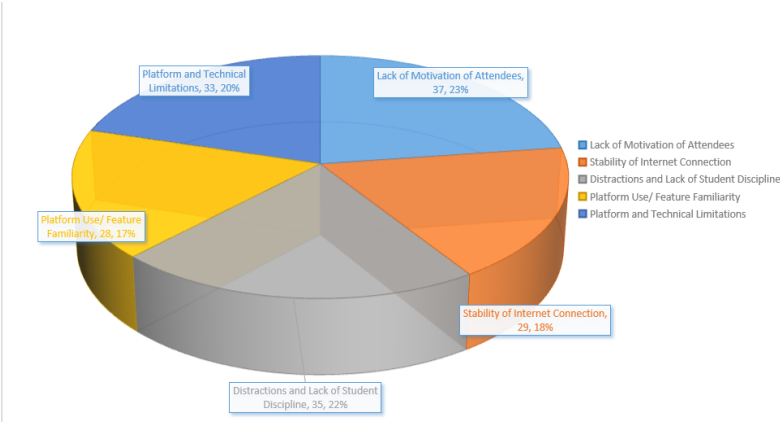

Figure 4. Common Challenges Encountered During the Conduct of Online Student Activities for 1st Semester S.Y. 2021-2022 (n=42).

Figure 4 shows the data on the common challenges encountered by student activity organizers during the conduct of online events for 1st Semester S.Y. 2021-2022. Lack of Motivation was mentioned 37 times or 23%. Distractions and Lack of Student Discipline was mentioned 35 times or 22%. Platform and Technical Limitations was mentioned 33 times or 20%. Stability of Internet Connection was mentioned 29 times or 18% and Platform Use/ Feature Familiarity was mentioned 28 times or 17%.
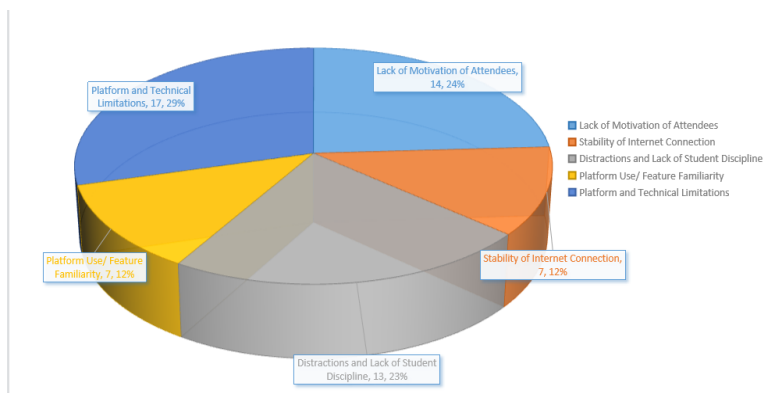
Figure 5. Common Challenges Encountered During the Conduct of Online Student Activities for 2ⁿᵈ Semester S.Y. 2021-2022 (n=17).

Figure 5 illustrates the data on the common challenges encountered by student activity organizers during the conduct of online events for 2nd Semester S.Y. 2021-2022. Platform and Technical Limitations was mentioned 17 times or 29%. Lack of Motivation of Attendees was mentioned 14 times or 24%. Distractions and Lack of Student Discipline was mentioned 13 times or 23%. Both the Stability of Internet Connection and Platform Use/ Feature Familiarity were mentioned 7 times or 12%, respectively.
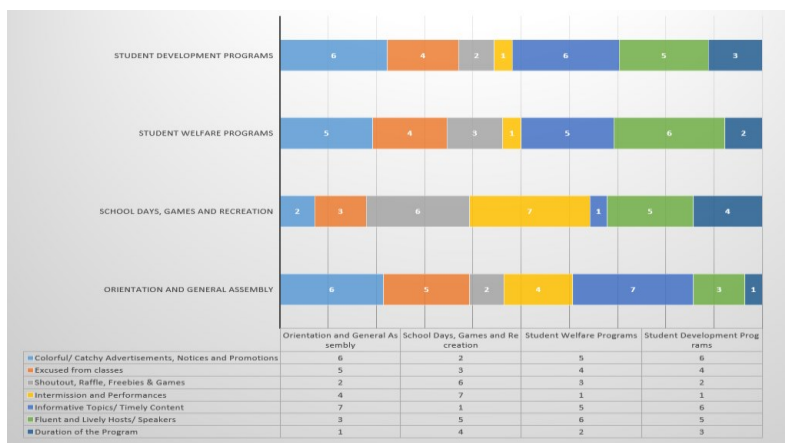

	Orientation and General Assembly	School Days, Games and Recreation	Student Welfare Programs	Student Development Programs
■ Colorful/ Catchy Advertisements, Notices and Promotions	6	2	5	6
■ Excused from classes	5	3	4	4
■ Shoutout, Raffle, Freebies & Games	2	6	3	2
■ Intermission and Performances	4	7	1	1
■ Informative Topics/ Timely Content	7	1	5	6
■ Fluent and Lively Hosts/ Speakers	3	5	6	5
■ Duration of the Program	1	4	2	3

Figure 6. Student Engagement Strategies During the Conduct of Online Student Activities for S.Y. 2021-2022.

Figure 6 shows the data used by activity organizers in Emilio Aguinaldo College- Cavite to engage student participation and attendance during the conduct of online student activities for S.Y. 2021-2022.

For Student Development Programs, Colorful/ Catchy Advertisements, Notices and Promotions together with Informative Topics/ Timely content scored 6. Fluent and Lively Host/Speakers scored 5, Excused from Classes scored 4, Duration of the Program scored 3, Shoutout, Raffle, Freebies and Games scored 2 and Intermission and Performances scored 1.

For Student Welfare Programs, Fluent and Lively Host/Speakers scored 6, Colorful/ Catchy Advertisements, Notices and Promotions together with Informative Topics/ Timely content scored 5, Excused from Classes scored 4, Shoutout, Raffle, Freebies and Games scored 3, Duration of the Program scored 2 and Intermission and Performances scored 1.

For School days, Games and Recreation, Intermission and Performances scored 7, Shoutout, Raffle, Freebies and Games scored 6, Fluent and Lively Host/Speakers scored 5, Duration of the Program scored 4, Excused from Classes scored 3, Colorful/ Catchy Advertisements, Notices and Promotions scored 2 and Informative Topics/ Timely content scored 1.

For Orientation and General Assembly, Informative Topics/ Timely content scored 7, Colorful/ Catchy Advertisements, Notices and Promotions scored 6, Excused from Classes scored 5, Intermission and Performances scored 4, Fluent and Lively Host/Speakers scored 3, Shoutout, Raffle, Freebies and Games scored 2 and Duration of the Program scored 1.

DISCUSSION

Academic institutions at all levels were among those organizations highly challenged to quickly transition from the traditional face to face transactions to online when the pandemic hit. It then became very crucial for school administrators particularly in student support services to continue implementing an effective and dynamic delivery of student affairs and services to learners. Student well-being, resilience, and retention rates

exceeded curriculum goals, and the importance of academic advisory services emerged as an important bridge to reach hard-working and underserved students. (Cicco, 2021).

Figure 1.1 and 1.2 presented an overview and breakdown of the number of activities being conducted by the Institution, Academic Support Units, Student Councils and Accredited Student Organizations for the entire school year. Both illustration showed that majority of school activities online were conducted by student councils of EAC Cavite (24 activities for 1st Semester and 13 student activities for 2nd Semester). Absence of physical presence in the campus did not hinder the interest of students to attend, participate and engage (Roberts, 2014). In student affairs, student engagement played an important role in making students feel and learn their sense of belonging (Soon, 2020). It increased student satisfaction, enhanced student motivation to learn, reduced sense of isolation and improve their self-esteem (Simbulan, 2020).

In Figure 2.1 and 2.2, it further classified the online activities into two; the extra-curricular and co-curricular activities. Through these illustrations, it observed that the trend or prevalent type of activities implemented in the 1st and 2nd semester of each school year. For Figure 2.1, out of the total 42 online activities conducted in the 1st Semester, the Student Councils obtained the highest data. 8 activities were related to their respective course or programs and another 16 activities devoted for their extra-curricular affairs. Similarly, Figure 2.2, out of the total 17 activities for 2nd Semester of S.Y. 2021-2022, the Student Councils also obtained the highest data. 6 for co-curricular and 7 for extra-curricular.

Extra-curricular activities were created to compliment the school's academic curriculum and to expand the student's educational experience outside the four-corners of the classroom (Maslang et al., 2021). The involvement and active participation were key tools for students in their personal development. Most higher learning institutions here and abroad recognized its vital part in the realization of a total campus life experience. Students became involved in these kinds of activities not only for entertainment, social and enjoyment purposes but more importantly their motivation was finding an avenue for their self-expression and a way to improve and gain their communication

and life skills. As the development of a well-rounded individual was a principal goal of extra-curricular activities, the numerous exposures to these activities afforded positive impact to students' emotional, intellectual, social and interpersonal development (Cofer, 2021).

During the 1st Semester, majority of the activities were mostly Orientation and General Assembly of Schools since it was during this time that new students were being admitted as freshmen. Orientation and General Assembly programs served as an overview to inform the newest members of EAC Cavite which included topics on: (1) introduction to college life; (2) acclimating freshmen and transferees to the different school services, rules, policies and regulations governing their status as students of the EAC Cavite: and (3) providing an opportunity to meet and learn about the newest members of EAC Cavite. The COVID-19 crisis presented an opportunity to for school administrators to weigh in innovative systems to offer care and support services to students (Liu et al., 2020).

For school year 2021-2022, EAC Cavite's student development programs were very much dynamic and offered a vibrant a EAC Cavite array of student engagement. During the student organization recognition period for S.Y. 2021-2022, there were 15 student government councils (with 206 student officers) and 18 clubs (205 student officers).

To continuously motivate the student body and to curb the debilitating effects of mental health concerns among them, the promotion of programs that provided student care and welfare was of utmost importance (Morrison, 2021). EAC Cavite was able to conduct mental health related activities, but it was not as many compared to other programs earlier discussed since they only served as a reinforcement. On the 3rd year doing online school activities, students were able to adapt to the new norm of learning and manner of social interaction. As COVID-19 led an expected rapid shift to remote learning, our students successfully responded and adjusted to these disruptions as evidenced by the score of student activities promoting student welfare (9 for 1st Semester and 1 for 2nd Semester).

Figure 4 and 5 showed that lack of motivation of attendee's distractions, lack of student discipline platform and technical limitations were the top three commonly encountered challenges by educators and students alike during the conduct of online student activities. Stability of internet connection and platform used/ feature familiarity became a secondary issue and most students have already adapted a typical way of lifestyle for them to survive and navigate the educational maze posed by the flexible delivery of lessons brought about by the pandemic (Garcia-Morales et al., 2021).

Conclusion

Based on the results gathered student engagement activities that are dynamic and responsive to the needs of the students are crucial to addressing the challenges brought by the pandemic to the educational system. (Sreeram & A. Mundada, 2021). The students of EAC Cavite were able to acknowledge the online student activities conducted during the COVID-19 Pandemic such as orientations, general assemblies and student development programs were able to help them navigate the transition from face to face to online learning. New digital and interactive tools are effective approaches to ensure students are kept engaged and motivated in a virtual learning environment. (Yamamura et al,, 2021).

True enough this transition was not without challenges. The challenges encountered by EAC Cavite in the implementation of the online student activities conducted during the COVID-19 Pandemic were lack of motivation, distractions and lack of student discipline, platform and technical limitations, stability of internet connection and platform use/feature familiarity. Technological issues are common challenges in online learning especially during the pandemic (Chehri et. al., 2021). However, student engagement activities can also help to give students the opportunity to do their part in designing and planning the activities for them. Students can offer contemporary and fresh ideas and help solve problems. Considering their input results in positive outcomes. (McCarthy, 2020)

With these findings it can be surmised that the student engagement strategies during the conduct of online student activities for SY 2021-2022 at EAC Cavite were colorful/ catchy

advertisements, notices, and promotions together with informative topics/ timely content scored, fluent and lively host/speakers, a short break from classes, ideal duration of the program raffle, freebies and games intermission and performances. Methodologies such as those that encourage interaction with their peers and teaching-learning demonstration including role-plays, animated videos, games, and digital activities serves to uplift students and even the school staff from the demands of online learning set-up. (Rajalingam et al., 2021)

Recommendations

The results of this study about the strategies of student services during the pandemic support the recommendation to develop more innovative techniques in student engagement. The following recommendations are presented: (1) prioritize students' mental health in student support and services as regular check-ins with students are essential; (2) integrate technology in the implementation of student engagement activities as this is the new and effective way to connect to students and (3) develop a system of control or monitoring of online student engagement activities to avoid risks and challenges that come with the continued use of technology.

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