ECONOMIC VIABILITY OF TILAPIA (BFAR IExcel Strain) CULTURED IN HDPE-LINED SMALL FARM RESERVOIR (SFR) UNDER GUIMARAS, PHILIPPINES CONDITION

Gerald Sheo Thon D. Gamo
gerald.gamo@gsc.edu.ph

Rodrigo G. Paglomutan Jr.
rodrigo.paglomutan@gsc.edu.ph
ORCID No.: 0000-0001-8082-6838

ABSTRACT The study was conducted to look into the economic viability of Tilapia in Small Farm Reservoir (SFR) with high-density polyethylene (HDPE) lining as this strategy eliminates other basic steps in pond preparation and input application. A Small Farm Reservoir lined with HDPE and 500 m³ was used as a culture pond for Tilapia. A total of 2,500 good quality Hybrid Tilapia fingerlings (BFAR IExcel) size 15 from BFAR hatchery was stocked in the pond. Water quality monitoring was done at a 7-day interval. A feeding guide was used based on the fish's body weight after sampling. Sampling was done every 15 days to compute the feeding requirements and the development of fish. The ABL of Tilapia during stocking was 8.5cm; ABW 15g; total biomass 37.5kg; and initially fed with 1.88kg per day. Within the 120-day culture period of Tilapia in HDPE-lined SFR, the ABL reached up to 22.35cm; ABW 250.0g; average total weight gained of 245.0g; total biomass 560kg; total feed consumed 941.22 kg or 13.44bags; FCR 1.68; survival rate 89.6%; and a total harvested stocks of 2,240. The pH level of the pond in the entire culture period of Tilapia was slightly acidic, ranging from 6.5-6.8, but had a favorable temperature and DO level. Tilapia cultured under HDPE-lined SFR appeared to have good growth performance. The present study is commensurate to economically viable technology wherein the farmer could gain income while conserving and preserving water sources for other agricultural use.

Keywords: BFAR IExcel, Economic, High-Density Polyethylene, Viability, Small Farm Reservoir, Tilapia

INTRODUCTION

The productive activity with the highest growth in the agricultural sector in recent decades has been aquaculture, presenting an annual growth of 5.8% during the period from 2000 to 2018, which is faster than other animal production segments [Froehlich, Runge, Gentry, Gaines, Halpern, (2018); FAO (2012)]. Among the species of relevance in aquaculture are cichlids (tilapia), representing the largest aquaculture production group in the world (Betanzo-Torres, Pinar-Alvarez, Sierra-Carmona, Santamaria, Loeza-Mejia, Marin-Muniz, & Herazo, 2021).

Tilapias are originally from Africa, particularly Sub-Saharan Africa and the Middle East. The first species of tilapia brought into the Philippines in 1950 was the Mozambique tilapia (Oreochromis mossambicus), and this was introduced by way of a few pieces brought in by the Bureau of Fisheries Aquatic Resources from Java, Indonesia (Romana-Eguia, Eguia, & Pakingking, 2020). From the 2018 statistics, tilapias comprised 12% of the total aquaculture production in the Philippines at 277, 006 metric tons (BFAR). It was noted as the third major species in terms of local aquaculture production, next to seaweeds (1,478,301 MT) and milkfish (303,402 MT).

A small farm reservoir (SFR) is a water-impounding earth structure designed for a single farm. Farm reservoirs have been developed indigenously by Central Luzon [Philippines] farmers and are now being adopted by farmers nationwide. Most of the reservoirs are situated in gently undulating or flat terrain. The stored water is used for supplemental irrigation of rainfed lowland rice in the wet seasaon, dry season rice crop irrigation, and fish production. Farmers without farm reservoirs cannot grow a dry-season crop (Guerra, Watson, & Bhuiyan, 1991).

The high-density polyethylene (HDPE) lining system is the world's most widely used liner for Aquaculture practices. When used for fish, shrimp ponds, and other systems for aquaculture, its durable and impervious surface gives more control over the crop environment and greater pond utilization. It was proven effective in the country and had promising advantages and benefits compared to traditional aquaculture (Climax Synthetics, 2018).

Indicated in the Sustainable Development Goals of the United Nations, it calls for zero hunger and zero poverty as among its 17 goals. Moreover, the National Government, with its Long Term Vision; AmBisyon Natin 2040, indicates that by 2040

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Indicated in the Sustainable Development Goals of the United Nations, it calls for zero hunger and zero poverty as among its 17 goals. Moreover, the National Government, with its Long Term Vision; AmBisyon Natin 2040, indicates that by 2040 the country will "matatag, masagana at panatag na buhay". In addition, the Provincial Government of Guimaras crafted its Provincial Development Agenda (2017-2022), a strategy itemizing the objectives of the province in order to attain its vision states that there is a need to increase the production of potential agri-fishery commodities for food sustainability, sufficiency and the same time increase the income of farmers for a healthy and progressive economy.

Provincial Development Agenda (PDA) of the Province of Guimaras (2017-2022) under the economic sector aims to increase agri-fishery production by providing production support such as inputs, machinery, and small farm reservoir (SFRs) for sufficient water supply. In addition, freshwater production, particularly on Tilapia, also needs to be increased such that fish production in SFRs greatly encourages.

Moreover, during the ninth inaugural session held last July 2, 2019, the Honorable Governor of the Province of Guimaras emphasized focusing on inland fisheries to assure fish production. Likewise, the issue of fish supply in this pandemic is being augmented by local inland/brackish water fish production.

Thus, this study was conducted to look into the economic viability of Tilapia in SFR with high-density polyethylene (HDPE) lining, as this strategy eliminates other basic steps in pond preparation and input application. Specifically, it aimed to develop tilapia culture technology suited for SFR with HDPE lining, identify the effect of HDPE lining in terms of water quality parameters (DO, pH, & temperature), and determine the economic viability in culturing Tilapia in HDPE-lined SFR.

MATERIALS AND METHODS

Research Design

1. **Preparation of Culture Pond**

A Small Farm Reservoir (SFR) lined with HDPE and with a volume of 500 m^3 was used as a culture pond for Tilapia. This is situated in Brgy. Nazaret, Buenavista, Guimaras. Pond preparation was done by draining existing SFR water and eliminating unwanted species and hazardous gasses. Flooding was done right after draining, up to 1.0-meter depth.

Photo: GST Gamo
Fig. 1. SFR with HDPE Lining
at Brgy. Nazaret, Buenavista

2. **Stocking**
A total of 2,500 good quality Hybrid Tilapia fingerlings (BFAR I-Excel) size 15 from BFAR hatchery was stocked in the pond. The fingerlings were delivered early in the morning or late in the afternoon. The stocks were acclimatized for about two (2) hours prior to stocking.

3. **Water Quality Monitoring**
Water quality monitoring was done at 7-day intervals. Parameters such as temperature and dissolved oxygen (DO) were monitored with the use of a thermometer and DO meter. Data were recorded in the monitoring logbook.

4. **Feeding Management**
The following feeding guide was used based on the fish's body weight after sampling.

Feeding Guide for Tilapia

Body Weight (grams)	Feeding Rate (%)	Feeding Frequency	Feed Type
Two days old/ 1 gram	10	6 x	Fry mash
1 – 5	6	5x	Crumble
5 – 50	5	4x	Starter
50-100	5	3-4x	Grower
100 up	5	2-3x	finisher

Feeding Ration:

a. Average Body Weight (ABW)

$$= \frac{Total\ Weight\ of\ the\ Fish\ Radomly\ Sampled}{No.\ of\ Fish\ Samples}$$

b. Daily Feed Ration (DFR)

= ABW x No. of Stocks x Feeding Rate

c. Total feed Ration (TFR)
= DFR x Feeding Duration

d. Feed Conversion Ratio (FCR)

$$= \frac{Amount\ of\ Feeds\ Consumed\ (kgs)}{Wet\ Weight\ Gain\ of\ Fish\ (kg)}$$

5. **Feeding approach**
The stock was fed through hand feeding (broadcasting) so that all fish would have access to the food.

6. **Sampling**
Sampling was done every 15 days to compute the feeding requirements and the development of fish. Using a cast net, 30-50 fish samples were subjected to sampling. This should be done early in the morning. Bodyweight with the use of a weighing scale and body length with the use of a ruler was recorded. The sample should be released immediately after measuring. Data gathered was used in computing the feeding ratio.

7. **Recording**
All activities in the pond were properly recorded. Data gathered was used to evaluate the production performance of the culture area.

8. **Harvesting**
After 120 days of the culture period, total harvesting was done using the seine net. Harvest was weighed and recorded to determine the total production, and soon after was placed in a thermos chest and sold in local markets.

Statistical tools

Frequency, Percentage, and Mean were used.

RESULTS AND DISCUSSIONS

Table 1 below presents the growth performance of Tilapia cultured in HDPE-lined Small Farm Reservoir (SFR) technology in 120 days. The 500m3 pond was used in this study with a stocking density of 5 pcs per cubic meter with a total stock of 2,500 pieces of Tilapia. The Average Body Length (ABL) of Tilapia during stocking was 8.5cm, Average Body Weight (ABW) was 15.0g, total biomass 37.5kg, and initially fed with 1.88kg per day. Within the 120-day culture period of Tilapia in HDPE-lined SFR, the ABL reached up to 22.35cm; ABW 250.0 g; average total weight gained of 245.0 g; total biomass 560 kg; total feed consumed 941.22 kg or 13.44 bags; Feed Conversion Ratio (FCR) 1.68; survival
Table 1. The Growth Performance of Tilapia Cultured in HDPE-lined SFR rate 89.6%; and a total harvested stocks of 2,240.
According to the United State Department of Agriculture (USDA), as cited in Makori, Abuom, Kapiyo, Anyona, & Dida (2017), the optimal levels of physical and biological properties are frequently impacted by water quality changes in ponds. High temperatures and high dissolved oxygen levels tend to stimulate fish growth in ponds. The physicochemical characteristics like temperature, Dissolved Oxygen (DO), and pH favor the optimal growth of Tilapia species cultured in HDPE-lined SFR technology in 120 days. According to Makori et al. (2017), the DO, temperature, and ammonia bore positive signs, indicating a commensurate increase in fish weight for every unit that these parameters increased.

DOC	Sampling Days Interval	ABL (cm)	ABW (g)	Average weight gained (g)	Total weight gained (kg)	Total Biomass (kg)	Daily Feeding Ration (kg)	Total Feed	FCR (%)
Stocking	0	8.50	15.00	-	-	37.50	1.88	-	-
1-20	20	10.79	27.27	12.27	27.48	61.08	3.05	37.5	32.57
21-40	20	11.01	35.81	8.54	19.13	80.21	4.01	58.0	32.96
41-49	9	12.18	40.50	4.70	10.53	90.72	4.54	32.1	32.83
50-71	22	15.23	78.75	38.25	85.68	176.40	8.82	95.3	90.06
72-87	16	17.89	139.52	63.77	142.84	312.52	15.62	132.3	58.08
88-104	17	20.36	200.00	60.48	135.47	448.00	22.40	250.0	54.21
105-120	16	22.35	250.00	50.00	112.00	560.00	-	336	31.25

Note: AREA: 500sqm; STOCKING RATE: 5pcs/sqm; STOCKING DENSITY: 2,500pcs; SURVIVAL RATE: 89.6%; TOTAL STOCKS: 2,240; TOTAL BIOMASS: 560kg; Total Feed Consumed: 941.22 kg or 13.44bags; FCR 1.68

Concerns about pond water quality are directly related to its production, so it is important to take these parameters into account in fish culture. Physico-chemical parameters such as temperature, dissolved oxygen (DO), and pH determine water quality and make up the successful management of fish ponds (Bryan et al., 2011).

In this study, the water quality was monitored at a 7-day interval from the start of the culture period. The temperature during cloudy days ranges 18-200C, with a corresponding DO of 7-8.5 mg/l, with an average pH of 6.8. Then obviously, during sunny days of water quality monitoring, the temperature increased ranging 20-280C, DO of 6.5-9.0 mg/l and pH level of 6.5-6.8. Meanwhile, during the flooding schedule, the mean range of the Physico-chemical parameters was temperature 24-250C; DO 8.0-9.0 mg/l; and pH 6.8. The highest temperature level of 27-280C was observed during sunny days of monitoring for 91 – 120 days of Tilapia culture, wherein the DO also increases 7.0-9.0 mg/l. Generally, the pH level of the pond in the entire culture period of Tilapia was slightly acidic, ranging from 6.5-6.8. This was because of the soil characteristics of the Guimaras province, and the technology does not use Agricultural lime to lessen the acidity of the pond.

Therefore, the water source and its quality are some of the main factors to consider when evaluating and choosing sites for earthen fish pond siting. Other critical factors include ensuring the water source has a high concentration of dissolved oxygen and optimal temperatures, which should be maintained at the right levels throughout the culture period (Ngugi et al., 2007). Fish generally grow much faster in ponds with optimum levels of DO, temperature, and other factors (Bartholomew, 2010).

Tilapia (Oreochromis niloticus) is ideal for culture due to its rapid growth rates, capacity to adapt to a wide range of environmental conditions, ability to grow and reproduce in captivity, and ability to feed at low trophic levels (Abdel-Fattah, 2006). The most preferred temperature range for optimal growth of Tilapia is 25 to 27 °C, while the ideal pH ranges between 6 to 9 (DeWalle et al., 2011).

Table 2. The Water Quality Monitoring of Culturing Tilapia in HDPE-lined SFR

DOC	Temperature (0C)	Dissolved Oxygen(DO) (ppm)	pH	Remarks (Rainy/cloudy/ sunny/etc.)
0	18	7.5	6.8	cloudy
7	20	7.0	6.8	cloudy
14	20	8.0	6.8	sunny
21	18	8.5	6.8	cloudy
28	22	7.0	6.5	sunny
35	20	8.0	6.5	sunny
42	22	8.0	6.5	sunny
49	24	9.0	6.8	Watering
56	24	7.0	6.8	sunny
63	25	6.5	6.8	sunny
70	25	6.5	6.8	sunny
77	26	7.0	6.5	sunny
84	25	8.0	6.8	watering
91	27	7.0	6.8	sunny
98	27	9.0	6.5	sunny
105	28	7.5	6.5	sunny
120	28	7.7	6.5	sunny

Table 3 below shows the Financial Analysis of Culturing Tilapia in HDPE-lined SFR, which concurs with the economic viability of the developed technology. The HDPE-lined SFR has an area of 500 m2, with 1-meter water deep. The Tilapia was stocked at a rate of 5-pieces per cubic meter and a total of 2,500 pieces of Tilapia for a 500 cubic meter pond. Within a 120-day culture period, the total production cost was Php31, 221.50, excluding the polyethylene material. The total yield was 560kg out of the total harvested stock of 2,240 pieces of Tilapia. The average farm-gate price was Php130.00 per kilogram and gained a gross income of Php72, 800, which earned a net income of Php41, 578.50, which corresponds to a promising ROI of 133.2%. These values support the economic viability of tilapia culture on a small-scale farm basis and are an important economic supplement to the family economic base. Among the possible profitable scenarios, this study points to some options best suited to the conditions of micro and small producers in the province of Guimaras. The present study is commensurate to economically viable technology wherein the farmer could gain income while conserving and preserving water sources for other agricultural use.

Table 3. Financial Analysis of Culturing Tilapia in HDPE-lined SFR

Area (m2):	500
Stocking Rate (per m3):	5
Total stocks:	2,500
Survival Rate:	89.60%
Culture Period (days):	120.00
Weight at harvest (g):	250.00
Total yield (kg):	560.00
Farm Gate Price (Php):	130.00
Gross income (Php):	72,800.00
Total Production Cost (Php):	31,221.50
Net Income (Php):	41,578.50
Return of Investment (ROI):	133.2%

CONCLUSIONS

In conclusion, dissolved oxygen, temperature, and pH level in the HDPE-lined SFR were within the optimum range for the growth of Tilapia. The water used for the culture of Tilapia was slightly acidic but registered the favorable growth of Tilapia. Technology was economically viable, wherein the farmer could have gained income while conserving and preserving water sources for other agricultural use. It is therefore recommended that the use of HDPE-lined SFR for tilapia culture must be expanded and introduced to the small-scale farmers through the help of the local government of the province of Guimaras.

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STAKEHOLDERS' AWARENESS AND ACCEPTANCE OF THE VISON, MISSION, GOALS AND PROGRAM OBJECTIVES OF GUIMARAS STATE COLLEGE – BACHELOR OF INDUSTRIAL TECHNOLOGY

Ethel P. Junco
ethel.junco@gsc.edu.ph
ORCID No.: 0000-0002-2422-6210

ABSTRACT This study was conducted to determine the stakeholders' awareness and acceptance of Guimaras State College Vision and Mission and BIT Goals and Program Objectives. There were 299 respondents in the study composed of stakeholders (students, parents, faculty and staff, and alumni) who were chosen through random sampling using the Slovin formula. The descriptive research design was used, while the instrument used in gathering data was a researcher–made questionnaire. The statistical tools used were the frequency count, percentage, mean, t-test, F-test, ANOVA, and Pearson r. Results revealed that most respondents belong to the age bracket of 16-25 years old, male, single, and Elementary graduate. Most of the stakeholders were students, alumni, and staff. The information about the VMGO was mostly from bulletin boards, and only a few were from newsletters and others. In the level of awareness and level of acceptance of respondents, there were no significant differences when the stakeholders were categorized according to their profiles. A significant relationship was found between the level of awareness and level of acceptance of the VMGO since it had a high correlation.

Keywords: awareness, acceptance, BIT, stakeholders, VMGO

INTRODUCTION

The vision, mission, goals, and objectives (VMGO) serve as the cornerstone of an educational institution. It is the first and the primary area that is examined in times of accreditation (Compelio, Caranto, & David, 2015; Pelicano & Lacaba, 2015). A vision is a statement about what the organization wants to become and therefore resonates with all the institution's members and helps them have a sense of ownership and become part of the entire organization. It provides the impression, character, and direction of its operations. Agency for Chartered Colleges and Universities in the Philippines (AACCUP) is the accrediting body that evaluates and possesses certain standards of quality and excellence based on the institution's educational operations concerning its VMGO. The effectiveness of the VMGO lies in its structure and dissemination. The educational institution's constituents must be aware of its VMGOs and fully understand the implications for the institution to attain (Pelicano, 2015). Guimaras State College is known for providing quality and excellent education for each student. In acquiring the quality of education and excellence, the college developed its organization's purpose and primary objectives as well as focused on its goals and aspirations through its vision, mission, goals, and objectives. This VMGO should be understood, accepted, and assimilated by all concerned stakeholders, such as students, parents, faculty and staff, members of the community, and many more. And in order to realize the GSC's commitment to serving the people of the island Province of Guimaras and the neighboring places (Junco, 2015).

There were numerous studies regarding the VMGO have been conducted in recent years. A study has shown that the students of a university are aware of its vision, mission, goals, and objectives and that these students understand and accept these statements, along with the responsibility of realizing such objectives in their capacities (Castillo, 2014). Another study has similarly concluded that the constituents of a university are aware and keen on knowing the importance of the core principles contained in their VMGOs (Salom & Florendo, 2013).

Thus, this study aimed to determine the stakeholders' level of awareness and acceptance of the vision, mission, goals, and program objectives of GSC, Bachelor of Industrial Technology (BIT). Specifically, it aimed to determine: the profile of the respondents when grouped according to age, sex, civil status, highest educational attainment, and position in the organization; the level of awareness and acceptance of the stakeholders of GSC as a whole and when grouped according to the respondents' profile; the sources of data or information on the GSC vision, mission, college goals and the program objectives of the School of BIT; the significant difference on the level of awareness and acceptance of the stakeholders of GSC when grouped according to age, sex, course, year level, high school origin and family monthly income; and significant difference relationship between the level of awareness and the level of acceptance of the VMGO of GSC by the respondents.

METHODOLOGY

The descriptive research design was used in this study. The respondents consisted of students, alumni, parents/ selected members of the community, and faculty and staff of the Guimaras State College. Purposive sampling was utilized. This study was conducted during the 1st semester of the academic year 2019-2020 in the 5 Municipalities of Guimaras, Philippines. The researcher-made questionnaire was utilized in this study. It had three parts: Part I focused on the Personal Profile of the respondents and Part II focused on the (a) level of awareness, (b) level of acceptance, and Part III focused on the sources of information. The respondents were asked to respond to each item in the questionnaire by indicating a check (/) mark on the space corresponding to their choices of any of the following responses: "very much aware," "very aware," "aware," "slightly aware," and "not aware" for the Level of Awareness. On the other hand, the respondents were made to answer: "very highly accepted," "highly accepted," "accepted," "slightly accepted," and "not accepted" for the Level of Acceptance. Each response was given a weight of 5, 4, 3, 2, and 1, respectively.

When the data was already gathered, the researchers determined the mean for each area. A measuring instrument devised by the researchers was used to interpret the mean to a descriptive rating. In establishing the validity of the research instrument, five (5) members of the jury were consulted for refinement. Once the instrument was found valid, it was pre-tested to a sample of thirty students from the College of Teacher Education who hold the same position in the institution as the respondents in the actual testing to determine the internal consistency of its items. Cronbach's Alpha was used to determine the reliability of the questionnaire, which obtained 0.93. This means that the instrument used in the study was reliable. The researchers personally administered and gathered the questionnaires to the stakeholders. Upon retrieval of the accomplished questionnaires, the data were tallied, computed, analyzed, and interpreted. The appropriate statistical tools were employed in data analyses, such as frequency count, percentage, mean, t-test, F-test, ANOVA, and Pearson r.

RESULTS AND DISCUSSION

Profile of the Respondents

Table 1 presents the profile of the respondents when grouped according to age, sex, civil status, educational attainment, and position in the organization. Results revealed that the majority belonged to ages ranging from 16-25 years old, more than half were males, single, attained elementary level, and students.

Table 1. Profile of the respondents as to Age, Sex and Civil Status

Category	f	%
Age		
16-25 years old	128	42.81
26-35 years old	72	24.08
36 -45years old	66	22.07
46 years old and above	33	11.03
Total	299	100
Sex		
Male	157	52.51
Female	142	47.49
Total	299	100
Civil Status		
Single	185	61.87
Married	104	34.78
Widow	7	2.34
Separated	3	1.00
Total	299	100
Educational Attainment		
Elementary Graduate	95	31.77
College Level	70	23.41
Post Graduate	58	19.39
College Graduate	41	13.71
High School Level	13	4.37
High School Graduate	12	4.01
Elementary Level	10	3.34
Total	299	100.0
Position in the organization		
Students	67	22.41
Alumni	65	21.74
Staff	55	18.39
Faculty	49	16.38
Parents	41	13.71
Barangay Official	22	7.35
Total	299	100.0

Level of Awareness of Stakeholders on the VMGO of the Institution

Table 2 presents the level of awareness of the Industrial Technology stakeholders. An overall mean of 4.62 was interpreted as very much aware. Looking into the individual items, the stakeholders rated very much awareness of GSC's Vision, Mission, Goals, and Programs Objectives. This implies that almost all Bachelor of Industrial Technology stakeholders were very much aware of the GSC-BIT VMGO. The result shows a positive indicator that the stakeholders are very much aware of what the college is trying to instill in its graduates as reflected in the four major functions of the college, namely instruction, research, extension, and production and other aspects of endeavor of the college to improve its operational system in order to create positive outcomes or impact to their target clienteles.

Category	Mean	Description
a. Vision of Guimaras State College	4.62	Very Much Aware
b. Mission of Guimaras State College	4.58	Very Much Aware
c. Goals of Industrial of Technology	4.28	Very Much Aware
d. Program Objectives of BIT	4.29	Very Much Aware
Total	4.44	Very Much Aware

Scale: 1.00–1.79 (Not Aware (NA)), 1.80–2.59 (Slightly Aware (SA)), 2.60–3.39 (Aware (A)), 3.40–4.19

Level of Acceptance of Stakeholders on the VMGO of the Institution

Table 3 assesses the level of acceptance of the industrial technology stakeholders'. It was rated with an overall mean of 4.35, interpreted as very highly acceptable. Looking into the individual items, the stakeholders rated the acceptance of GSC Vision, Mission, Goals, and Program Objectives all were interpreted as very highly acceptable. This implies that most of the stakeholders of the Bachelor of Industrial Technology were very highly accepted by the GSC-BIT VMGO. These results can be attributed to stakeholders who were involved in the formulation and revision of the VMGO. Faculty integrated the VMGO during their orientation classes at the start of the semester, incorporated the VMGO in their syllabi, and pasted VMGO in their respective classrooms and offices. This is indicative that the target of producing graduates with the desired outcomes set by the Bachelor of Industrial Technology program is a holistic concern of the college, which is producing globally competitive, innovative, God-fearing, morally upright, and productive industrial technology professionals. Students were trained to be competitive graduates, skilled in their field of specialization, trained researchers and extension catalysts, and possess the college's core values, which is a service-effective and service-efficient professional with global standards and practices.

Differences on the Level of Awareness of Stakeholders on the VMGO

Table 4 presents the differences between the level of awareness and the profile of the stakeholders. Results revealed that age, sex, and civil status were not significant in the level of awareness of BIT stakeholders. This means that the stakeholders' awareness level is independent of their profile.

Table 4. Differences on the Level of Awareness of Stakeholders on the VMGO

Variables	test-value	p-value	Interpretation
Age (F-test)	0.482	0.730	Not significant
Sex (T-test)	1148.5	0.873	Not significant
Civil Status (F-test)	2.431	0.413	Not significant
Educational Attainment (F-test)	1.924	0.541	Not significant
Position (F-test)	0.884	0.672	Not significant

Differences on the Level of Acceptability of VMGO of the Stakeholders

Table 5 illustrates in terms of the differences between the level of acceptance and the profile of the stakeholders. Result revealed that age (f=1.361, p=0.455), sex (t=974.00, p=0.771), civil status (f=0.973, p= 0.761), educational attainment (f =2.781, p=0.371) and position (f=1.485, p=0.383) were not significant in the program. This means that their level of acceptance does not depend on their profile of the respondents.

Table 5. Differences on the Level of Acceptability of VMGO of the Stakeholders

Variables	test-value	p-value	Interpretation
Age (F-test)	1.361	0.455	Not significant
Sex (T-test)	974.00	0.771	Not significant
Civil Status (F-test)	0.973	0.761	Not significant
Educational Attainment (F-test)	2.781	0.371	Not significant
Position (F-test)	1.485	0.383	Not significant

Relationship between Awareness and Acceptance of VMGO in terms of School Program and taken as a Whole

Table 6 shows that the relationship between the level of awareness and level of acceptance of Guimaras State College-BIT Vision, Mission, Goals, and Program Objectives (r=.874) was significant since it had a high correlation. This implies that there is a positive and strong relationship between the stakeholders. Thus, their acceptance of the stakeholders is significantly related to their awareness of the statements; likewise, when the respondents are aware of an existing VMGO, they are more likely open to accept it.

Table 6. Relationship between Awareness and Acceptance of VMGO in terms of school program and taken as a whole

Variables	r- value	p-value	Interpretation
Awareness and Acceptance	0.874	0.000	Significant
Total	0.874	0.000	significant

The Source of Information

Table 7 accentuates the sources of information of Guimaras State College Vision, Mission, BIT- Goals, and Program Objectives were bulletin boards (f=248 or 22.32%) which rank first, followed by PTA meetings (163 or 16.47%), billboards/ tarpaulins (163 or 15.12%), student publications (135 or 12.15%), Flyers (108 or 9.72%), posters and brochures (72 or 6.48%), forum (68 or 6.12%), newsletters (61 or 5.39%), and others (9 or 0.81%).

Table 7. The Source of Information

Source of Information	f	%	Rank
Bulletin Board	248	22.32	1
PTA Meetings	183	16.47	2
Billboards/Tarpaulin	163	15.12	3
Student Publication	135	12.15	4
Flyers	108	9.72	5
Posters	72	6.48	6.5
Brochure	72	6.48	6.5
Forum	68	6.12	8
Newsletters	61	5.39	9
Others	9	0.81	10

CONCLUSIONS

Most respondents belong to the age bracket of 16-25 years old, male, single, and nearly half of them are Elementary graduates. Most of the stakeholders were students, alumni, and staff. Most stakeholders were very much aware of and highly accepted the GSC-BIT Vision, Mission, Goals, and Objectives. The information for the GSC- BIT's Vision, Mission, Goals, and Objectives were mostly found in the bulletin boards and tarpaulins; only a few were from newsletters and other platforms. The difference in the level of awareness and level of acceptance, there was no significant difference when it was categorized according to profile. This implies that the age, sex, civil status, educational attainment, and position in the organization of the respondents did not influence the level of awareness and acceptability. The relationship between the level of awareness and level of acceptance of Guimaras State College- Vision, Mission, BIT–Goals and Program Objectives was significant since it had a high correlation. Once the respondents are aware of an existing VMGO are more likely open to accept it. VMGO orientation should be designed to increase and deepen awareness and acceptance.

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EMPLOYMENT STATUS OF THE TEACHER EDUCATION GRADUATES OF GUIMARAS STATE COLLEGE, PHILIPPINES

Norie H. Palma
norie.palma@gsc.edu.ph

Criste F. Dilag
criste.dilag@gsc.edu.ph
ORCID No.: 0000-0002-5652-5717

Dioremark E. Galimba
dioremark.galimba@gsc.edu.ph

Jeffrey G. Magbanua
jeffrey.magbanua@gsc.edu.ph

ABSTRACT This descriptive study was conducted to determine the employment status of 366 graduates of the College of Teacher Education from the Academic Year 2013-2018. The respondents were classified according to sex, course, and highest educational attainment. The data were collected using a modified CHED standardized graduate tracer questionnaire. Questionnaires were distributed directly to the respondents within the province and through emails and social media platforms. The data were analyzed using frequency and percentage. The top knowledge and skills acquired by the graduates from the program were communication skills and exposure to general knowledge and current events. In contrast, entrepreneurial skill was the least acquired knowledge and skill. Astoundingly, 93.4% of the graduates were employed, and 77.5% of them are working in the field of education. The study also recorded 6.6% of unemployed graduates; they pointed out that family concerns and no job opportunities are the reasons for unemployment. Moreover, the results ascertained that 61.4% of the employed graduates hold a regular or permanent position. The study further revealed that 69.2% of the employed graduates earn a monthly income greater or equal to 10,000 but less than 30,000. Additionally, 19.7% of the employed graduates were promoted. Overall, the present study revealed that most of the teacher education graduates of Guimaras State College are employed, indicating they were competent and knowledgeable.

Keywords: College of Teacher Education, employment status, promotion, knowledge, skills

INTRODUCTION

In a globally competitive world, there is increasing pressure for fresh graduates to land jobs which, ironically, are increasing at a different pace with the growth in the population of young people seeking work that provides security and tenure. In order to increase the employment status of graduates, the skills of individuals are important to produce quality results in the organization. Greatbach and Lewis (2007) said that general employability skills are important because the labor market is extremely competitive. Organizations in private, public, and the third sector are looking for flexible people to take the initiative and have the ability to undertake a variety of tasks in different environments. Employability skills are not as narrowly prescribed and defined as in the past, and generally, they are more 'service-oriented,' making information and social skills increasingly important (Mustapha, Abubakar, & Kano, 2021).

In 2017, according to the Philippine Statistics Authority, the annual unemployment rate was 5.7 percent, and others became part of underemployed employees, with 16.1 percent having jobs unrelated to the courses they had taken in college in other neighboring countries. A lower passing percentage of not more than 50% in the Licensure Examination is an indicator or reason for this (Philippine Statistics Authority, 2018).

According to the Philippine Employment Rate from 1994 to 2018, the employment rate dropped, reaching an all-time high of 13.90 percent in the first quarter of 2000 and a record low of 4.70 percent in the fourth quarter of 2016 to 5.5 percent in the June 2018. The number of unemployed persons went down by 83 thousand to 2.36 million while the number of employed increased by 625 thousand to 40.9 million. Meanwhile, the labor force participation rate declined to 60.9 percent from 61.4 percent. Among employed persons, workers in the services sector made up 56.4 percent of the total, followed by those in the agriculture sector (23.9 percent) and industry (19.7 percent) (Bersales, 2018).

Republic Act No. 9138 (2001) was created to convert Guimaras Polytechnic College (GPC) to Guimaras State College (GSC), which served as the cornerstone of the institution to perform the mandated functions such as instruction, research, extension, and production. Even before the college transition, the Teacher Education program has already produced teacher education graduates. Knowing the graduates' employment predicament is very important for planners and administrators of the school so that they will have the basis for pursuing plans to improve the college's services to the community it is serving. Therefore, the researchers would like to conduct this study in order to trace the employment status of GSC Teacher education graduates. This information will be valuable as a foundation for the enhancement of

curriculum and programs, most especially in terms of employability of the Teacher Education graduates so that they will become excellent and productive members of society. Specifically, this study aims to: determine the profile of the graduates in terms of sex, course, and highest educational attainment; identify the knowledge and skills of the graduates acquired from course/degree program; determine the employment data of the graduates in terms of whether employed/ unemployed, reason/s of being unemployed, present occupation, employment status and monthly salary, and identify how many of the graduates are promoted after graduating the degree.

This study is anchored on Adams' Equity Theory, which calls for a fair balance to be struck between an employee's inputs (hard work, skill level, tolerance, enthusiasm, and etcetera) and an employee's outputs (salary, benefits, intangibles such as recognition and etcetera). According to the theory, finding this fair balance serves to ensure a strong and productive relationship is achieved with the employee, with the overall result being contented, motivated employees. Adams' Equity Theory acknowledges that subtle and variable factors affect an employee's assessment and perception of their relationship with their work and their employer.

It is also anchored on Attribution theory which seeks to explain how individuals and teams evaluate their levels of success and failure. It also seeks to show how the reasons given by an individual or team for their success or failure may affect future motivation in similar situations.

METHODOLOGY

The descriptive method of research was used in this study. The study's respondents were 366 Bachelor of Elementary Education and Bachelor of Secondary Education Graduates of Guimaras State College from Academic Year 2013-2018. The list of the respondents was taken from the records of the Registrar's Office. A modified CHED Standardized Graduate Tracer Study Descriptive Questionnaire was used as a research instrument. The questionnaire for graduates from the farthest barangay of the province was distributed first for easy time management during the actual study. Social media was also used for those who cannot be reached personally by using Facebook, Twitter, email address, Skype, and others. The data were collected, sorted, tabulated, and analyzed using Statistical Package for the Social Sciences (SPSS). The data gathered were analyzed by getting the frequency and percentage.

RESULTS AND DISCUSSION

Profile of the Respondents. Table 1 shows the respondents' profiles regarding sex, course, and educational attainment. In terms of sex, the Education Program was significantly dominated by females, which covered 88.3% or 323 of the entire sample group, while there were only 11.7% or 43 male respondents. When classified according to their courses taken, it was revealed that 191 respondents, or 52.2% took Bachelor in Elementary Education. On the other hand, 47.8% or 175 respondents took Bachelor in Secondary Education. With respect to their highest educational attainment, the results showed that 52.5% or 192 have baccalaureate degrees; 37.2% or 136 have attained additional units in their Master's degree; 6.3% or 23 obtained Master's degree; while 4.1% or 15 respondents obtained additional doctorate units.

Table 1. Profile of the Respondents

Category	F	%
Sex		
Male	43	11.7
Female	323	88.3
Course		
BEEd	191	52.2
BSEd	175	47.8
Educational Attainment		
Baccalaureate	192	52.5
Baccalaureate with Master's Units	136	37.2
Masters	23	6.3
Master's with Doctorate Units	15	4.1
Doctorate	0	0
Entire Group	366	100

Knowledge and Skills Acquired by the Respondents from the Education Degree Program

Table 2 shows the knowledge and skills acquired by the respondents from the education degree program. Results revealed that communication skills (328 or 89.6%) were the most acquired skills of the education graduates from the education program. Followed by exposure to general knowledge and current issues (304 or 83.1%); creative and critical thinking skills (273 or 74.6%); IT skills (228 or 62.3%); and human relation skills (217 or 59.3%). However, the least acquired skills were analytical skills (204 or 55.7%); problem-solving skills (172 or 47%), and entrepreneurial skills (52 or 14.2%).

Despite the disparity in the numbers of males and females, the ranking of the knowledge and skills acquired from the degree program with respect to sex was almost identical. Communication skill is consistently the top skill acquired by males and females with 100% or 43 and 88.2% or 328 respectively, while entrepreneurial skill was the skill least acquired by males (20.9% or 9 respondents) and females (13.3% or 52).

In terms of courses taken, the knowledge and skills acquired by the BEED were exposure to general knowledge and current issues (89% or 170), communication skills (85.3% or 163), creative and critical thinking skills (77% or 147), IT skills (63.4% or 121), human relations skills (62.3% or 119), analytical skills (61.8% or 118), problem-solving skills (53.9% or 103), and entrepreneurial skills (19.9% or 38). On the other hand, BSED acquired communication skills (94.3% or 165), exposure to general knowledge and current issues (76.6% or 134), creative and critical thinking skills (72% or 126), IT skills (61.1% or 126), IT skills (61.1% or 107), human relations skills (56% or 98), analytical skills (49.1% or 86), problem-solving skills (39.4% or 69) and entrepreneurial skills (8% or 14).

In terms of highest educational attainment, it showed that communication skill (92.7% or 178) is the top knowledge and skills acquired by the respondents in any educational degree acquired except those who attained Master's degree with additional doctorate units. In contrast, entrepreneurial skill (15.1% or 29) was ranked last regardless of the respondent's educational attainment.

Variables	Exposure to General Knowledge and Current Issues		Creative and Critical Thinking Skills		Analytical Skills		Communication Skills		IT Skills		Human Relations Skills		Entrepreneurial Skills		Problem Solving Skills	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Sex																
Male																
Female																
Course																
BEEd																
BSEd																
Educational Attainment																
Baccalaureate																
Baccalaureate with Master's Units																
Masters																
Master's with Doctorate Units																
Entire Group																

Table 3 presents the employment status of the respondents when taken as an entire group in terms of sex, course, and educational attainment. The results revealed that 93.4%, or 342 respondents, are employed, 5.7% or 21 respondents are unemployed, and the remaining 0.8% or 3 respondents are never employed. When they are grouped according to sex, it was found out that 97.7% or 42 male respondents are employed and 2.3% or 1 respondent is unemployed. On the other hand, 92.9% or 300 of the female respondents are employed, 6.2% or 20 respondents are unemployed, and 0.9% or 3 of the respondents are never employed. In terms of the course taken, 95.8% or 183 of the respondents who took BEED are employed, 3.7% or 7 respondents are unemployed, and 0.5% or 1 respondent is never employed. While 90.9% or 159 respondents who took BSED are employed, 8% or 14 were unemployed, and 1.1% or 2 were never employed. Further, it was found out that 87.5% or 168 of the respondents who attained baccalaureate degrees are employed, 10.9% or 21 are unemployed, and 1.6% or 3 are never employed. Clearly, all respondents with educational attainment higher than a baccalaureate degree are employed. As shown in Table 3, 136 respondents who attained baccalaureate degrees with additional masters units, 23 respondents with master's degree and 15 respondents with master's degree and additional doctorate units are employed.

Table 3. Employment status of the respondents

Variables	Employed		Unemployed		Never Employed	
	f	%	f	%	f	%
Sex						
Male	42	97.7	1	2.3	0	0
Female	300	92.9	20	6.2	3	0.9
Course						
BEEd	183	95.8	7	3.7	1	0.5
BSEd	159	90.9	14	8	2	1.1
Educational Attainment						
Baccalaureate	168	87.5	21	10.9	3	1.6
Baccalaureate with Master's Units	136	100	0	0	0	0
Masters	23	100				
Master's with Doctorate Units	15	100				
Entire Group	342	93.4	21	5.7	3	0.8

From the results shown in Table 3, it was found that 21 respondents are unemployed, and three are never employed. This tracer study also obtained the reasons for their unemployment, as seen in Table 4.

In terms of the reason for their unemployment, there were two prevailing reasons for the respondent's unemployment: family concern (33.3% or 8) and no job opportunity (66.7% or 16). In terms of sex, 1 (100%) of the male respondent stated that the reason for their unemployment is no job opportunity. While 65.2% or 15 females said, there were no job opportunities, 34.8% or 8 of them pointed out family concerns as the reasons for their unemployment. When categorized according to their course, the reason for unemployment of 87.5% or 7 respondents who took BEED had no job opportunity, and 12.5% or 1 of them stated family concern. On the other hand, respondents who took BSED specified no job opportunities (56.25% or 9) and family concerns (43.5% or 7). In terms of educational attainment, unemployment was only recorded under baccalaureate degrees. The results in Table 5 revealed that no job opportunities (66.67% or 16 respondents) and family concerns (33.33% or 8 respondents) were the reasons for unemployment.

Table 4. Reason of Unemployment of the Respondents

Variables	Family Concern		No Job Opportunity	
	f	%	f	%
Sex				
Male	0	0	1	100
Female	8	34.8	15	65.2
Course				
BEEd	1	12.5	7	87.5
BSEd	7	43.75	9	56.25
Educational Attainment				
Baccalaureate	8	33.33	16	66.67
Entire Group	8	33.33	16	66.67

The results in Table 3 showed that 342 respondents are employed. The study further identified the present employment status of the respondents. As shown in Table 5, the employment status of the respondents when they were classified as an entire group or classified as to sex, course taken, and educational attainment. The results revealed that 61.4% or 210 out of the 342 respondents are regular or permanent, 2.9% or 10 are temporary, 8.5% or 29 are casual, 21.1% or 72 are contractual and 6.1% or 21 are self-employed. When they were classified according to sex, the results revealed that 71.4% or 30 of the male respondents are regular or permanent, 9.5% or 4 are casual, 14.3% or 6 are contractual and 4.8% or 2 are self-employed. While, 60% or 180 of the female respondents are regular or permanent, 3.3% or 10 are temporary, 8.3% or 25 are casual, 22% or 66 are contractual and 6.3% or 19 are self-employed. Table 6 further revealed the present employment status of the respondents when they are grouped according to the course taken. The present employment status of the respondents who took BEED are regular or permanent (66.7% or 122), temporary (2.7% or 5), casual (7.7% or 14), contractual (18.6% or 34) and self-employed (4.4% or 8). On the other hand, the present employment status of the respondents who took BSED are regular or permanent (55.3% or 88), temporary (3.1% or 5), or Casual (9.4% or 15), contractual (23.9% or 38) and self-employed (8.2% or 13).

In terms of educational attainment, the present employment status of the respondents who attained a baccalaureate degree are regular or permanent (36.3% or 61), temporary (5.4% or 9), casual (10.7% or 18), contractual (38.1% or 64) and (9.5% or 16). While, 86% or 117 of the respondents who gained baccalaureate degree with masters units are regular or permanent, 8.1% or 11 are casual, 2.9% or 4 are contractual, and the remaining 2.9% or 4 are self-employed. Table 7 further revealed that all 23 respondents with masters degree are regular or permanent. On the other hand, 60% or 9 of the respondents who obtained masters degree with additional doctorate units are regular or permanent, 6.7% or 1 is temporary, 26.7 or 4 are contractual and 6.7 or 1 is self-employed.

Table 5. Employment Status of the Respondents

Variables	Regular or Permanent		Temporary		Casual		Contractual		Self-Employed	
	f	%	f	%	f	%	f	%	f	%
Sex										
Male	30	71.4	0	0	4	9.5	6	14.3	2	4.8
Female	180	60	10	3.3	25	8.3	66	22	19	6.3
Course										
BEEd	122	66.7	5	2.7	14	7.7	34	18.6	8	4.4
BSEd	88	55.3	5	3.1	15	9.4	38	23.9	13	8.2
Educational Attainment										
Baccalaureate	61	36.3	9	5.4	18	10.7	64	38.1	16	9.5
Baccalaureate with Master's Units	117	86	0	0	11	8.1	4	2.9	4	2.9
Masters	23	100	0	0	0	0	0	0	0	0
Master's with Doctorate Units	9	60	1	6.7	0	0	4	26.7	1	6.7
Entire Group	210	61.4	10	2.9	29	8.5	72	21.1	21	6.1

Table 6 presents the present occupation of the respondents when taken as a whole or grouped according to sex and course taken. Generally, the present occupations of the respondents are dominantly related to education (77.5% or 265). While, the present occupations of the remaining respondents are officials of government (7.1% or 24), technicians and associate professionals (5% or 17), clerks (1.2% or 4), service workers or sales workers (7.3% or 25) and farmers, forestry workers and fisherman (2% or 7). When grouped according to sex, the present occupations of the male respondents are officials of the government (4.7% or 2), education (72.1% or 31), technicians and associate professionals (9.3% or 4), service workers or sales workers (9.3% or 4) and farmers, forestry worker or fisherman (2.3% or 1). On the other hand, the female respondents are presently employed as official of government (7.3% or 22), education (78% or 234), technicians and associate professionals (4.3% or 13), clerks (1.3% or 4), service workers and sales workers (7% or 21) and farmers, forestry workers or fisherman (2% or 6). In terms of the course taken, the present occupation of the respondents who took BEED are officials of government (7.7% or 14), education (79.8% or 146), technicians and associate professionals (4.4% or 8), clerks (1.1% or 2), service workers and sales workers (6% or 11) and farmers, forestry workers or fisherman (1.1% or 2). While, respondents who took BSED are presently employed as officials of government (6.2% or 10), education (74.8% or 119), technicians and associate professionals (5.7% or 9), clerks (1.3% or 2), service workers or sales workers (8.8% or 14), and farmers, forestry workers or fisherman (3.1% or 5).

Moreover, the respondents who obtained baccalaureate degree are officials of government (63.7% or 107), education (63.7% or 107), technicians and associate professionals (8.9% or 15), clerks (1.8% or 3), service workers and sales workers (11.3% or 19), and farmers, forestry workers and fisherman (3% or 5). On the other hand, respondents who gained baccalaureate degree with masters units are officials of government (3.7% or 5), education (88.2% or 120), technicians and associate professionals (1.5% or 1), clerks (0.7% or 1), service workers and sales workers (4.4% or 6), and farmers, forestry workers and fisherman (1.5% or 2). The results in Table 9 also showed that the present occupation of all 23 respondents who gained Master's degree are related to education. Furthermore, the present occupation of the remaining 15 respondents who attained Master's degree with doctorate units are connected to education.

Table 6. Occupation of the Respondents

Variables	Officials of Government		Education		Technicians and Assoc Prof.		Clerks		Service Workers and Sales Workers		Farmers, Forestry Workers, Fisherman	
	f	%	f	%	F	%	f	%	f	%	f	%
Sex												
Male	2	4.7	31	72.1	4	9.3	0	0	4	9.3	1	2.3
Female	22	7.3	234	78	13	4.3	4	1.3	21	7	6	2
Course												
BEEd	14	7.7	146	79.8	8	4.4	2	1.1	11	6	2	1.1
BSEd	10	6.2	119	74.8	9	5.7	2	1.3	14	8.8	5	3.1
Educational Attainment												
Baccalaureate	19	11.3	107	63.7	15	8.9	3	1.8	19	11.3	5	3
Baccalaureate with Master's Units	5	3.7	120	88.2	2	1.5	1	0.7	6	4.4	2	1.5
Masters	0	0	23	100	0	0	0	0	0	0	0	0
Master's with Doctorate Units	0	15	100	0	0	0	0	0	0	0	0	0
Entire Group	24	7.1	265	77.5	17	5	4	1.2	25	7.3	7	2

Table 7 presents the initial gross monthly income of the respondents when taken as an entire group or classified according to sex, course taken, and educational attainment. When grouped according to sex, majority of the males have monthly income of not less than 20,000 pesos and no more than 30,000 pesos. While most females respondents earn monthly income ranging from 10,000 to 20,000 pesos.

When grouped according to course, majority of the BEEd graduates have monthly income of no more than 10,000 to 20,000 pesos. While those graduates of BSEd have monthly income ranging from 10,000 to 20,000 and 20,000 to 30,000 pesos.

Moreover, when grouped according to educational attainment, majority of the respondents with baccalaureate degree have monthly income of no more than 20,000 and not less than 10,000 pesos. Forty-one and two percent of respondents who attained baccalaureate degree and with master's units have monthly income ranging from 20,000 to 30,000 pesos. Further, most of respondents who attained master's with doctorate units have monthly income of no more than 30,000 and not less than 20,000.

Table 7. Monthly Income of the respondents

Variables	Income < 5,000		5,000 ≤ income < 10,000		10,000 ≤ income < 20,000		20,000 ≤ income < 30,000		Income ≥ 30,000	
	F	%	f	%	f	%	f	%	f	%
Sex										
Male	4	9.3	5	11.6	16	37.2	18	41.9	0	0
Female	38	11.8	60	18.6	116	35.9	103	31.9	6	1.9
Course										
BEEd	23	12	32	16.8	72	37.7	61	31.9	3	1.6
BSEd	19	10.9	33	18.9	60	34.3	60	34.3	3	1.7
Educational Attainment										
Baccalaureate	28	14.6	55	28.6	63	32.8	43	22.4	3	.6
Baccalaureate with Master's Units	14	10.3	10	7.4	54	39.7	56	41.2	2	1.5
Masters	0	0	0	0	11	47.8	11	47.8	1	4.3
Master's with Doctorate Units	0	0	0	0	4	26.7	11	73.3	0	0
Entire Group	42	11.5	65	17.8	132	36.1	121	33.1	6	1.6

Table 8 shows the promotion data of the respondents taken as an entire group or grouped according to sex, course taken, and educational attainment. The results revealed that the majority of the male respondents were never promoted. When grouped according to course and educational attainment, the majority take up BEEd and attain a baccalaureate degree.

Table 8. Promotion data of the respondents

Variables	Promoted		Never Promoted	
	f	%	f	%
Sex				
Male	9	20.9	34	79.1
Female	63	19.5	260	81.5
Course				
BEEd	39	20.4	152	79.6
BSEd	33	18.9	142	81.1
Educational Attainment	39	20.3	153	79.7
Baccalaureate	28	20.6	108	79.4
Entire Group	72	19.7	294	80.3

CONCLUSIONS

Majority of the respondents were female. Most of them were Bachelor of Elementary Education graduates. Most of the respondents were not master's degree graduates. Majority of the baccalaureate degree graduates were employed with permanent status. The top two knowledge and skills acquired by the graduates from the degree program were communication skills and exposure to general knowledge and current issues. One out of five graduates with Master's degree was promoted. The College of Teacher Education should encourage graduates to finish their post-baccalaureate degrees for promotion. The administration may tap linkages to bring possible employment opportunities for the Teacher Education graduates. The College of Teacher Education should conduct continuous tracer studies to capture the career development of graduates as they continue graduate studies after graduation.

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DEVELOPMENT AND VALIDATION OF MODULE AS INSTRUCTIONAL MATERIALS FOR GREEN TECHNOLOGY EDUCATION 1

Jo Ann T. Gerada
joann.gerada@gsc.edu.ph
ORCID No.: 0000-0002-9553-8449

Mona Liza H. Sollano
monaliza.sollano@gsc.edu.ph
ORCID No.: 0000-0002-7410-4641

ABSTRACT Modular instruction attempts to individualize learning by allowing students to master one unit of content before moving on to another. As a self-instructional tool, Module can be used as supplementary material to help students improve their mastery and as a means to help the student catch up with the missed lessons. In this study, instructional modules on Green Technology Education were developed and validated. Specifically, module 1 consists of one lesson, module 2 consists of three lessons that cover the prelim, module 3 consists of one lesson, and module 4 consists of 1 lesson divided into four parts for the midterm of Green Technology education. The evaluation results showed that everyone who evaluated the instructional modules agreed that they met the criteria for evaluation and had the potential to be used as supplements. It is recommended that the study be replicated to cover other areas in green technology education and evaluation among students to support further the findings that emerged.

Keywords: Development Instructional modules, Green Technology Education, validation

INTRODUCTION

With the onset of the new curriculum in the Philippine Tertiary Education as the effect of the implementation of the K-12 program in basic education, the Guimaras State College responded with the change implanted in the new setting, one is the addition of the Green Technology Education 1 and Green Technology Education 2.
Based on Board Resolution No. 11-2018 during the 90th BOT meeting of the Guimaras State College last March 15, 2018, the subject Green Technology Education 1 and 2 was offered as additional subject among the new college students of the Guimaras State College in response to the vision which state that Guimaras State College as a Center of Excellence in Education and Green Technology Generation of the college and mission which state Guimaras State College is committed to provide access to relevant and quality education and advocate sustainable development.

The field of "green technology" encompasses a continuously evolving group of methods and materials, from techniques for generating energy to non-toxic cleaning products as defined by the Green Technology Organization. Green Technology is developing and using products, equipment, and systems to preserve the environment and resources, reducing human activities' negative impact (KeTTHA, 2017; Bhardwaj & Neelam, 2015). Green Technology also includes groups with methods and materials obtained from techniques to generate energy for non-toxic products (Green Technology, 2015). According to Abdullah & Ahmad (2014), green technology is one of the alternatives to boost the national economy without affecting nature. This is in line with the study conducted by Yusof, Rosman, Mahmood, Sarip, & Noh (2013), which states that green technology, known as clean technology, is one of the elements of environmental science to preserve nature surrounding and natural resources to minimize the negative effects of human activities. According to Markom & Hassan (2014), green technology is based on the importance of using environmentally friendly equipment and reducing carbon emissions. This is global warming, and ozone depletion can be reduced if carbon emissions are reduced. The present expectation is that this field will bring innovation and changes in the daily life of a similar magnitude to the "information technology" explosion over the last two decades. In these early stages, it is impossible to predict what "green technology" may eventually encompass. As the goals that inform developments in this rapidly growing field include: Sustainability – meeting the needs of society in ways that can continue indefinitely into the future without damaging or depleting natural resources. In short, meeting present needs without compromising the ability of future generations to meet their own needs. "Cradle to cradle" design – ending the "cradle to grave" cycle of manufactured products by creating products that can be fully reclaimed or re-used. Source reduction – reducing waste and pollution by changing production and consumption patterns. Innovation – developing alternatives to technologies – whether fossil fuel or chemical-intensive agriculture – that have been demonstrated to damage health and the environment. Viability – creating a center of economic activity around technologies and products that

benefit the environment, speeding their implementation, and creating new careers that truly protect the planet.

In order to spread out this fast-growing area that supports sustainability and environmental protection, education was identified as the best tool to educate students about Green technology. The subject Green Technology Education was offered to the curriculum of the Guimaras State College as a new subject and offered only by the Guimaras State College, and there is a need in developing a module for students to use as well as to evaluate students understanding of the subject matter. Modules are increasingly being used in many countries as a way of organizing a language curriculum. As a consequence, many course books are now structured on the basis of "modules" rather than "units," and most teachers, when faced with this innovation, wonder whether this is really a new development, opening up new paths for learning and teaching. The concept of "module" is strictly linked to the idea of a flexible language curriculum, which should provide all those concerned with education (primarily learners and teachers, but also parents and administrators, as well as society at large) with a framework to establish clear and realistic language learning objectives. Through this method, the teacher sheds the role of presenter, demonstrator, driller, and questioner and now takes on the role of facilitator, initiator, monitor, coach, and coordinator. More importantly, it provides students with opportunities to direct their learning while constructing meaningful experiences about the concepts being taught. It is a relatively autonomous portion since it is based on a limited number of objectives that the learner is expected to achieve, and the school is expected to be able to assess and certify.

Despite curriculum developments in the past years, there is little in the education literature that explores the reasons modules, or the impact they have on student learning and career choice. In fact, the general expectation is that by understanding the concept through the use of module, the learner will engage with the course content, relating it to their own previous experience and establishing an understanding of its implication. This study was designed with the premise that Green Technology Education can be taught significantly to college students using instructional modules. Specifically, the topics included in the instructional module on Green Technology Education are the following: (1) Introduction to Environmental Education as a basis for Green Technology Education; (2) Environment and Education; (3) Natural Resources; and (4) Man and Biosphere and its Totality. The main purpose of this research study was to develop and validate instructional modules on Green Technology Education. for the establishment of modules, the content of the

Specifically, this study aimed to design instructional modules on Green Technology Education for Prelim and Midterm, establish the content validity and reliability of the designed module, and evaluate the designed module.

METHODOLOGY

Research Design and Process

The present study utilized the design and development research approach to establish an empirical basis for creating instructional products, which are self-instructional modules. In particular, the researcher used the ADDIE (Analysis, Design, Development, Implement, and Evaluate) Model in developing the instructional modules on Green Technology Education, as shown in Figure 1.

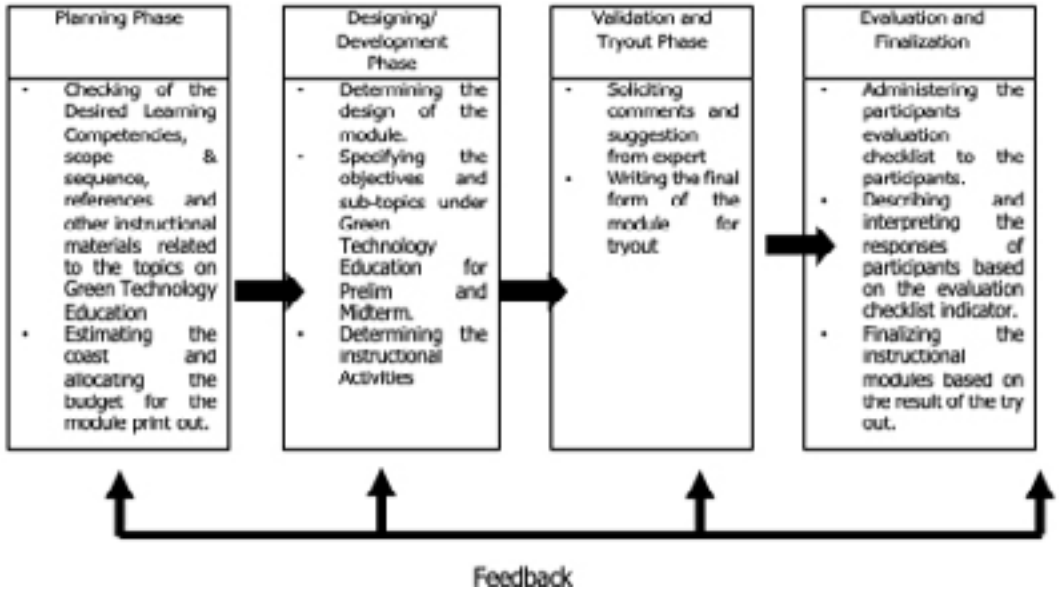

Fig. 1 ADDIE Model of Developing the Instructional Module on Green Technology Education.

Participants

This study's participants were the Guimaras State College faculty teaching Green Technology Education - Salvador Campus. Purposively identified as one of the end users of the module in Green Technology Education.

Instruments

In gathering data relevant to this study, the researcher employed the Experts' Evaluation Checklist of the Instructional Modules and the Participants' Evaluation Checklist of the Instructional Modules.

1. Experts' Evaluation Checklist of the Instructional Modules. In order to have a basis for determining the acceptability of the developed instructional modules, a five-point Likert checklist was adapted from the theses of Marin (2003) and Marasigan (2003). Some modifications to the item format were made to better align them with the purpose of the study.

2. Participants' Evaluation Checklist of the Instructional Modules. This instrument is a five-point Likert checklist adapted from the theses of Marin (2003) and Marasigan (2003). Unlike the expert's evaluation form, the checklist for participants focused only on the content and format of the developed instructional modules, yielding a total of 10 items.

Data Collection

Data collection activities that were done in the present study are described as follows:
Phase 1 – Planning Phase

The researcher examined books and related materials in Green Technology Education, which are the domains of Technology. The researcher also referred to and checked the Desired Learning Objectives and scope and sequence prescribed by the course syllabus. The goal of the researcher at this stage was to create a matrix that would show the essential objectives that must be demonstrated in Green Technology Education. Deciding and determining the specific objectives to be captured in the instructional module was done in Phase 2. Choosing of instructional setting, estimating the cost, and allocating the budget for the module printout were also considered in this phase.

Phase 2 – Designing/Developing Phase

After determining the target learners and the topics to be modularized, the writer structured the modules based on Model V (Take off, Content Focus, Take Action, Self-Check, and Self-Reflect) by Bilbao et al. 2019. In developing the modules, outlined procedures were adopted to achieve the purpose of this study. These are:

Stage 1. Determining the design of the module. The researcher identified the basic parts of the module, and the topics were laid out in the form of a curriculum grid. Basically, each lesson of the modules had the following components:

(1) This gives the students a bird's eye view of the module, and this motivates them to study each lesson in each module. It consists of the target population, prerequisite, objectives, and basic instructions on using the module, including the teacher's and learner's guides.
(2) Objectives: These are the specific competencies that the students should acquire for each lesson.
(3) Take off: Form of motivation
(4) Content Focus: Include all the related content to be studied.
(5) Take Action: Formulation of an analysis or synthesis on the topic learned.
(6) Self Check: An assessment based on the prescribed topic.
(7) Self-reflect: A reflection on what is being learned.

Stage 2. Specifying the objectives and subtopics under Green Technology Education Prelim and Midterm Topic. Specific objectives for each lesson were taken from the course syllabus. In this stage, the researcher decided to make specific objectives based on the topics included in each module. There were four chapters covered by the Instructional Module on Green Technology Education and six (6) lessons covered by four Instructional Modules on Green Technology Education.

Stage 3. Determining the instructional activities. In preparing the instructional activities for each lesson, the researcher ensured that they were written in clear and appropriate language suitable to the level of the target respondents.

Phase 3 – Validation and Tryout Phase

In order to gather evidence that will support the adequacy of objectives, content, format and language, presentation, and usefulness of the instructional modules to its intended users, expert judgments were sought by the researcher. In doing this, the first drafts of the instructional modules were printed and presented to the expert on the development of instructional modules. Then, the researcher revised the modules based on the comments and suggestions.

Phase 4 – Evaluation and Finalization Phase

In evaluating the developed instructional modules in Rational Green technology, the revised instructional modules were validated by 5 Green technology Education Instructors at the Salvador Campus. They examined the modules based on five indicators which include: (1) objectives; (2) content; (3) format and language; (4) presentation; and (5) usefulness of the instructional modules. Finally, the instructional modules were finalized based on the outputs yielded in the evaluation stage.

Data Analysis

The researcher utilized descriptive statistics such as percentages, means, and standard deviations to analyze respondents' evaluation ratings. The textual interpretation was also used in reporting the supporting qualitative data.

RESULTS AND DISCUSSION

Designed Self-Learning Module

Instructional modules on two terms were developed and validated. Specifically, module 1 consists of one lesson, Module 2 consists of three lessons that cover the prelim, module 3 consists of one lesson, and module 4 consists of one lesson divided into four parts for the midterm of Green Technology education. The module consists of the following, listed as follows:

Chapter I: Introduction
Environmental Education: Goals, Basis and Principle

Chapter II: Environment and Education
Environment, Ecology, Ecosystem Man, Environment and Environmental Awareness Biogeochemical Cycle

Chapter III: Natural Resources
Renewable and nonrenewable and its importance and conservation

Chapter IV: Man and Biosphere and its Totality
Man and Nature and Human Impact in the Environment

Evaluation of the Instructional Modules Based on Green Technology Education Instructors.

As presented in Table 1, the evaluators' overall average rating on the developed instructional modules is 4.18, signifying a very good evaluation of the module in five aspects such as (1) objectives; (2) content; (3) format and language; (4) presentation; and (5) usefulness of the instructional modules.

In detail, all evaluators agreed that the instructional modules have objectives which are clearly stated in behavioral form, specific, measurable, and attainable. Also, they strongly agreed that the objectives are well-planned, formulated, organized, and relevant to the topics of each lesson of the modules, and they take into account the needs of the students. Likewise, the evaluators' responses showed that they agreed that the content of each lesson is directly relevant to the defined objectives and is easy to understand. Furthermore, they agreed that the topics of each lesson are fully discussed and supported by illustrative examples and practice tasks suited to the student's level. However, evaluators were undecided in terms of whether each topic was given equal emphasis in the lesson. Also, as shown in the table, the variation in the form of standard deviation of the responses is minimal. With regard to the format/layout of the module, the evaluators agreed that the format/layout is well-organized. Likewise, the language used is clear, concise, motivating, and easy to understand. Regarding the presentation of the instructional modules, the evaluators agreed that the topics are presented in a logical and sequential order. They further agreed that the lessons of the modules are presented in a unique and original form. Lastly, looking at the evaluators' responses on the usefulness of the modules, the evaluators strongly agreed that the developed instructional modules would motivate the students to study Green Technology Education. Furthermore, they agreed that these modules would help the students master the topics at their own pace. Also, they believed that these modules would allow the students to use their time more efficiently and can cater to their needs.

Table 1. Evaluators' Rating on the Developed Instructional Modules

Aspect of the Modules	ITEMS	Mean	Standard Deviation	Interpretations
Objective of Module	The objectives are clearly stated in behavioral form.	4.60	0.55	Strongly Agree
	The objectives are well-planned, formulated, and organized.	4.60	0.55	Strongly Agree
	The objectives stated are specific, measurable, and attainable.	5.00	0.00	Strongly Agree
	The objectives are relevant to the topics of each lesson of the modules.	4.80	0.45	Strongly Agree
	The objectives take into account the needs of the students	4.60	0.55	Strongly Agree
	Overall	4.72	0.24	Strongly Agree
Content of the Module	The content of each lesson is directly relevant to the defined objectives.	4.00	0.71	Agree
	The content of each lesson is simple and easy to understand.	4.40	0.55	Agree
	The topics of each lesson are fully discussed.	4.00	0.71	Agree
	The topics are supported by illustrative example, and the practice task are suited to the level of the students.	3.60	0.55	Agree
	Each topic is given equal emphasis in the lesson.	3.40	0.89	Undecided
	Overall	3.88	0.14	Agree
Format and Language of the Modules	The format/layout is well-organized, which makes the lessons more interesting.	3.80	0.45	Agree
	The language used is easy to understand.	4.40	0.55	Agree
	The language used is clear, concise, and motivating.	3.80	0.84	Agree
	The figure/picture used are clear.	3.40	0.55	Undecided
	The instructions in the instructional module are concise and easy to follow.	4.20	0.84	Agree
	Overall	3.92	0.18	Agree
Presentation of Modules	The topics are presented in a logical and sequential order.	4.40	0.55	Agree
	The lessons of the modules are presented in a unique and original form.	3.60	0.55	Agree
	The learning activities are presented clearly.	4.20	0.45	Agree
	The presentation of each lesson is attractive and interesting to the students	3.60	0.89	Agree
	Adequate examples are given to each topic.	3.80	0.84	Agree
	Overall	3.92	0.20	Agree

Usefulness of the Modules	The instructional modules will motivate the students to study Green Technology Education.	4.60	0.55	Strongly Agree
	The instructional modules will help the students master the topics at their own pace.	4.40	0.55	Agree
	The instructional modules will allow the students to use their time more efficiently.	4.40	0.89	Agree
	The instructional modules will develop the analytical thinking and reasoning skills of students in analyzing problems in Green Technology.	4.40	0.89	Agree
	The instructional modules will serve as a supplementary material that can cater to the needs of the students.	4.60	0.55	Strongly Agree
	Overall	4.48	0.19	Strongly Agree
Overall evaluators' responses on the Module	Objectives	4.72	0.24	Strongly Agree
	Content	3.88	0.14	Agree
	Format and Language	3.92	0.18	Agree
	Presentation	3.92	0.20	Agree
	Usefulness	4.48	0.19	Agree
	Overall	4.18	0.03	Agree

Legend:

Mean Rating	*Interpretations*	
4.50-5.0	*Strongly Agree*	*Excellent*
3.5-4.49	*Agree*	*Very Good*
2.5-3.49	*Undecided*	*Good*
1.5-2.49	*Disagree*	*Fair*
1.0-1.49	*Strongly Disagree*	*Poor*

CONCLUSIONS

The findings demonstrate that the use of a well-designed instructional module can be effective in improving students' knowledge and understanding of the topics on Green Technology Education for Prelim and Midterm. On the basis of the findings, the developed instructional modules on Environmental Education: Goals, Basis and Principle; Environment, Ecology, Ecosystem; Man, Environment and Environmental Awareness; Biogeochemical Cycle; Natural Resources; and Man and Biosphere and its Totality under the domain of Green Technology Education shows potential in terms of its usage based on the evaluators who were identified as one of the end users.

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COLLEGE OF TEACHER EDUCATION COMMUNITY EXTENSION ACTIVITIES: AN IMPACT ASSESSMENT

Khristian T. de la Rama
khristian.delarama@gsc.edu.ph
ORCID No.: 0000-0002-8664-0222

Criste F. Dilag
criste.dilag@gsc.edu.ph
ORCID No.: 0000-0002-5652-5717

Dioremark R. Galimba
dioremark.galimba@gsc.edu.ph

Norie H. Palma
norie.palma@gsc.edu.ph

ABSTRACT Community extension services, as a whole, is one of the trilogy functions of all higher education institutions to augment the needs of the community and other members in the social milieu. The Guimaras State College – College of Teacher Education aims to strengthen two of its four-fold functions, which are instruction and extension, to enable them to provide free access to functional literacy programs among indigent communities. This study assessed the impact of the extension activities of the College of Teacher Education as perceived by the recipients. This descriptive research was conducted to the 296 recipients of the extension services. The Remedial Reading Programs in Good Shepherds Fold Academy impacted positively the reading skills of all students. The students who were labeled as "needs enhancement" were advanced to "independent reader" level after the program. With regards to the preservation of historical places in Buenavista, a large number of the respondents are now proud of these places in the community. They are willing to give assistance to promote historical places and are motivated to attend meetings about its preservation and other activities of the barangay. In relation to the Training Workshop on Technical Writing Skills of Barangay Officials, most of the respondents agreed that because of participation to extension program they have received affirmations because of the quality of the documents submitted or created. Moreover, more of the respondents agreed that because of participation to extension program motivate to accomplish task assigned as a secretary, willing to promote the extension activities to GSC to other people, and become independent in working the written reports and documents. Furthermore, in relation to Health Awareness and Clean-up Drive, it revealed that because of the activity majority of the respondents agreed that they maintain the cleanliness of cleaning their house and backyards often. Worth mentioning, majority of the respondents perceived that the extension activities have greatly impacted the lives and the community, in general.

Keywords: Community Extension Services, College of Teacher Education, Impact, Literacy, Remedial Reading

INTRODUCTION

Community extension service is one of the trilogy functions of all higher education institutions as mandated by the Commission on Higher Education. This is along with the intention to make Philippine HEIs stride along with universities across borders recognized worldwide not only for the quality of their programs but, as in corporate business, for their social initiatives as well.

To support the above contention, as stated in Republic Act 8435, Chapter 2, Sec. 90, "The State Universities and Colleges are mandated to primarily focus their extension services on the empowering of the capability of the Local Government Units in the delivery of extension services by providing degree and non-degree programs, technical assistance, extension and research activities, monitoring and evaluating the LGU extension projects and information support services."

Likewise, in accordance to the pertinent provisions stated in Republic Act No. 7722, otherwise known as "Higher Education Act of 1994", higher education institutions (HEI's) are encouraged to become self-sustainable and are mandated to give priority to research and development and extension services and serve as the prime mover of the nation's socio-economic growth and sustainable development.

These legal mandates clearly point out that conducting extension services does not only respond to the college's vision and mission, but more importantly extension services help augment the needs of the community and other members in the social milieu. It is also along these contentions that assessment of the impact of extension activities should be conducted to identify the effectiveness of these services.

An integrated extension approach is needed to address multi-faceted community issues effectively and it is one of the major functions of the academic community in order to enhance the capacity of the faculty in their field of expertise by

way of extending it to the partner community (Gonzalez, 2009).
According to Gonzales (2008 as cited in Dilao, 2015) believed that the academe is one of the main actors in the society which could possibly effect change by way of empowering the people in the community.
Guimaras State College – College of Teacher Education aims to strengthen two of their four-fold functions, which are instruction and extension, to enable them to provide free access to functional literacy programs among indigent communities. In the past 4 years, the college rendered different community extension programs to help the community. These extension activities include remedial reading programs, preservation of historical places, health information and clean-up drives, and short-term literacy program.
It is with the aforementioned reasons that led the researchers to assess the impact of their extension activities. It is hoped that through the obtained results, they can implement better plans, determine better opportunities among their beneficiaries, and better serve their community through sustainable extension activities that will help promote quality practices to ensure productive human life in Guimaras province. Specifically, this study determined the profile of the recipients of the various extension activities in terms of their independent variables and the perceived impact of the extension activities of the College of Teacher Education to the recipients.

METHODOLOGY

This study used the descriptive method of research. Rubio, et al. (2016), stated that descriptive research seeks "what is" of data and not "why it so" one can only describe what is prevailing and develop inferences but cannot explain "why" of dynamics of the variables. It involves the description, recording, analysis, and interpretation of the present nature. Furthermore, Adanza, Bermudo, and Rasonabe (2009) strongly believed that the objective of the descriptive research is to describe the nature of a situation as it exists at the time of study and to explore the cause of a particular phenomenon. The respondents of the study were the 296 recipients of the extension programs. Generally, there were 113 (38.2%) for Remedial Reading Programs in 2016 and 2019, 46 (15.4%) for Preservation of Historical Places in Buenavista, 36 (12.2%) for Technical Writing Skills Training for Barangay Secretaries, and 50 (16.9%) for Health Information Awareness and Clean-Up Drive. The respondents were randomly selected based on their availability.
The Informal Reading Inventory was used to assess the reading skills of the recipients of the remedial reading program. The perceived impact of the Preservation of Historical Places in Buenavista, Technical Writing Skills Training of Barangay Secretaries and Health Information Awareness and Clean-Up Drive was assessed using the duly validated researchers-made questionnaires. Then, the instrument was distributed to the respondents and were collected, tallied, tabulated and analyzed using the SPSS. As soon as the analysis was done, the results were interpreted and reported.

The reading skills and the perceived impact of the extension programs were statistically computed and analyzed using frequency and percentage.

RESULTS AND DISCUSSION

Remedial Reading Programs

The College of Teacher Education conducted remedial reading programs at Good Shepherd's Fold Academy in 2016 and 2019 and served a total of 113 pupils and students who have difficulty in reading. Out of this total, there were 36 (31.86%) recipients in 2016 and 77 (68.14%) learners in 2019.

The distribution of participants based on the year the program was conducted is presented in Table 1.

Table 1. Distribution of Participants

N= 113	Frequency	Percent
2016	36	31.86%
2019	77	68.14%

In 2016, the 36 recipients were 27 (75%) male and 9 (25%) female students. In terms of their year level, there were 9 (25%) Grade 7, 8 (22.2%) Grade 8, 11 (30.6%) Grade 9, and 8 (22.2%) Grade 10 students.

Table 2 presents the distribution of participants in terms of sex and grade level.

Table 2. Distribution of Participants in Terms of Sex and Grade Level (2016)

N= 36	Frequency	Percentage
Sex		
Male	27	75.0
Female	9	25.0
Grade Level		
Grade 7	9	25.0
Grade 8	8	22.2
Grade 9	11	30.6
Grade 10	8	22.2

The participants' reading skills were initially diagnosed, and the results revealed that there were 28 (77.78%) who "needs remediation" and 8 (22.22%) who "needs enhancement". After the remedial program, their reading skills were assessed again. From 28 students who "needs remediation", 6 (21.43%) of them were classified as "needs enhancement" and 22 (78.57%) as "independent reader". On the other hand, the reading skills of all students which were labelled as "needs enhancement" were advanced to "independent reader" level after the remedial reading session.

Table 3 shows the level of reading skills of the participants before and after the remedial reading program.

Table 3. Reading Skills Before and After the Remedial Reading Program

	Pre-Test		Post Test (Needs Enhancement)		Independent Reader	
	f	%	F	%	f	%
Needs Remediation	28	77.78	6	21.43	22	78.57
Needs Enhancement	8	22.22	-	-	8	100

In 2019, a total of 77 learners participated in the remedial reading program. There were 34 (44.16%) elementary pupils and 43 (55.84%) high school students. The elementary group was composed of 20 (58.8%) males and 14 (41.2%) females. In terms of their grade level, 7 (20.6%) Grade I, 8 (23.5%) Grade II, 5 (14.7%) Grade III, 4 (11.8%) Grade IV, 8 (23.5%) Grade V, and 2 (5.9%) Grade VI pupils. On the other hand, the high school group was comprised of 18 (41.9%) males and 25 (58.1%) females. They were Grade 7 (N=23, P=53.5%) and Grade 8 (N=20, P=46.5%) students.

Table 4. Distribution of the Participants in Terms of Sex and Grade Level.

N=77	Frequency	Percentage
A. Elementary	34	44.16
Sex		
Male	20	58.8
Female	14	41.2
Grade Level		
Grade I	7	20.6
Grade II	8	23.5
Grade III	5	14.7
Grade IV	4	11.8
Grade V	8	23.5
Grade VI	2	5.9
B. High School	43	55.84
Sex		
Male	18	41.9
Female	25	58.1
Grade Level		
Grade VII	23	53.5
Grade VIII	20	46.5

The Table 5 presents the reading skills as results of the diagnostic test before and after the remedial reading program. Initially, the elementary group is composed of 20 (58.82%) and 14 (41.18%) pupils who were diagnosed as "needs remediation" and "needs enhancement", respectively. After the remedial reading sessions were conducted, the reading skills of the elementary group were improved. The results revealed to have 1 who was labelled as "needs enhancement" and 33 who were in the "independent reader" level. Moreover, the high school group is composed of 21 (48.84%) who were labelled as "needs remediation" and 22 (51.16%) who were labelled as "needs enhancement". After the program, the reading skills of the remedial group were assessed. There were 9 students remained in the remedial level, 21 students who were advanced in the enhancement level, and 13 were already in the "independent reader" level.

Table 5. Reading Skills of Participants Before and After the Remedial Reading Program

N=77	Pre-Test				Post Test					
	Needs Remediation		Needs Enhancement		Needs Remediation		Needs Enhancement		Independent Reader	
	F	%	f	%	f	%	f	%	f	%
Elementary (N=34)	20	25.97	14	18.18	-	-	1	1.30	33	42.86
High School (N=43)	21	27.27	22	28.57	9	11.69	21	27.27	13	16.88

Preservation of Historical Places in Buenavista

Table 6 presented the profile of the respondents of this study. There were 18 (39.1%) males and 28 (60.9%) females. In terms of their occupation, there were 15 (32.6%) barangay officials, 8 (17.4%) homemakers, 10 (21.7%) students, 5 (10.9%) working professionals, and 8 (17.4%) private and public employees.

Table 6. Distribution of the Participants in terms of their Sex and Occupation

N= 46	f	%
Sex		
Male	18	39.1
Female	28	60.9
Occupation		
Barangay Official	15	32.6
Homemaker	8	17.4
Student	10	21.7
Working Professional	5	10.9
Private/Public Employee	8	17.4

The impacts of the extension program for the preservation of historical places in Buenavista, as perceived by the folks, were presented in Table 8. After the extension service was conducted, there were 38 (82.6%) who agreed, 5 (10.9%) who were undecided, and 3 (6.5%) who disagreed that they are now motivated to participate in the preservation of the historical places. 41 (89.1%) agreed, 2 (4.3%) disagreed, and 3 (6.5%) could not decide that the activity made them more aware of the existing historical places in the community. The activity was able to make the folks knowledgeable about the history of these places in which 36 (78.3%) agreed, 4 (8.7%) disagreed and 6 (13.0%) of them were undecided. Moreover, 43 (93.5%) agreed, 1 (2.2%) disagreed and 2 (4.3%) undecided that they are now proud of these places in their community. Out of the total respondents, 40 (87.0%) agreed, 2 (4.3%) disagreed and 4 (8.7%) undecided that they are now willing to promote these places to other people who are not from their barangay. 43 (93.5%) believed that they are now motivated to attend meetings about the preservation of the historical places and other activities of the barangay and further attested that they are now willing to give assistance to the barangay to promote these places while 2 (4.3%) disagreed and 1 (2.2%) is undecided. In contrary, 23 (50.0%) of the respondents disagreed that they are now seeing more people to come and visit the historical places but 17 (37.0%) agreed and 6 (13.0%) are undecided. Furthermore, 39 (84.8%) of them are now seeing assistance coming from the local government unit and other agencies to preserve the places while 4 (8.7%) did not agree and 3 (6.5%) could not decide. Lastly, 24 believed that they are now earning because of the preserved places.

Table 7. Perceived Impacts of the Preservation of Historical Places in Buenavista Project to the Respondents

N=46	Agree		Disagree		Undecided	
I am now...	f	%	f	%	f	%
motivated to participate in the preservation of the historical places.	38	82.6	3	6.5	5	10.9
more aware of the existing historical places in the community.	41	89.1	2	4.3	3	6.5
knowledgeable about the history of these places.	36	78.3	4	8.7	6	13.0
proud of these places in my community.	43	93.5	1	2.2	2	4.3
willing to promote these places to other people who are not from our barangay.	40	87.0	2	4.3	4	8.7
motivated to attend meetings about the preservation of the historical places and other activities of the barangay.	43	93.5	2	4.3	1	2.2
seeing more people to come and visit the historical places.	17	37.0	23	50.0	6	13.0
willing to give assistance to the barangay to promote the historical places.	43	93.5	1	2.2	2	4.3
seeing assistance coming from the local government unit and other agencies to preserve the places.	39	84.8	4	8.7	3	6.5
earning because of these preserved historical places.	24	52.2	10	21.7	12	26.1

Training Workshop on Technical Writing Skills of Barangay Officials

The technical writing workshop was attended by 5 (13.9%) male and 31 female barangay secretaries. In terms of the respondents' age, there were 9 (25.0%) who were below 20 years old, 21 (58.3%) who were 20 to 40 years old, and 6 (16.7%) who were above 40 years old. Moreover, the respondents include 5 (13.9%) college graduates, 14 (38.9%) college level, and 17 High School graduates when the respondents were classified as to their educational attainment. The data are presented in Table 8.

Table 8. Profile of Respondents in Terms of Sex, Age and Educational Attainment

N= 36	f	%
Sex		
Male	5	13.9
Female	31	86.1
Age		
Below 20	9	25.0
20 to 40	21	58.3
Above 40	6	16.7
Educational Attainment		
College Graduate	5	13.9
College Level	14	38.9
High School Graduate	17	47.2

Table 9 presents the perceived impact of the extension program to the technical writing skills of the barangay secretaries. Out of the total number of respondents, 33 (91.7%) agreed and 3 (8.3%) who are undecided that their participation to the extension program made them motivated to accomplish the tasks assigned to them as barangay secretaries and are willing to promote the extension activities of Guimaras State College to other people. 30 (83.3%) agreed, 1 (2.8%) disagreed, and 5 (13.9%) undecided that they are now more confident in writing reports, letters, minutes, etc. Further, there were 28 (77.8%) agreed, 4 (11.1%) disagreed, and 4 (11.1%) were undecided that after their participation to the extension program they are now able to present clearly their thoughts in comprehensive write-ups and they are confident in using computers to create written reports and documents. Moreover, the extension program was able to make the recipients received affirmations because of the quality of the documents submitted and created by the secretaries and

this is supported by the 34 (94.4%) respondents but there were 2 (5.6%) who were undecided. Furthermore, 30 (83.3%) agreed that they are now confident to work with other barangay officials but 4 (11.1%) disagreed and 2 (5.6%) were undecided. Due to this program, the recipients are now able to assist family members and others in making written reports and documents with 27 (75.0%), 2 (5.6%), and 7 (19.4%) undecided about this impact. Also, there were 29 (80.6%) who agreed, 2 (5.6%) who disagreed, and 5 (13.8%) who are undecided that they are now willing to share to other officials in my assigned barangay what they have learned from the program. Lastly, 33 (91.7%) agreed, 2 (5.6%) disagreed, and 1 (2.7%) was undecided that they are now independent in working the written reports and documents.

Table 9. Impact of the Extension Program to the Technical Writing Skills of the Barangay Secretaries in Buenavista, Guimaras

N=36	Agree		Disagree		Undecided	
Because of my participation to the extension program, I am now...	f	%	f	%	f	%
motivated to accomplish the tasks assigned to me as a secretary.	33	91.7	0	0	3	8.3
more confident in writing reports, letters, minutes, etc.	30	83.3	1	2.8	5	13.9
able to present clearly my thought in comprehensive write-ups.	28	77.8	4	11.1	4	11.1
receiving affirmations because of the quality of the documents I submitted or created.	34	94.4	0	0	2	5.6
willing to promote the extension activities of Guimaras State College to other people.	33	91.7	0	0	3	8.3
confident to work with other barangay officials.	30	83.3	4	11.1	2	5.6
able to assist my family members and others in making written report and documents.	27	75.0	2	5.6	7	19.4
confident in using computers to create written reports and documents.	28	77.8	4	11.1	4	11.1
willing to share what I learned to other officials in my assigned barangay.	29	80.6	2	5.6	5	13.8
independent in working the written reports and documents.	33	91.7	2	5.6	1	2.7

Health Information Awareness and Clean-Up Drive

Data in Table 10 presents the distribution of respondents in terms of their sex, age, educational attainment, and occupation. There were 17 (34.0%) male and 33 (66.0%) female respondents. In terms of their age, there 6 (12.0%) who are below 20 years old, 20 (40.0%) who are from 20 to 40 years old, and 24 (48.0%) who are above 40 years old. In terms of their educational attainment, there were 8 (16.0%) who were college graduates, 21 (42.0%) who were college level, and 21 (42.0%) who were high school graduates. Lastly, in terms of their occupation, there were 10 (20.0%) barangay officials, 5 (10.0%) homemakers, 7 (14.0%) laborers, 6 (12.0%) students, 7 (14.0%) professional practitioners, 8 (16.0%) small business owners, 4 (8.0%) employees, and 3 (6.0%) who have other occupations aside from the ones mentioned earlier.

Table 10. Distribution of Respondents' Profile in Terms of Sex, Age, Educational Attainment, and Occupation

N= 50	f	%
Sex		
Male	17	34.0
Female	33	66.0
Age		
Below 20	6	12.0
20 to 40	20	40.0
Above 40	24	48.0
Educational Attainment		
College Graduate	8	16.0
College Level	21	42.0
High School Graduate	21	42.0
Occupation		
Barangay Official	10	20.0
Homemaker	5	10.0
Laborer (Carpenter, Farmer, etc.)	7	14.0
Student	6	12.0
Professional Practitioner (Teachers, Lawyer, Nurse, etc.)	7	14.0
Small Business Owners (Sari-Sari Store owner, Food Vendor, etc.)	8	16.0
Employee (Private and Public)	4	8.0
Others	3	6.0

The data in Table 11 reveal the impact of health awareness campaign and clean-up drive as perceived by the respondents. There were 36 (72.0%) agreed, 5 (10.0%) disagreed, and 9 (18.0%) undecided that they are now washing their hands often after doing any chores and before eating. Likewise, there were 23 (46.0%) who agreed that after the conduct of the activities they are more particular with the food they eat in relation to its nutritional content but there were 16 (32.0%) who disagreed and 11 (22.0%) who were undecided. There were 41 (82.0%) who agreed but 3 (6.0%) who disagreed and 6 (12.0%) who were undecided that they are now maintaining the cleanliness of their houses and backyards often. Further, 40 (80.0%) of the respondents agreed with 2 (2.0%) disagreed and 8 (16.0%) who are undecided that they are now observing cleanliness in the clothes that their family members are wearing. Most of the respondents disagreed (f=28, P=56.0) that they are now regularly consulting to physicians or barangay health workers for consultation but there were 12 (24.0%) who agreed and 10 (20.0%) who were undecided. Moreover, there were 39 (78.0%) agreed, 2 (4.0%) agreed, and 9 (18.0%) undecided respondents that they are now segregating wastes into bio, non- degradable and recyclable materials. Nevertheless, 24 (48.0%) respondents who agreed, with 23 (46.0%) who disagreed and 3 (6.0%) undecided, that they are now actively participating in the clean-up drive initiated by the barangay. To mention, 20 (40.0%) who were undecided and 18 (36.0%) who disagreed and only 12 (24.0%) agreed that they are now aware that there is a decreased in the number of sick and death cases in the barangay. In addition, majority of the respondents who disagreed (f=22, P=44.0) with less number of respondents who were undecided (f=16, P=32.0%) and agreed (f=12, P=24.0%) that they are now receiving medical assistance from the barangay and the LGU. Lastly, there was an equal number of respondents who agreed and disagreed (f=18, P=36.0) while 14 (28.0%) who are undecided that they are now seeing disease-prevention mechanisms implemented by the barangay officials.

Table 11. Impact of Health Information Awareness and Clean-Up Drive

Table 11. Impact of Health Information Awareness and Clean-Up Drive

N=50	Agree		Disagree		Undecided	
I am now...	f	%	f	%	f	%
washing my hands often after doing any chores and before eating.	36	72.0	5	10.0	9	18.0
more particular with the food I eat in relation to its nutritional content.	23	46.0	16	32.0	11	22.0
maintaining the cleanliness of my house and backyards often.	41	82.0	3	6.0	6	12.0
observing cleanliness in the clothes that my family members are wearing.	40	80.0	2	4.0	8	16.0
regularly consulting to physicians or barangay health workers for consultation.	12	24.0	28	56.0	10	20.0
segregating wastes into biodegradable, non-biodegradable and recyclable materials.	39	78.0	2	4.0	9	18.0
actively participating in the clean-up drive initiated by the barangay.	24	48.0	23	46.0	3	6.0
aware that there is a decrease in the number of sick and death cases in the barangay.	12	24.0	18	36.0	20	40.0
receiving medical assistance from the barangay and the LGU.	12	24.0	22	44.0	16	36.0
seeing any disease-prevention mechanisms implemented by the barangay officials.	18	36.0	18	36.0	14	28.0

CONCLUSIONS

Based on the findings the respondents were proud of the historical places and motivated to attend in meetings regarding the preservation and other activities of the barangay. This may be denoted that the residents established a strong connection to their barangay. Further, this connection may be the result of the services of the barangay to improve the lives of the residents. Moreover, they perceived that the extension activities initiated and conducted by the Guimaras State College – College of Teacher Education have greatly impacted their lives and the community, in general. It could be inferred that the college have responded to the emerging needs of the people and the community. This is supported by their active participation to these extension activities. The training workshop on technical writing skills of the barangay officials have greatly impacted the secretary with evidence that they have received affirmations for the quality of the documents they submitted or created and they become independent in working written reports and documents. This could be inferred that the extension service or activity is congruent to the nature of the work of the secretaries. To mention the educational attainment of the respondents, most of them are high school graduates. And with this, the extension service may serve as an ideal avenue or opportunity to impart, and even improved, the knowledge and skills. It was evident in the study that the Health Information Awareness and Clean-Up Drive impacted the lives of the

recipients in terms of observing cleanliness in the clothes that their family members are wearing; maintaining the cleanliness of their houses and backyards often; and segregating wastes into biodegradable, non-biodegradable and recyclable materials. This may be concluded that they started taking disease-preventive actions at home since materials are available and they have the direct control over family members. Lastly, this is supported by our Filipino values and ideals of "everything starts at home".

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CRIMINOLOGY LICENSURE EXAMINATION PERFORMANCE OF GUIMARAS STATE COLLEGE

Jo Ann T. Gerada
joann.gerada@gsc.edu.ph
ORCID No.: 0000-0002-9553-8449

John Robert N. Magan

Justin Albert G. Salarza

Edlen G. Galon

Gleam Dale D. Gregorio

ABSTRACT The study was conducted to determine the criminology licensure examination performance of Guimaras State College. The descriptive research design was used in the study. The data used in the study were licensure examination result of the BS Criminology graduate of the Guimaras State from 2013-2016. Data showed that first takers of the licensure examination are greater than the retakers among the BS Criminology graduates of the Guimaras State College from 2013-2016 who passed the licensure examination. First takers have the highest percentage of passing than of the retakers among the BS Criminology graduates of the Guimaras State College from 2013-2016. There is a significant difference in the performance of BS Criminology graduates in the licensure examination; this implies that the passers of the licensure examination were influences their performance. The performance of graduates of BS Criminology of the Guimaras State College in the 2017 Criminology licensure examination is 21.70%, which shows that if the national passing percentage will remain the same, the BS Criminology result will be lower than the national passing percentage. It is recommended that the College of Criminal Justice Education should reinforce the curricular offering and maximize the students' learning during their college training years.

Keywords: Criminology, Licensure Examination, Performance, Guimaras State College

INTRODUCTION

Licensure examination is defined as an act or an instance of granting a License, usually to practice a profession. In passing the board examination is not just an easy thing to do. It needs a lot of preparation. To be ready in taking the examination, an examinee must be prepared in all aspects. Spiritually, he must be equipped with the guidance of Divine Providence. Physically, he must be in Good condition. Emotionally, his mind must be at peace, free from worries and disturbances. Intellectually, he must be equipped with sufficient, relevant and appropriate knowledge and skills. He must know the scope of the examination in order to have the proper focus. During the examination, they should know how to internalize the questions to choose the best answer.

Professional Licensure Examinations serve as a means of maintaining the quality of professionals after they had been trained and schooled in their respective institution. Such an examination measures the competencies of a professional who is believed to have acquired the necessary skills, knowledge, and attitude in the practice of their respective profession (Ong et. al., 2012)

The passage of RA.6506 paved the way for any Criminology Professionalization in the Philippines the Licensure Examination given by the board of Criminology of the Philippine regulatory commission, when is available only to the graduates of BS Criminology from CHED accredited learning institution.

Guimaras State College (GSC) has its mission to provide access to relevant and quality education and advocate sustainable development. Guided with the goals that it will provide quality training for Tertiary Education and advocate sustainable development through green technology generation; develop responsible, environment friendly and productive citizens who can contribute to the attainment of local and national goals; encourage and promote research, extension, and technological and educational development redirected towards green technology generation, and ensure that curricular offerings are responsive to the needs of the community, region, and nation in order to be globally competitive.

And on 2007, the GSC started to offer BS criminology course, and then on 2011 the first graduate criminology students of Guimaras State College had taken the examination. The study was conducted in order to determine the Criminology Licensure Examination performance of Guimaras State College, College of Criminal Justice Education from the academic year 2013-2016.

Thus, this study was conducted to determine the Criminology Licensure examination performance of Guimaras State College from the Academic year 2013-2016. Specifically, this study aimed to determine the profile of CLE takers when

grouped according to the type of takers and year of examination, CLE performance of the CCJE graduates in terms of passing percentage of the first timer, re-takers, and total takers, for the AY 2013-2016; significant difference in the CLE performance of the CCJE graduates when grouped according to the type of takers and year of examination, and significant model to predict the CLE performance of the CCJE graduates.

METHODOLOGY

This study employs a descriptive research method. The descriptive design focuses on the present condition the purpose is to find a new truth. The truth may have different forms such as increase quantity knowledge a new generalization or a new law increase insight into factors which are operating, the discovery of new causal relationship, a more accurate formulation of the problem to be solved and many others. In this study, the Criminology Licensure examination performance of Guimaras State College is the dependent variable, Type of takers and year graduated were the independent variable. A letter request to conduct the study was sent to Guimaras State College, College of Criminal Justice Education asking permission to allow the researchers to acquire the secondary data from the source. Through the Letter request, data was collected among the target 2013-2016 Criminology graduates of Guimaras State College and then after the data was gathered, tabulated and interpreted. Secondary data was subject to Statistical Package for Social Sciences (SPSS) to aid in the accurate tabulation, analysis, and interpretation of the data. The statistical tools used were frequency count, percentage, mean, t-test, and ANOVA.

RESULTS AND DISCUSSION

Profile of the Graduates

The profile of the graduates was determined in, types of takers and year of examination. In terms type of takers, the graduates were classified into two categories. It was determined that there were 150or57.69 % first takers of the CLE which comprise the largest number of takers. It showed that 110 or 42.31% were retakers. In terms of year of examination by the graduates, there were four years utilized in the study. It started from the year 2013 up to 2016. In 2013, there were 150 or 57.69 % who took the CLE. It covered the largest number of graduates in the distribution. Furthermore, there were 26.54% in2014; in 2015, 24.62 67.64; in 2016; takers.

Table 1. Profile of CLE the graduates in types of takers and in year of examination.

Categories		F	%
Type of Taker	First Taker	150	57.69
	Repeater	110	42.31
Year of Examination	2013	64	24.62
	2014	69	26.54
	2015	64	24.62
	2016	63	24.23
Total		260	100

Criminology Licensure Examination Performance of Guimaras State College when taken as a Whole and in types of taker and year of examination.

The first takers performed better than retakers with the average rating of 57.69 and the retakers with 42.31. The performance of Criminology graduates in terms of the year of examination in 2013 is, 24.62; in 2014, 26.54; in 2015,24.62; in 2016,24.23; and in 2014, which26.54 has the highest rating among the years covered. The overall mean of the Criminology graduates is 70.89 in, types of taker and year of examination.

Table 2.Criminology Licensure Examination of Guimaras State College in terms of passing percentage of A first timer, re-takers, and total takers for the 2013-2016.

Year	passing % of first timer	passing % of repeaters	Total passing %	national passing %	Difference
2016	45.16%	18.75 %	31.75%	27.63 %	4.12%
2015	41.94%	9.09%	25.00%	31.10 %	-6.09%
2014	47.50%	6.90%	30.43%	38.62 %	-8.18%
2013	50.00%	25.00 %	43.75%	43.78 %	-0.02%

National Passing Percentage CLE Takers

Figure 1 shows the passing percentage and of BSCRIM CLE takers. In 2014, there was a highest passing percentage of43.78% and in 2016, a record of the lowest passing percentage of 27.63%is reflected.

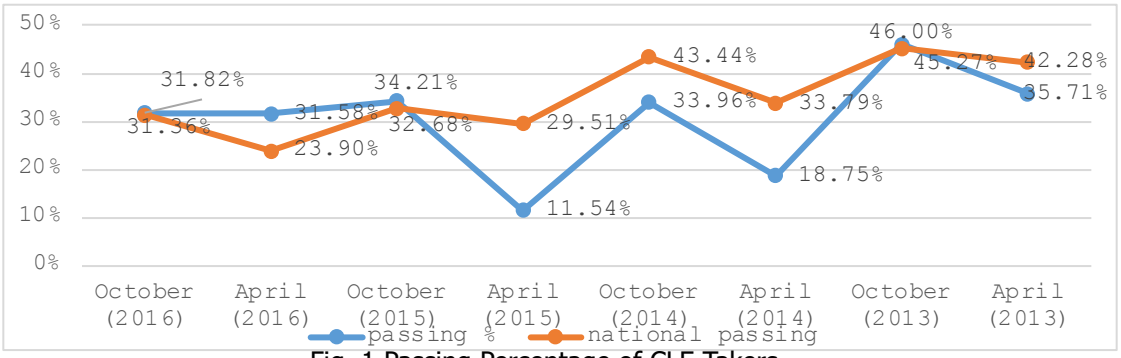

Fig. 1 Passing Percentage of CLE Takers

Difference in the Performance of CLE Takers and their Profile

The result of the Chi-square in table 3 reveals that there is a significant difference in the performance of LET takers in, types of takers and year of examination. The result shows that in, types of taker, and the year of examination, the P-value of .000 is lower than the set p-value at 0.05 levels which is significant, thus, the null hypothesis was rejected. This simply shows that the profile of the CLE takers influences their performance.

Table 3. Significant Differences in the CLE performance when grouped according to the type of takers and year of examination.

Categories	Chi-square	P-value	Interpretation
Type of Taker First Taker Repeater	53.896*	.000	Significant
Year of Examination 2013 2014 2015 2016	46.526*	.000	Significant

Model to predict CLE performance of Criminology graduates

The results in showed in table 4 was a model or trend predicting the CLE performance of Criminology graduates. The basis of the model is shown which reveal the percentage change in the passing percentage of Criminology graduates from the years 2013 to 2016. The predicted rating for Criminology for 2017 based on the model formulated is 21.70%.

CLE performance = -4.145 (year) + 8382.128
CLE performance 2017 = -4.145 (2017) + 8382.128 = 21.70%

Table 4.Significant Model to Predict of CLE Performance of Criminology Graduates

Bachelor of Science in Criminology	
Year	Passing Rate
2013	43.75
2014	30.43
2015	25.00
2016	31.75
2017 (prediction)	21.70%

CONCLUSIONS

Majority of CLE takers were classified as first takers and there is a minimal difference in terms of number of takers per year from 2013-2016 with an average of 65. First takers performed better than retakers. Retakers CLE greatly influence the passing percentage of the GSC-BS Criminology as a whole, makes the results lower than the national passing percentage. There is a significant difference in the CLE performance of the BS Criminology graduates to their profile, which shows that the profile of the CLE takers influences their performance. The more retakers who could not pass the exam per year the greater the decrease in the passing percentage of licensure examination results. A model was formulated using regression analysis. The performance of BS Criminology in the 2017 CLE was predicted 21.70%, which shows that if the national passing percentage will remain the same, the BS Criminology result will be lower than the national passing percentage.

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BUDDHIST TEACHINGS IN PRANIC HEALING AND ARHATIC YOGA: SYNTHESIS OF SCIENCE AND SPIRITUALITY

Lilian Diana B. Parreño
lilian.parreno@gsc.edu.ph
ORCID No.: 0000-0001-7631-8259

Alfonso Ma. C. Parreño

Julieta G. Infante
julieta.infante@gsc.edu.ph
ORCID No.: 0000-0003-0931-1502

ABSTRACT Pranic healing is an ancient science and art of healing that utilizes prana or ki or energy to heal the whole physical body. A way of life that addresses all aspects leading to a wholesome life. A prerequisite for the practice of Arhatic Yoga, a pathway to sainthood. Arhatic Yoga is a synthesis of yoga that consists of yogic techniques designed to help us develop spiritually, prehistoric in origin, and consists of techniques and energy that can be practiced by any religion. The Buddhist teachings are integrated into the Pranic healing' meditations such as the mantra Om, Omani Padme Hum, Om Shanti Shanti Shanti Om; etc., healing techniques by practicing vegetarianism, and the law of Karma in character building. It was revealed in pranic healing that science sometimes seems to be incompatible with spirituality. What we call science is physical science. What we call spirituality is inner sciences or sciences not dealing with the physical world. The process of the union between science and spirituality is in progress. Pranic healing and Arhatic Yoga, developed by Grand Master Choa Kok Sui, a Filipino–Chinese from the Philippines, are examples of the union between science and spirituality. Spreading rapidly in more than 100 countries. Practitioners experienced healing on different levels, holistic transformation, growth, and development spiritually.

Keywords: Arhatic Yoga, Buddhism, Pranic Healing

INTRODUCTION

A time will come when science will make tremendous advances, not because of better instruments for discovering things, but because few people will have at their command, great spiritual powers, which at present are seldom use. With a few centuries, the art of spiritual healing will be increasingly developed and universally used (Stromberg, 1939). Pranic healing is an ancient science and art of healing that utilizes Prana or "ki" or life energy to heal the whole physical body. Pranic come from the word "Prana" which means the life energy that keeps the body alive and healthy. It uses laws of nature that people do not know or are not aware of. It involves the transference of life energy, a deeper understanding of one's religion, and a clearer concept of interconnectedness and oneness. It is easy to learn and can be applied in preventing, alleviating and treating psychological ailments (Gurupada & Bevoor, 2015; Sui, 2011). As a science, Pranic healing is based on cleansing and energizing. Healing the physical body, physical and psychological ailments, relationships, finances, and spiritual emptiness takes place by cleansing and removing the diseased energy from the affected chakra and organ and energizing them with sufficient prana (Sui, 2011).

There are two basic laws in Pranic Healing: the law of self–recovery and the law of life energy. The law of self-recovery states that the body can heal itself. The law of life energy, states that by increasing the life energy level of the body, healing is accelerated (MCKS, 2004).

Pranic healing teaches healing, character building which utilizes the law of karma and other universal laws that governs our life and meditation and other spiritual practices to accelerate spiritual evolution. The mission of Pranic Healing and arhatic yoga is to alleviate the pains and sufferings of humanity.

Learning of Pranic Healing is composed of stages or category. As one advances on his/her learning, they can become an Arhatic Yogi, from the words "Arhatic Yoga" wherein Arhatic came from the word "Arhat" which means saint and "yoga" which in Sanskrit means union, referring "to yoke" or "to join." It is consist of yogic techniques designed to help an individual develop spirituality. It is pre historic in origin. It consist of techniques and energy. It is eclectic. People from any religion practiced Arhatic techniques. It is not a religion, it is nonsectarian and simply leads you to the truth. Yoga helps to solve all life problems. At the physical level, it gives relief from countless, ailments. The practice if postures strengthen the body and create a feeling of well-being. From the psychological view point, yoga sharpens the intellect and aids concentration. It steadies the emotions and encourages a caring concern for others.

Being a purely Christian nation, this teachings of Pranic Healing has been gaining popularity and many Flipinos have been into the practice of this path especially in areas with Pranic Healing Centers. Aside from the healing many teachings of Buddhism has been observed to be practiced in Pranic Healing and Arhatic Yoga. The synthesis of the

teachings of Pranic Healing, Buddhism, and Arhatic Yoga practice among people in Western Visayas, Philippines was made in this study.

This study aimed to study and determine the existence and practice of Buddhist teachings in Pranic Healing and Arhatic Yoga. Specifically, it aimed to determine the origin and purpose of Pranic Healing and Arhatic Yoga in the Philippines; identify the Pranic Healing and Arhatic Yoga teachings being practiced; determine who practiced Pranic Healing and Arhatic Yoga in the Philippines today; identify the Buddhist teachings used in Pranic healing and arhatic yoga, and identify the frequently asked questions and testimonies on Pranic Healing and Arhatic Yoga

METHODOLOGY

This study made use of a descriptive research design. Secondary data were used. In addition, interview with the Center Manager was done to augment on the secondary data gathered. The locale of the study was the whole country for the information on the different centers but the rest of the data were gathered from the Western Visayas, Philippines center because of the proximity of the local researchers to this Center. An interview guide was used to gather the needed data. The demographic profile of the Pranic Healers and Arhatic Yoga were analyzed using frequency count and percent while the rest were simply discussed in detail to get the clear picture of the practice of Pranic Healing and Arhatic Yoga.

Analysis, Presentation, and Interpretations of the Results of the Study

The Origin and purpose of Pranic Healing and Arhatic Yoga practices in the Philippines

The Founder

The founder of Pranic Healing in the Philippines which later on spread among the different countries in the world was Grand Master Choa Kok Sui. He was born in Cebu, Philippines, on August 15, 1952, Master Choa Kok Sui is the originator of modern Pranic Healing. Since ancient times, sages and mystics have been practicing ideologies similar to Pranic Healing. However, it was through Master Choa Kok Sui's tireless research, culminating in the book Miracles of Pranic Healing, that the practice of Pranic Healing was modernized and spread worldwide.

Trained as a chemical engineer, Master Choa Kok Sui used various scientific methods to validate the existence of Pranic Healing. It was through his rigorous validation and experimentation that led Pranic Healing to garnerned consistent and predictable results, allowing it to become a viable healing practice.

Besides Pranic Healing, Master Choa Kok Sui also developed the Arhatic Yoga system, an advanced meditation system that combines powerful yoga and meditation practices that aim to accelerate enlightenment. Master Choa designed the system for everyone so that each person can easily practice Arhatic Yoga while still being able to pursue a normal life.

Following his passing in 2007, Master Choa Kok Sui left Pranic Healing and Arhatic Yoga as his lasting legacy to the world. With hundreds of healing centers in 150 countries on six continents, his dream of manifesting Heaven on Earth within 150 years could become a reality!

The main Purpose of Pranic Healing was "to alleviate the suffering of the people by complementing allopathic medicine with Pranic Energy healing." On the other hand, the Purpose of Arhatic Yoga was "to accelerate the evolutionary development of the Soul so that the person can be of greater service to Mankind and the planet Earth and to produce intelligent, compassionate, good-hearted, powerful disciples who will become great Divine servants."

Organization

The Institute for Inner Studies, Incorporated (IISI) was established on 27 April 1987 by Master Choa Kok Sui with the purpose of spreading Pranic Healing, Arhatic Yoga, and inner teachings globally. By early 2000, with the help of many dedicated instructors and foundations, Master Choa Kok Sui's Institute for Inner Studies has been able to spread the work of its founder in major cities of over 80 countries, on all five continents. The first book by Master Choa Kok Sui, Miracles Through Pranic Healing published in late 1987 has been translated in over 20 languages and read into over 80 countries. The IISI maintains its head office in Makati, Philippines.

Pranic Healing has been described as a simple yet very powerful technology that can be employed with immediate benefits to the patients. This quality of Pranic Healing makes it the perfect Healing modality for millions of people suffering from a variety of illnesses who have no access to medicine. It was with this idea in mind that Grand Master Choa Kok Sui decided to bring Pranic Healing to the poor and underdeveloped areas of the world.

Thus, was born the World Pranic Healing Foundation on July 23, 1990, with a humble beginning where the office was started with only one table and a chair, shared by about 6 employees. They had to use the stack of Pranic Healing books as their chairs during staff meetings. But what they lacked in logistical support, they more than made up

for, in terms of Devotion and will-to-do-good. In its first year alone, the Foundation was able to produce more than 3,000 graduates from seven different regions of the Philippines. Initially funded by Master Choa and the Institute for Inner Studies, Incorporated (IISI) which was established on 27 April 1987 by Master Choa Kok Sui, the Foundation eventually attracted other benefactors enabling the organization to continue the work of propagating Pranic Healing throughout the Philippines as well as in other developing countries like Indonesia, India, and parts of Africa and Asia.

To date, the Foundation, in addition to its branch office in India, has been able to help spread Pranic Healing in Indonesia, Bhutan, Nepal, Malaysia, Hongkong, Thailand, Srilanka, Singapore, UAE, Qatar, Bahrain, Oman, Saudi Arabia, Iran, Lebanon, Syria, Jordan, Cyprus, Turkey, Egypt, Morocco, China, Pakistan, The Gambia, Benin, Ivory Coast, Burkina Faso, Niger, Ghana, Togo, Nigeria, Senegal, Kenya, Rwanda, Zambia, Tanzania, Mauritius, and South Africa. Pranic Healing will continue to expand and spread out in the next few years to more and more countries.

World Pranic Healing Foundation Today

Today, the Foundation has generated hundreds of thousands of Pranic Healing graduates, and inspired, with Master Choa's blessings, many donors from among the Pranic Healing graduates from around the world. The Foundation has established healing centers in other parts of the Philippines: the Cebu Pranic Healing Center in Cebu City on the island of Cebu established in 1992, and the World Pranic Healing Foundation Region 6 Branch in Iloilo City on the island of Panay, started January 2001. In addition, the 1st international branch office was established in Bangalore, India in 2009 (World Pranic Healing India).

The World Pranic Healing Foundation, India is tasked to help spread Pranic Healing in other parts of the region not covered by the Indian Pranic Healing foundations, including the Middle East, and Africa.

With the support of its donors, the Foundation has not only been able to continue its international operations in developing countries but has finally been able to purchase its own office. The International headquarters of the World Pranic Healing Foundation is now located at 2210 Medical Plaza Ortigas Building, in Pasig City, Metro Manila, Philippines.

Pranic Healing Foundation of the Philippines

Pranic Healing Foundation of the Philippines was established by Master Choa Kok Sui in 2002 with the aim of spreading Pranic Healing in the Philippines (PHFP). The PHFP is affiliated with the World Pranic Healing Foundation and the Institute for Inner Studies and has branches all over the Philippines.

There are six (6) major Pranic Healing Centers in the country. In the Luzon island, the main There are six (6) major Pranic Healing Centers in the country. On Luzon island, the main office is found at Ortigas Center, Pasig City. The Northern Luzon Pranic Healing is found in Baguio City while for Central Luzon, it is found in Pangasinan Province. In the Visayas region, one center is found in Iloilo City, Western Visayas and the other one is found in Osmena St. Cebu City for the Central Visayas Pranic Healing center. In Mindanao, the Centers are found in Davao City and Surigao del Norte.

Pranic Healing and Arhatic Yoga Teachings

According to Mr. Alfonso Ma. Parreno (2016), Manager, Western Visayas Pranic Healing Center
the Pranic Healing Teachings being practiced were composed of: (a) Healing of self and other people's physical ailments through Basic Pranic Healing using white prana energy; (b) Advance pranic healing using color energy to heal severe physiological ailments; (c) Pranic Psychotherapy for emotional relationship healing; (d) GMCKs Super Brain Yoga; (e) Character building through Inner reflection and firm resolution; (f) Meditation on Twin Hearts for peace and illumination; (g) Pranic breathing techniques; and (h)Healing of places and Businesses using Pranic Psychotherapy and Practical Psychic Self-defense.

On the other hand, the Arhatic Yoga Teachings being practiced were composed of the five (5) pillars which are required among Arhatic Yogi at different levels. The first pillar was devotion to God and reverence to the spiritual teachers. This pillar emphasizes that as a soul Arhatic Yoga practitioners acquire their sustenance from the Supreme being, thus, it is just proper that they have to acknowledge such indebtedness. The practices under this pillar are Sharanagati/ Salutation to God and sharanagati to the spiritual teacher, So Ham or I Am That I Am (Recognize, salute and respect to the Divinity/ Namaste), and the Great Invocation.

The second pillar is purification. The Arhatic Yoga practitioner must be pure or clean holistically or in physical or bodily practices, in the food intake, and the character or attitude when dealing with own self or other people. Purification practices are done through self-healing, Grand Master Choa Kok Sui's Super Brain Yoga, physical exercises, Breathing Exercises, Balancing Breathing, Turtle Breathing, and Belo Breathing. In terms of character building, they practiced Inner reflection and firm resolution, and Blue Triangle.

The third pillar is Meditation. Several meditations were required of the Arhatic Yoga practitioner. The first one is Arhatic Meditation on Twin Hearts, Arhatic Meditation on the Soul, Arhatic Meditation on Inner Breath (Kundalini), Arhatic

Dhyan, Arhatic Meditation on Twin Hearts Om Mani Padme Hum Blessing of All and of All countries, Arhatic Meditation on the Lord's Prayer and Wesak Festival Meditation. These meditations are scheduled daily for the whole week alternately one day after the other.

The fourth pillar is Service and Tithing. This was anchored on Lord Jesus' teachings of giving the 10% of our income to the one who gave us our lives. The activities done relative to service and tithing were (a) Charity Healing/ pranic healing camp; (b) Scholarship to deserving students; (c) Organizing groups for a common cause and Teaching the essence of Arhatic Yoga; (d) Feeding program to the street children; (e) Humanitarian and legal assistance program for these prisoners who do not have legal counsels
to defend themselves, especially that many of them were wrongly accused; (e) Medical Mission, and (f) Financial and material support especially when there are calamities that happened in some places on Panay Island.

The fifth pillar was Study. To master the teachings, the Arhatic Yoga practitioner must continually study them because we cannot always rely on our own understanding but we need to learn and relearn things and concepts. This is done through attending to Annual Arhatic Yoga Retreat every 3rd week of October, the Celebration of Wesak Festival, the conduct of the Pranic Healing Convention, and Regular nurturing/group study sessions in every centre all over the country.

Who Practices Pranic Healing?

The data on who practiced Pranic Healing were gathered only in Western Visayas Center. The Center started in 2001 but it has very minimal membership. In 2009, it was revitalized today the Center continues its services to the community.

The data in table 2 shows that there were 2,265 Pranic Healer graduates in Western Visayas. Out of these graduates, 92.45 percent were Roman Catholics, 7.5% came from other sects, and very minimal from Islam (0.01%). These figures are understandable considering that 90% or less of Filipinos are Roman Catholics.

With regard to their professions, many of the graduates were employed by private firms in the region (26.6%), teachers coming from the private and government service in Western Visayas followed next with 19.6% graduates, employees from the government service contributed to 15.5% of the graduates; student has 12.1%; businessmen 5.8%. The rest of the professions came in lower percentages. This simply shows that the graduate of Pranic Healing came from varied professions (Table 1).

However, not all were entitled to be elevated to Arhatic yoga. In Western Visayas Pranic Healing center, out of the 2, 265 Pranic Healing graduates, only 72 were able to achieve the preparatory level, and only 14 individuals were elevated to Levels 1 and 2. The reason for this was that many of the Pranic healers were not consistent in their practice.

Buddhism Teachings Found in Pranic Healing and Arhatic Yoga

The most common Buddhist teaching integrated into pranic healing/arhatic yoga was the Four (4) Noble Truths. The Buddha's first sermon after his Enlightenment centered on the Four Noble Truths, which are the foundation of Buddhism. The truths are: (1) The truth of suffering (Dukkha); (2) The truth of the cause of suffering (Samudaya); (3) The truth of the end of Suffering (Nirhodha); and (4) The truth of the path that frees us from suffering (Magga). These can be found in the book of GMCKS on Buddhism revealed. Likewise, they are found in the different Sutras written by GMCKS. The Eightfold path was also being practiced and introduced to the Pranic Healers and Arhatic Yoga practitioner because these are the universal truth that needs to be known among humanity so that we will be able to attain "heaven on earth". These eightfold path were composed of (a) Right Understanding; (b) Right Intent; (c) Right Speech; (d) Right Action,; (e) Right Livelihood; (f) Right Effort; (g) Right Mindfulness, and (h)Right Concentration.

Buddhist Mantras such as Om, Om Mani Padme Hum, Om Shanti Shanti Shanti Om were being practiced by the Pranic Healers and Arhatic Yoga practitioners. Mantras are sacred sounds or words that contain divine energy or spiritual energy. These incantations are special utterances as they are the embodiment of divine vibrations. Master Choa Kok Sui stresses the importance and the innate power of various mantras.

The Power of "Om" was realized by the practitioners. "Om", "Amin," and "Amen" are all sacred universal sounds and are primitive in nature. It is interesting to note how similar they all are in sound and their basic implications though they are used in different religions. These mantras seek to merge your individual consciousness with Divine Consciousness. The energy generated through these chants helps to disintegrate diseased and negative energies in the meditator as well as in the environment. The cleansing and energizing properties of the Om mantra and the sacred words of Amen and Amin help in de-stressing, elevating consciousness, and creating a spiritual environment that is clean and pure.

Moreover, Om Mani Padme Hum was also studied as a mantra. "Om Mani Padme Hum" is a very powerful mantra that is filled with immense Love, Mercy, and Compassion. Master Choa Kok has unveiled the deeper meaning of this prayer and has explained the benefits and applications of this imple yet potent mantra. From his book, Om Mani Padme Hum, you can gain insight into the process of achieving yoga, or Union with the Higher Soul. The location of the Blue Pearl, or

the seed of consciousness is revealed in this book along with the deeper significance of being Born of the Lotus Flower. During meditations, mudras, mantras, and breathing techniques were practiced. Meditation on Twin Hearts Leads you to "becoming aware of one's true nature. The Lord Buddha Said: "Let us inspect our thoughts that we do no unwholesome deed; for as we sow, so shall we reap. Hatreds never cease by hatreds in this world. By the love alone they cease. This is an ancient law. Good will towards all beings is the true religion: cherish in your hearts boundless goodwill to all that lives. Go and do your duty: show kindness to thy brothers and free them from suffering."

The Law of Karma is always part of the teachings in Pranic Healing. "Each man, by the action of unerring karma, receives in an exact measure all that is due, all that he deserves, neither more nor less. Not one benevolent or evil action, trifling as it may be, as secretly as it be done, escapes precisely balanced scale of karma" (Helena Roerich, Foundation of Buddhism).

"So long as an evil deed has not karmically matured, the fools think his deed to be sweet as honey. But, when his evil deed karmically matures, he falls into untold misery." Dhammapada, Wisdom of the Buddha.

The Golden Rule was also practiced and given great emphasis during trainings and retreats. "Whatever thou likest not for thine own self, for any person else, too, like it not." Dhammapada, Wisdom of Buddha. Inner Purification and Character Building have Five Virtues based on the Law of Karma: (1) Loving-kindness and Non-Injury; (2) Generosity and Non-Stealing; (3) Honesty and Non -Lying; (4) Industriousness and Non- Laziness and moderation/Non- Excessiveness.

Table 1. Data on who practices Pranic healing at the Western Visayas center

Particulars		f	%
Number of Pranic Healer Graduates	From 2009-present	2,265	100.0
Religious Affiliation	Roman Catholic	2,094	92.45
	Other Christian Sect	170	7.5
	Islam	1	0.01
Total		2,265	100.0
Professions of the Pranic Healers	Employees in Private Firms	602	26.6
	Teachers	444	19.6
	Employees in Government firms	350	15.5
	Students	275	12.1
	Businessmen	132	5.8
	Health and Medical Practitioners	79	3.5
	Housewives	45	2.0
	Senior Citizens	35	1.5
	Self Employed	34	1.5
	Farmers/Labourers	31	1.4
	Overseas Filipino Workers/ Seafarer	20	0.9
	Driver/Security Guards	15	0.7
	Social Worker/Guidance Councilor	49	2.2
	House help	39	1.7
	Religious	18	0.8
	Police	20	0.9
	Researcher/Scientist	35	1.5
	Architect	40	1.8
	Lawyer	2	0.1
Total		2,265	100.0

Effects/benefits of Practicing Pranic Healing and Arhatic Yoga

- The aura or the Bioplasmic energy field becomes cleaner, wider, brighter, and stronger
- The different chakras or energy centers and the protective webs become cleaner, bigger, brighter and balance
- Healing of Physiological, psychological/emotional ailments
- Healing of relationship
- The character or behavior of the practitioner become refine
- The different psychic faculties such as the different intelligences, creativity, instinct, Buddhic or Christ Consciousness, higher emotions, etc. are being activated or develop
- Develops a love for oneself, to God, to humanity, and the entire creation of God.
- Increases spiritual magnetism, improves the quality of life, achieve greater success, joy, and happiness, and achieved inner peace and oneness with God and oneness with all.
- Accelerate the spiritual evolution of the soul
- Practitioner becomes the highly intelligent, compassionate, loving, kind-hearted, and powerful divine servant and powerful healer

Frequently ask Questions/Testimonies

1. *Are Pranic Healers allowed to make medical diagnoses?*

Pranic Healers are not doctors. However, medical doctors can be Pranic Healers. Pranic Healers see disturbances in one's energy body and are not trained to make a diagnosis. To make Pranic Healing more effective, it is advised for patients to consult doctors to give an accurate diagnosis of the nature and scope of the illness. That way, both medicine and Pranic Healing go hand in hand.

1. Is Pranic Healing going to replace conventional medicine?

Pranic Healing does not intend to supplant medical medicine. Rather, Pranic Healing
aims to complement the medical treatment given by doctors. Patients getting Pranic Healing treatment are advised to consult a medical doctor for the best results.

2. Is Pranic Healing part of the "New Age" movement?

Pranic Healing, is in fact, an ancient practice. It has been around for hundreds of years and was practiced by great masters all over the world. It was Master Choa Kok Sui who rediscovered, modernized, and formalized its practice by developing techniques that allow Pranic Healing to become a school of energy that everyone can learn and practice.

Is Pranic Healing Foundation of the Philippines, PHFP, a religious sect?

Again, no. Rather than being a religion, the Pranic Healing Foundation of the Philippines is an educational institution aiming to teach people the benefits of energy awareness, spirituality, and character building.

Is Pranic Healing a Religion?

Pranic Healing is not a religion but can be described as a spiritual practice or avenue bringing you closer to God. As you progress with the courses, you may come to recognize and respect the all-pervasive Universal Energy, which some term as "God". Spirituality is a way of life that conforms to the Divine Laws as well as the Laws of Nature. Spirituality need not be religion-based nor connected with any dogma or rituals. It is a path that helps all souls enrich their lives by learning their unique lessons, moving forward, and evolving.

How is Pranic Healing Done?

Pranic Healing is done by following a systematic procedure of using energy to treat the imbalanced energy of the patient. The treatments start from cleansing to energizing the affected part of the energy body of the person.

What are Chakras?

Chakras are whirling energy centers of the energy body or aura that control, energize, and are responsible for the proper functioning of the whole physical body and its different parts and organs. The endocrine glands are also controlled and energized by some of the major chakras. Prana is taken in or released in the chakras. Any congestion or depletion in the energy body will eventually manifest in the form of ailments.

What is Prana?

Prana is a Sanskrit word meaning life force or energy. In Genesis of the Holy Bible, reference was made to the "breath of life" which holds the key to human existence: a mysterious force which animates and sustains life. It has been called by different names: "chi" in Chinese, "ki" in Japanese, "likas lakas" in Filipino, "pneuma" in Greek, and "ruah" in Hebrew, all corresponding to prana. The movement and quality of circulation, rhythm, and purity of prana are what determine the quality of our lives.

How does Pranic Healing work?

Pranic Healing works through the transference of life energy, chi, or prana to heal the body. Pranic Healing is a safe and gentle method of treatment, a no-touch technique that accelerates the rate of self-healing and self-recovery.

What is Pranic Healing?

Pranic Healing is a highly developed and tested system of energy medicine using prana to balance, harmonize, and transform the body's energy. Pranic Healing has been practiced by mystics since ancient times and kept secret from the general public, but was discovered and modernized by Master Choa Kok Sui. It was his tireless research and validation that led Pranic Healing to become a viable practice with consistent healing results.

CONCLUSIONS

The founder of Pranic Healing and Arhatic Yoga has prepared the Filipinos for a better way of life which meaningful and worth leaving for. The teachings in Pranic Healing and Arhatic Yoga are geared toward the holistic development of man physically, mentally, and emotionally anchored on different moral values worthy to be emulated. These practices are slowly gaining popularity among Filipino people in different professions or fields of work. Moreover, Buddhist teachings are found among the teachings of Pranic Healing and Arhatic Yoga because of the universality of these teachings that lead people in leaving a wholesome life with reverence to the Supreme Being and all the creations around him. In the course of the growth and spread of Pranic Healing and Arhatic Yoga people are interested in knowing these through asking different questions to make things clear to them.

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GROWTH EVALUATION OF CLONED INDIGENOUS FOREST TREE SPECIES APPLIED WITH MYCORRHIZAL FERTILIZER UNDER GUIMARAS STATE COLLEGE-BATERNA CAMPUS CONDITION

Julius T. Vergara

Vivian S. Andaya

Joebert Gagante

ABSTRACT The study was conducted to evaluate the growth of cloned indigenous forest species applied with mycorrhizal fertilizer as to their plant height, number of branches, survival rate, and number of days to reach plantable height under the GSC Baterna Campus condition. A Factorial Experiment on Completely Randomized Design (F-CRD) was used in this study. Factor A represented different indigenous forest tree species: A1- Batino, A2- Bangkal, A3-Kubi, and A4- Antipolo. Factor B represented the application of mycorrhiza: B1- Without mycorrhiza, B2- with mycorrhiza. There will be eight (8) treatment combinations to be replicated four (4) times, making a total of thirty-two (32) variates. Based on the result of the study, the application of mycorrhiza did not significantly influence the growth of cloned indigenous forest tree species in terms of plant height, survival rate, and the number of days to reach the desired plantable height. However, it significantly influenced in terms of the number of branches.

Keywords: growth, indigenous and forest species, mycorrhiza

INTRODUCTION

As ecosystems worldwide are increasingly endangered by environmental change, new strategies that rely on mycorrhizal are being developed to alleviate the negative consequences associated with these changes (Barea, Palenzuela, Cornejo, Castro, Fernandez, Garcia, & Aguilar, 2011). The National Greening Program (NGP) for 2011-2016 was launched as per Executive Order No. 26 Series of 2011, with requires planting one and a half billion trees of indigenous and fast-growing trees to cover one and a half million hectares of public forests and private lands nationwide. The Research Sector of the Department of Environment and Natural Resources was given the responsibility of administering the production of quality planting materials before they were released for out-planting. One of the developed matured technology appropriate for the National Greening Program is boosting the growth and development of plants in degraded lands and marginal areas of the country using mycorrhizal inoculants. In line with this Ecosystems Research and Development Bureau and Natural Resources Defense Council have been tasked to mass produce endomycorrhiza as inoculants to make it available as a biofertilizer for public use (Castillo, 2012).

Mycorrhizas are symbiotic relationships between fungi and plant roots. Perhaps more than 80% of the species of higher plants have these relationships. Whereby the fungus invades and parasitizes the roots of the host plant, but unlike other harmful parasites, it does not damage or kill the host. Instead, it provides many physical and physiological benefits to the latter. In return, the fungus obtains its food and other growth requirements from the host plant. These are as common on crop plants (cereals, peas, tomatoes, onions, and many others) as in wild communities, and in several cases, they have been shown to be important or even essential for plant performance.

To a large degree, mycorrhizas seem to be symbiotic relationships in which the fungus obtains at least some of its sugars from the plant, while the plant benefits from the efficient uptake of mineral nutrients (or water) by the fungal hyphae (Deacon,1992).

This study aims to evaluate the growth of cloned Indigenous forest species applied with mycorrhizal fertilizer as to their plant height, number of leaves, leaf length, leaf width, number of branches, and number of days to reach plantable height (1 foot), under GSC Baterna Campus condition.

METHODOLOGY

This study was conducted inside the hardening area of the Clonal Nursery Complex of the GSC Baterna campus, San Lorenzo, Guimaras, last June-July, 2017.

Experimental Design, Treatments and Replication

A Factorial Experiment on Completely Randomized Design (F-CRD) was used in this study. Factor A was represented by different indigenous forest tree species: A1- Batino (Alstonia macrophylla), A2- Bangkal (Nauclea orientalis), A3-Kubi (Artocarpus nitidus), and A4- Antipolo (Artocarpus blancoi). Factor B represented the application of mycorrhiza: B1- Without mycorrhiza, B2- with mycorrhiza. There were eight (8) treatment combinations to be replicated four (4) times, making a total of forty-eight (32) variates. Each variate was ten (10) cloned seedlings as experimental plants.

Table 1. Treatment combinations.

Factor A (Different Indigenous Forest Trees Species)	Factor B (Application of mycorrhiza)	
	B1	B2
A1	A1B1	A1B2
A2	A2B1	A2B2
A3	A3B1	A3B2
A4	A4B1	A4B2

Table 2. Experimental Lay-out.

A2B1	A1B1	A1B1	A2B1
A4B2	A4B1	A2B2	A3B2
A1B2	A3B1	A4B2	A4B1
A3B2	A1B2	A2B1	A4B2
A1B2	A2B1	A3B2	A1B2
A2B2	A2B2	A4B1	A4B1
A3B1	A3B2	A2B2	A4B2
A3B2	A3B1	A1B1	A1B1

Legend:
Factor A (Different indigenous forest tree species)
Factor B (Mycorrhiza Application)
A1- Batino
B1- Without mycorrhiza
A2- Bangkal
B2- With mycorrhiza
A3- Kubi
A4- Antipolo

Preparation of the Research Area

The hardening area of the clonal nursery was utilized in this study. Weeding and underbrushing were conducted to minimize the presence of weeds in the area. The area was laid based on the experimental layout (Table 2). Treatment labels and a title board were also placed before the study started.

Collection of Potting Media

The potting media was pure garden soil. Garden soil was collected in the production area of GSC Baterna Campus.

Source and collection of Planting Materials

Newly rooted ramets were collected from the rooting chambers of the nursery. Ramets with good root development and shoots were selected for the study. Seedlings were carefully uprooted to avoid root damage. It was placed directly inside a plastic pale with water to avoid transplant shock and brought to the potting area.

Potting and Planting

Potting media was pure garden soil. After the collection, potting media was sieved to have a finer particles and remove debris and other biological remains.
The plastic was filled with potted media before applying the mycorrhiza. The rooted cuttings were placed at the top of the inoculants, then filled again and arranged according to the experimental layout.

Water Management

Cloned seedlings were watered twice daily.

Pest Management

Neem tree extract was sprayed once a week to prevent pest infestation.

Data Gathering

To evaluate the growth of cloned Indigenous tree forest species applied with mycorrhizal fertilizer, the following data were gathered: plant height, number of leaves, leaf length, leaf width, number of branches , number of days to reach plantable height (1 foot) and survival rate. Data gathering was conducted every seven (7) days.

Data Analysis

All the data were analyzed using Two (2) ways Analysis of variance (ANOVA). Significant means were tested using Duncan's Multiple Range Test (DMRT).

RESULTS AND DISCUSSION

Table 1. Presents the summary of means on plant height, number of branches, survival rate, and number of days to reach the plantable height (1 foot).

Factor 1	Plant height (cm)	Number of branches	Survival rate	Number of days to reach the plantable height (1 foot)
A(Batino)	34.0	4a	1.0	33.4ab
B(Bangkal)	33.5	3b	1.0	32.8b
C(Kubi)	33.3	4a	1.0	34.1a
D(Antipolo)	33.0	3b	1.0	34.0a
f-test	ns	*	ns	*
cv%	3%	13%	N/A	3%
Total	33.4	3.6	1.0	33.6

Plant height

The second column of Table 1 shows the plant height of indigenous forest trees. The result shows that the highest mean was obtained by treatment A (Batino) with a mean of 34.0 cm, while the lowest mean was obtained by Treatment D (Antipolo) with a mean of 33 cm.
Analysis of variance shows that there is no significant effect among treatment means. This implies that the different forest species have the same growth performance in terms of height.

Table 1.1. Two-way table on the plant height of Indigenous Forest tree species seedlings

Mycorrhiza Application			
Indigenous forest tree species	B1	B2	Mean
A1	33.3	34.8	34.05
A2	33.3	33.8	33.55
A3	33.0	33.5	33.25
A4	33.8	32.3	33.05
Mean	33.35	33.6	
f-test	Ns		
cv%	3%		

Number of Branches

The third column of Table 1 shows the number of branches of indigenous forest trees. The result reflects that Treatments A (Batino) and C (Kubi) were higher, with a mean of 4.0 than Treatments B (Bangkal) and D (Antipolo), with a mean of 3.0. Analysis of Variance shows a significant difference among treatment means in terms of the number of branches. This implies that Treatments A and C perform better in terms of branching than Treatments B and D. Table

1.2. Two-way table on the number of branches of Indigenous Forest tree species seedlings

Mycorrhiza Application			
Indigenous forest tree species	B1	B2	Mean
A1	3.5	4.0	3.75
A2	3.5	3.3	3.4
A3	3.8	4.0	3.8
A4	3.3	3.3	3.3
Mean	3.52	3.6	
f-test	Ns		
cv%	13%		

Survival rate

The fourth column of Table 1 shows the survival rate of indigenous forest trees. Factor 1 shows that the survival rate of indigenous forest trees is the same with and without the application of mycorrhiza at 1.0%. Analysis of variance shows that there was a significant effect between treatment means of factor 2.
Pankhow, Boller, & Wiemken (1991) suggested that the main role of the mycorrhizal symbiosis is in the protective stages. Poor plant health can predispose them to diseases as mycorrhizae play an important role in protecting plant-hosts against pathogens.

Table 1.3. Two-way table on the survival rate of Indigenous Forest tree species seedlings

Mycorrhiza Application			
Indigenous forest tree species	B1	B2	Mean
A1	100	100	100
A2	100	100	100
A3	100	100	100
A4	100	100	100
Mean	100	100	
f-test	Ns		
cv%	N/A		

Number of days to reach the plantable height (1 foot)

The fifth column of Table 1 shows the number of days to reach the plantable height (1 foot) of indigenous forest trees. For factor 1, A and B were statistically higher than C and D. Analysis of variance shows a significant effect between treatment means of factor 1. The coefficient of variance is 3%.

Table 1.4. Two-way table on the number of days to reach the plantable height of Indigenous Forest tree species seedlings

	Mycorrhiza Application		
Indigenous forest tree species	B1	B2	Mean
A1	34.0	32.8	34
A2	32.3	33.3	32.2
A3	34.5	33.8	34.5
A4	34.0	34.0	34
Mean	33.7	33.47	
f-test	Ns		
cv%	3%		

Plant Height

The second column of Table 2 shows the plant height of indigenous forest trees. For factor 2, treatment B2 (W/O Mycorrhiza) obtained the highest mean, which is 33.6 cm.

Table 2.0 presents the summary of means on plant height, number of branches, survival rate, and number of days to reach the plantable height (1 foot).

Factor 2	Plant height (cm)	Number of branches	Survival rate	Number of days to reach the plantable height (1 foot)
B1(With Mycorrhiza)	33.3	3.5	1.0	33.7
B2(W/O Mycorrhiza)	33.6	3.6	1.0	33.4
f-test	ns	ns	ns	ns
cv%	3%	13%	N/A	3%
Total	33.4	3.6	1.0	33.6

Analysis of variance shows that there is no significant effect among treatment means of factor 2. The coefficient of variance is 3%.

Number of Branches

The third column of Table 2 shows the number of branches of indigenous forest trees. The highest mean was obtained by treatment B2 (W/O Mycorrhiza), which is 33.6 cm. Analysis of variance shows that there is no significant effect between treatment means of factor 2. The coefficient of variance is 13%.

Survival rate

The fourth column of Table 2 shows the survival rate of indigenous forest trees. It shows that the survival rate of indigenous forest trees is the same with and without the application of mycorrhiza at 1.0%. Analysis of variance indicates that there is no significant effect between treatment means of factor 2.

Number of days to reach the plantable height (1 foot)

The fifth column of Table 2 shows the number of days to reach the plantable height (1 foot) of indigenous forest trees. For factor 2), treatment B1 (With Mycorrhiza) obtained the highest mean, which is 33.7 cm. Analysis of variance shows that there is a significant effect between treatment means of factor 2. The coefficient of variance is 3%.

Several studies have observed beneficial influence of mycorrhizal on the growth and yielding of trees and crops and the improvement of soil properties (Gluszeck, Derkowska, Sas-Paszt, Sitarek, & Sumorok, 2020; Diouf, Kane, Bakhoum, Ba, Ba, & Duponnois, 2013; Mrabet, Ouhmane, Mousadik, Msanda, & Abbas, 2014). In addition, Bona, Cantamessa, Manassero, Masano, Copetta, Lingua, D'Agostino, Gamalero, & Berta (2017) advised the use of mycorrhizal and bacterial consortia in which the microorganisms mutually increase their beneficial effects on the growth of plants, and on the quality of the obtained crops. Moreover, through their observation application of mycorrhizal fungi increased the number of flower and fruits, the weight and size of the plants and their dry matter content compared with non-inoculated plants.

CONCLUSIONS

The application of mycorrhiza did not significantly influence the growth performance of cloned indigenous forest tree species in terms of plant height and survival rate based on the analysis of variance. However, it had a significantly influenced in terms of the number of branches, and it was obtained by Treatments A (Batino) and C (Kubi), which are higher with a mean of 4.0 than Treatments B (Bangkal) and D (Antipolo) with a mean of 3.0.

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ACADEMIC PERFORMANCE OF BACHELOR IN INDUSTRIAL TECHNOLOGY (BIT) STUDENTS OF GUIMARAS STATE COLLEGE

Ethel P. Junco
ethel.junco@gsc.edu.ph
ORCID No.: 0000-0002-2422-6210

ABSTRACT This study was conducted to measure the academic performance of Bachelor in Industrial Technology (BIT) students of Guimaras State College. There were 651 respondents in the study composed of students who graduated from AY 2016-2017 to AY 2019-2020. The descriptive research design was used while the instrument used in gathering data was a researcher-made questionnaire. The statistical tools used were the frequency count, percentage distribution, and mean. Results revealed that most of the respondents were male, have a monthly family income of 5,000 and below, and majority of them took up an Automotive Technology major. In the number of hours they spent studying, most of them spent 3-4 hours per day. While the general weighted average of BIT students was 1.99 which was interpreted as very good. Therefore, the BIT students of Guimaras State College have very good academic performance.

Keywords: academic, Bachelor of Industrial Technology, Guimaras State College, performance

INTRODUCTION

Academic performance, which is measured by the examination results, is one of the major goals of a school. Hoyle (1986) as cited by Martha (2005) argued that schools are established with the aim of imparting knowledge and skills to those who go through them and behind all this is the idea of enhancing good academic performance.

Various studies have been carried out on the factors that affect students' academic performance or achievement in schools, colleges and universities. Some of the factors identified and reported to have affected the academic performance of students in these different settings are: student effort, previous or prior educational performance, self-motivation, the social-economic status of the students' parents, the students' age, number of hours of study per day, admission points, different entry qualifications, tuition trends and the students' area of residence (rural or urban) (Farooq, Chaudry, Shafiq & Berhanu, 2011; Ali, Haider, Munir, Khan & Ahmed, 2013, Amasaumo, 2014).

Admission points and the different entry qualifications, which are the results of prior or previous academic performance likely to affect the students' future academic performance, have been considered in this study, as this research concerns the academic performance of students admitted with different entry certificates. Tertiary institutions all over the world, including Nigeria, use prior academic performance in terms of admission points or different entry qualifications/certificates as a basis for selecting students for admission into the colleges of education, polytechnic schools and universities. These admission points or entry certificates are always of equivalent rating or value, even though they may be awarded by different examination bodies. Thus, Bratti and Staffolani (2002) observed that the measurement of the students' prior educational outcomes or performance is the most important indicator or determinant of the students' future academic performance (Amasaumo, 2014).

Guimaras State College (GSC) is one of the major producers of Bachelor of Industrial Technology graduates and have produced massive graduates over the years. The Bachelor of Industrial Technology is a program under the College of Engineering and Industrial Technology that aimed to provide quality and excellent education and training for the higher manpower skills, technologist, technicians and professionals by educating the students enrolled in this course. In this tertiary level of education, performance is assessed in various ways. For systematic scoring, learners prove their knowledge by undertaking oral or written test, skills performance, performing presentations as is done in seminars, partaking in classroom activities, periodic exam, discussions and submission of take-home assignments. Student's academic performance and graduation rates have been the main area of interest for higher education institutions. Examination of factors related to the academic performance of students become a topic of increasing interest in higher educational circle. Many recent studies were carried out to discover factors that affecting student's academic performance. To achieve this study was conducted to measure the academic performance of Bachelor in Industrial Technology students of Guimaras State College. Specifically, this study aimed to determine the profile of the respondents in terms of sex, monthly family income, majoring; number of hours per day spent for studying, and academic performance in terms of their general weighted average.

METHODOLOGY

This study made used of descriptive research design employing researcher-made questionnaire in gathering the data. The respondents of the study were the 651 Bachelor in Industrial Graduates from AY 2016-2017 & AY 2019-2020. The statistical tools used were the frequency count, percentage distribution, and mean.

RESULTS AND DISCUSSIONS

Table 1 presents the profile of the respondents. Results shows that majority of the respondents were male, most of them have monthly family income of 5,000 and below, major in Automotive Technology and spent 3-4 hours per day in studying.

Table 1. Profile of the Respondents

Category	f	%
Sex		
Female	234	35.94
Male	417	64.06
Total	651	100
Monthly Family Income		
5,000 and below	367	56.37
5,001- 10,000	214	32.87
10,001- 15,000	59	9.06
15,001 and above	11	1.69
Total	651	100
Major/Field of Specialization		
Automotive Technology	463	66.97
Electrical Technology	45	6.91
Electronics Technology	50	7.68
Machine Shop Technology	24	3.69
Food Technology	54	8.29
Fashion and Apparel	15	2.30
Total	651	100
Number of Hours Spent in Studying	197	30.26
1-2 hours	223	34.25
3-4 hours	156	23.97
5-6 hours	75	11.52
7 hours and more	651	100
Total		

Academic Performance of Bachelor in Industrial Technology Students

Table 2 presents the academic performance of Bachelor in Industrial Technology Students from AY 2016-2017 to AY 2019-2020. It was observe that the BIT students have an overall general weighted average (GWA= 1.99) which is interpreted as very good. Also, it can be gleaned in Table 2 that the Bachelor in Industrial Technology students have good academic performance every first semester and achieved a very good academic performance every second semester. This implies that the BIT students perform better during the second semester than the first semester of AY 2016-2017 and AY 2019-2020.

Table 2. Academic Performance of Bachelor in Industrial Technology Students from AY 2016-2017 to AY 2019-2020

Academic Year	G.W.A	Interpretation
1st Semester 2016-2017	2.13	Good
2nd Semester 2016-2017	1.93	Very Good
1st Semester 2017-2018	2.08	Good
2nd Semester 2017-2018	1.92	Very Good
1st Semester 2018-2019	2.15	Good
2nd Semester 2018-2019	1.84	Very Good
1st Semester 2019-2020	2.02	Good
2nd Semester 2019-2020	1.88	Very Good
Total	1.99	Very good

Scale: 1.00–1.50 (Excellent), 1.51–2.00 (Very Good), 2.01–2.50 (Good (G)), 2.51-3.00 (Fair), 3.01 and below (Need Improvement)

CONCLUSIONS

The Bachelor of Industrial Technology graduates showed a very good academic performance. Moreover, the graduates have better academic performance every second semester of AY 2016-2017 and 2019-2020.

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THE INFLUENCE OF RELIGIOUS ORGANIZATIONS ON THE RISE AND GROWTH OF CHRISTIAN BELIEF

Lilian Diana B. Parreño
lilian.parreno@gsc.edu.ph
ORCID No.: 0000-0001-7631-8259

Julieta G. Infante
julieta.infante@gsc.edu.ph
ORCID No.: 0000-0003-0931-1502

Daverose S. Gallego
daverose.gallego@gsc.edu.ph

ABSTRACT Religious organizations rise along with the journey of Catholicism in the country. The intervention of the Catholic church in the community was mostly organized by religious organizations and the local parish, which undoubtedly influences the religious belief of the community. Critical analysis of the growth of Christianization particularly of the Catholic faith on the island of Panay in the Western part of the Philippines was employed. The members of the catholic religion were very strong in supporting their church. They established small voluntary organizations to assist priests in spreading the gospels. These organizations were spread out to villages and local communities. The small church organizations such as Basic Ecclesial Communities (BEC), Mother-Butler, Catechesis, Knight of Columbus, Marriage Encounter, Couples and singles for Christ, and Barangay Pilgrimage among others deepened the faiths of the people. The manner by which the Catholic Church officials mobilized the churchgoers for cohesive and single-pointedness of aims and efforts resulted in a strong catholic religion in the Philippines.

Keywords: religion, catholic, Philippines, church

INTRODUCTION

Guimaras Province is home to an astonishing number of churches displaying the rich culture and religious heritage of the province. Renowned by even the most devout of other regions in the Philippines, these places of worship have continued to inspire and give refuge of faith to all people in the province (Guia, 2012).

According to the Philippine Statistics Authority, more than 86 percent of the population in the island province, is Roman Catholic, while 14 percent belong to various nationalized Christian denominations. The rise of Christianity in the Province gives birth to the various religious organizations which perform specific role in the Catholic church. These religious organizations typically conduct evangelization activities, apostolic and corporal works with the aim of promoting the rise and growth of the Christian faith in the community.

In the province of Guimaras, there are several religious organizations that suit all ages and genders in the community. The social or economic status of an individual is not considered a basis for him to be part of the organization as long as he has the willingness, passion, and commitment to serve the church. Specifically, this study aimed to identify the: basic profile of the religious organization; role of the religious organizations and their engagements in the rise and growth of Christian beliefs; and unique religious practices which strengthen the Christian faith of the people.

METHODOLOGY

The researchers coordinated with the parish church in identifying the religious organizations. Qualitative research, using in-depth interviews were carried out among the coordinators, chapter heads, and presidents of various identified Catholic religious organization. Minimum health protocol during the interview was strictly observed.

RESULTS AND DISCUSSIONS

Out of the conducted in-depth interview, the researchers came up with the profile of the identified religious organization, its role, and engagements in the rise and growth of Christian beliefs and its unique religious practices which strengthen the Christian faith of the people.

Knights of the Altar (Acolytes)

The Knights of the Altar is one of the numerous religious organizations at the Most Holy Name of Jesus Parish Church. Established in 1877, the organization has originally, five (5) founding members. Currently, it has 25 members, with ages ranging from 12-26 years old. The Knights of the Altar's main role in the ministry is to assist the parish priest in serving the altar during the mass. According to the Knights of the Altar Coordinator, the activities conducted by their organization will motivate and encourage the young people to dedicate their lives to serving the ministry as well.

Parish Catechetical Ministry

The Catechetical Ministry carries out the fundamental evangelization mission of the Church. The establishment of this organization at Mclain, Buenavista, Guimaras was recorded way back in 1980. At present it has 46 active members who helped in facilitating activities on Bible sharing, gift giving and Bible service to the sick/elders. The organization also teaches basic prayers to young parents, enhances religious learning of the youth, facilitates communion activity among children, and conduct catechesis and pre-baptism orientation. In an interview with Mrs. Matilde Gabales, Coordinator of the Parish Catechetical Ministry, she emphasized that the activities of their organization intensify the religious well beings of the community from young people to adults.

Divine Mercy Philippines

During its establishment in 2011, Divine Mercy Philippines has 15 founding members, currently, the organization has a total of 500 members. One of the most highlighted activities of this organization is the retreat at the Sibaguan, Roxas City, Capiz, where non-believers were converted into Christian devotees. Divine Mercy Philippines, also engaged in home evangelization programs, prayer meetings, gift -giving, and facilitating communion to the sick, baptism, and marriage of unmarried couples. According to Mrs. Remia Basco, what makes the practices of Divine Mercy Philippines, unique from other organizations, is that they focus more on devotion, chaplet, and work of mercy.

Cofradia Del Señor Sto. Niño De Cebu

Being one of the youngest organization in the ministry, Cofradia del Señor Sto. Niño de Cebu was established in 2016, with 16 active members at present. The organization arranged the novena prayer every Sunday, conduct the feeding program, facilitate prayers for the sick and spearhead the celebration of the Feast of Señor Sto. Niño at Mclain, Buenavista, Guimaras. To strengthen the fellowship of the members, the organization conducts an annual convention activity, where chapter members gather to attend a mass, have talks, and presentations of the chapter accomplishments. According Mr. Wilfredo Campo, Cofradia del Señor Sto. Niño de Cebu focused on apostolic works, with the hopes of touching the hearts of some in the community so that they may also come closer to God and engage themselves in charity works.

Legion of Mary

Along with its establishment in 1921, the Legion of Mary dedicated its services to apostolic works like home visits, prayer services for the sick, and feeding programs. According to Mrs. Adelita Campo, the practices of the Legion of Mary has no different compared to those of other religious organizations because they all serve the common purpose of aiding the ministry and strengthening the faith of the believers.

Neo-Catechumenate

Neo-catechumenate is one of the flourishing religious organizations in the province. Since its establishment in 2016, this religious organization has only 18 founding members, and presently, it continues to grow into a community with numerous members. According to Mr. Renato Periodico, Neo-catechumenate engages in a variety of activities like Word of God, Anticipated Mass, and Penitential (Advent and Latent) Celebration with the sole purpose of evangelization. Neo-catechuminate practices 7 steps, or passages which are sealed by celebrations. This religious organization believed that evangelization must be done continuously for life to fully purify an individual.

Couples for Christ

Couples for Christ is one of the globally recognized religious organizations with the roles of performing Evangelization, Family Catechesis, and Values formation. This religious organization also supports the evangelization program of the church and facilitates Household prayer meetings, Unit program meetings, and Fellowship programs. One of the considered unique practices of CFC is that it does not enforce restrictions as to the lifestyle of members, rather it gives them leeway/choice to change their habits whenever they want.

CONCLUSIONS

The researchers found out that most of the religious organizations affiliated with the Most Holy Name of Jesus Parish Church, Mclain, Buenavista, Guimaras are more evangelization activity, apostolic and corporal works. Hence, the researchers concluded that membership of the people in the community in a religious organization helps in intensifying their faith as Christian believers.

REFERENCES

MARUYOG CHARM: PERCEIVED PROTECTION AND HEALING BELIEFS

Julieta G. Infante
julieta.infante@gsc.edu.ph
ORCID No.: 0000-0003-0931-1502

Norton Morada
norton.morada@gsc.edu.ph

ABSTRACT The Ati tribes are considered to be one of the first ethnic groups to inhabit the country. Along with their primacy in civilization comes their supremacy in supernatural beliefs, cultural and traditional practices. Among their beliefs include the use of herbs and certain plants to protect people, especially children, from evil entities and harmful spirits. These herbs and plants are placed inside small plastic tubes, which are then made into bracelets. Maruyog Charms, a name given to the bracelets, are recognized by both the National Council for Indigenous People and the Department of Trade and Industry. Each bracelet contains lana (virgin coconut oil), shards of santoara (limestone), herbs (salindugok, tagahumok, amigos), diamante negra, punta diamante, textiles, and mata-mata. The lana is made on Good Friday, a day believed to hold the strongest elemental pull on the primitive world. Santoara, limestone crushed into tiny pieces, are added to the bracelet to make people more accommodating to the bearer. The herbs, on the other hand, are gathered all-year-round and each herb has its own function. Salindugok is brownish green-colored shrub infused as charms, especially made for entrepreneurs, to attract customers. Tagahumok is a green-colored shrub included in the talisman to make the hearts of those around the bearer softer and easier to please. Amigos is a herb incorporated to the bracelet to make people friendlier to and more approachable for the bearer. The diamante negra and punta diamante act as panaming (shield) to ward off dark and negative energies. Both the textiles and the mata-mata (black and red seed) are added to the charms for decorative purposes only. The continuous production of these charms ensure the preservation of practices, and traditions of the indigenous people.

Keywords: Maruyog Charm, Protection, Healing beliefs

INTRODUCTION

Ati communities were known to exist and roam around in Guimaras. This island is located in the Western Visayas region between Panay and Negros. There are about 6 Ati settlements in Guimaras particularly in Buenavista (Serum), Lininguan and Dagobdob in Sibunag, two in Nueva Valencia (Tarog and Ubog).

One of the six Ati settlements in Guimaras is the Kati – Kati community situated in Sitio Kati – Kati, San Miguel, Jordan, Guimaras. The group was established in the year 1980, four years after the establishment of R.A. 8371.

Kati- Kati is headed by the tribal chieftain, Crispen Valencia together with the tribal council which facilitates and addresses their concerns to the government. Establishing a community helped them to become more organized in voicing out their aspirations, ideas and stand towards specific issues.

The Ati tribes are considered to be one of the first ethnic groups to inhabit the country. Along with their primacy in civilization comes their supremacy in supernatural beliefs, cultural and traditional practices. Specifically, this study aimed to determine how Maruyog Charm started as a traditional practice of the community; determined the raw materials and sources of the Maruyog Charm; and the perceived protection and healing beliefs upon wearing the Maruyog Charm.

METHODOLOGY

The research design used in the study was qualitative to determine the perceived protection and healing beliefs of Maruyog Charms. The informants of this study were the three (3) Maruyog Charm Makers and the Chieftain of the Kati-Kati Community that were engaged in the traditional practices in making maruyog charms. To gather the needed data, an interview guide prepared by the researchers was used. One-on-One Interview was conducted. It is a personal interview that is carried out with the informant at a time. This is purely a conversational method and invites opportunities to get details in depth from the informant. A qualitative observation was also done to gather systematic information on the site and during the actual act of the informant. Qualitative use subjective methodologies to gather information on specific area. Narrative analysis was conducted to analyze collected data which was done by reformulation of stories presented by the informants taking into account the context of each case and different experiences of each respondent.

RESULTS AND DISCUSSIONS

Components of Maruyog Charm

- Lana is made on Good Friday, a day believed to hold the strongest elemental pull on the primitive world.
- Santoara, limestone crushed into tiny pieces, are added to the bracelet to make people more accommodating to the bearer.
- Salindugok is a black-colored shrub infused as charms, especially made for entrepreneurs, to drive people closer to their businesses.
- Tagahumok is a green-colored shrub included in the talisman to make the hearts of those around the bearer softer and easier to please.
- Amigos is an herb incorporated to the bracelet to make people friendlier to and more approachable to the bearer.
- The diamante negra and punta diamante acts as panaming (shield) to ward off dark and negative energies.
- Both the textiles (hablon) and the beads (black and red seed and gold & silver beads) are added to the charms for decorative purposes only.

The word "maruyog" in the Ati native dialect means, "beautiful". Maruyog Charm, a name given to the bracelet, is recognized by both the National Council for Indigenous People and the Department of Trade and Industry. It is a branded and innovated traditional 'anting-anting' of the indigenous people. These charms, as far as Nanay Perla can remember, were used back to when she was still a kid, but the commercial trade started in 1997. Nanay Perla herself spearheaded the production. She taught the process of making these charms to the younger women in their community. It has since then been passed on from generation to generation.

Nanay Perla and the members of their tribe hunt for and gather these materials in the woodlands. She said that they cannot plant and reproduce these because these are of wild origin.

CONCLUSIONS

Creating Maruyog charms are a vital part of the Ati tribe's culture. Among their beliefs include the use of herbs and certain plants to protect people, especially children, from evil entities and harmful spirits. The continuous production of these charms ensure the preservation of practices, and traditions of the indigenous people.

Maruyog Charm promotes the indigenous community's culture and craftsmanship and supports the campaign in lessening the textile pollution by using recycled materials. They aim to make more innovative use of the charms by incorporating them into bags and clothing in the future.

These Ati communities had a great contribution not only in tourism but also in their share towards the expansion of the country's heritage.

It is recommended to have a review of community development approaches in the indigenous community is timely to encourage better participation from the locals and establish more sustainable programs. Collaboration among government, non-government and education institutions may be coaxed to exert continuous and documented efforts on the development of the Ati and other indigenous groups of people and related researches must be conducted in terms of acceptability of livelihood technologies.

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Key Informants

- Perla Moreno (60 years old)
- Lucia Tahan (55 years old)
- Mary Joy Farcon (29 years old)
- Crispen Valencia (60 years old)