

VOLUME 1 NO. 2
DECEMBER 2017

ISSN 2546-0110

GLOBAL *Researchers* JOURNAL



GLOBAL *Researchers*
ASSOCIATION AND CONVERGENCE FOR EXCELLENCE (GRACE), INC



GLOBAL *Researchers*

ASSOCIATION AND CONVERGENCE FOR EXCELLENCE (GRACE) Inc.

SEC Reg. No. CN201616169

ADDRESS: Nancamaliran, Urdaneta City/

Lower Gen. Luna, Baguio City

EMAIL: globalresearchersassociation@gmail.com

PHONE: +639226067051

WEBSITE: www.globalresearchersinc.com

GLOBAL RESEARCHERS JOURNAL

Volume 1 No. 2, December 2017

*A National-Refereed Journal published
semi-annually by the
Global Researchers Association and Convergence
for Excellence (GRACE) Inc.*

GUIDELINES for CONTRIBUTORS

The following shall serve as guidelines to all contributors for publication of research articles to the Global Researchers Journal Volume 1, No. 2 issue:

1. All articles must have a high degree of scholarship;
2. All articles must be evaluated thru double-blind system by selected referees for publication;
3. The articles may either be written in English or Filipino. All articles written in either languages must be accompanied by an Abstract which is written in English;
4. All contributions must be original;
5. Articles must use APA style sheet; and,
6. Articles must be typed single-spaced, Times New Roman 11 pts on letter sized (8 x11) paper in not more than twelve (12) pages.



EDITORIAL BOARD

Dr. Murphy P. Mohammed

Editor-in-Chief

Dr. Alma M. Corpuz

Editorial Consultant

Julie Liezel C. Ferrer

Issue Editor

Janela Marzel C. Fererr

Circulation

Jay Harold C. Panlilio

Marketing

Joan Marion Addun

Cover Design

TABLE OF CONTENTS

TITLE	AUTHOR/S	PAGES
LEARNING STYLES OF GRADE FOUR ELEMENTARY PUPILS IN DRA.RUPERTA G. CALUAG ELEMENTARY SCHOOL, S.Y. 2014-2015: BASIS FOR ENHANCEMENT PROGRAM	<i>Hazel Joy B. Natividad</i>	8 - 11
DISASTER RISK REDUCTION MANAGEMENT: A GOOD GOVERNANCE PRACTICE	<i>Johnny D. Dariagan, DPA</i>	12 - 27
ECLECTIC LEARNING MODULES IN SPEECH COMMUNICATION	<i>Johnny P. Cayabas Jr.</i>	28 -42
NIPA INDUSTRY: TOWARDS SUSTAINABLE INVESTMENT AND DEVELOPMENT OPTIONS	<i>Ma. Dorothee J. Villarruz, Ed.D.</i>	43– 47
MATHEMATICS INSTRUCTION IN SIQUIJOR ISLAND	<i>Marjorie P.Eslit</i>	48– 55
SARI-SARI STORE’S PRACTICES: INPUT TO AN ACCOUNTING SYSTEM	<i>Marvielin D. Doce, et al.</i>	56 –59
MANAGEMENT OPERATION OF METRO COTABATO WATER DISTRICT, COTABATO CITY, PHILIPPINES	<i>Engr. MHD. Faheem M. Aliuden, Ph.D.</i>	60– 72
A PROPOSED ENVIRONMENTAL MANAGEMENT PROGRAM (EMP) FOR HOTELS AND RESTAURANTS IN TACLOBAN CITY	<i>Nestor C. Sedanza, D.M.</i>	73 - 78
STATE UNIVERSITY PRODUCTIVITY: INPUT TO PERFORMANCE ENHANCEMENTSTRATEGIES	<i>Nilo D. Delfin, Ed.D.</i>	79 - 81

TABLE OF CONTENTS

TITLE	AUTHOR/S	PAGES
STUDENTS' PROBLEM SOLVING COMPETENCE IN MATHEMATICS	<i>Rolly T. Dagdagui</i>	82 - 90
ATTITUDE AND GAIN SCORES OF STUDENTS TAUGHT WITH A LEARNING MODULE IN PROBABILITY AND STATISTICS	<i>Ronald L. Cachero</i>	91 - 98
GAWAD KALINGA GOVERNANCE: TOWARDS POVERTY ALLEVIATION IN THE PROVINCE OF CAPIZ	<i>Rowena Cristina D. Dela Cruz</i>	99-105
THE INFLUENCE OF STRATEGIC, COLLABORATIVE AND CULTURAL LEADERSHIP ON QUALITY OF WORK LIFE OF SCHOOL HEADS	<i>Saturnino E. Dalagan, Jr.</i>	106-113
THE STATUS OF HABLON INDUSTRIES IN ILOILO	<i>Dr. Wilhelm P. Cerbo</i> <i>Prof. Mark Anthony D. Lamera</i>	114-123
CURRENT RESEARCH TRENDS IN ENGLISH LANGUAGE EDUCATION IN UNIVERSITIES AND CONTINUING EDUCATION PROGRAMS IN JAPAN	<i>Jimena Benosa Homma</i>	124 –132
INTEGRATION OF ESSENTIAL INTRAPARTAL AND NEWBORN CARE OF THE BACHELOR OF SCIENCE IN NURSING CURRICULUM OF PAMANTASAN NG CABUYAO: A BASIS FOR OUT-COME –BASED EDUCATION	<i>Shalini S. Barroso, et al.</i>	135-139
PROFILING OF PHILIPPINE MERCHANT MARINE ACADEMY ACADEMIC ACHIEVERS AND THEIR ORIGINS	<i>Victoria Q. Paraggua, et al.</i>	140-151

LEARNING STYLES OF GRADE FOUR ELEMENTARY PUPILS IN DRA.RUPERTA G. CALUAG ELEMENTARY SCHOOL, S.Y. 2014-2015: BASIS FOR ENHANCEMENT PROGRAM

HAZEL JOY B. NATIVIDAD
Teacher II, DRGC DepEd, Guiguinto District, Bulacan

ABSTRACT

The study was an attempt to determine the learning styles of grade four elementary pupils of Dra.Ruperta G. Caluag ,Brgy Ilang-Ilang,Guiguinto, Bulacan during the school year 2014- 2015 and their relationship to their type of family. Descriptive survey was used in the study. The instrument used was a modified questionnaire of Harvey F. Silver et.al. The obtained data were treated statistically using percentage ranks, mean and Pearson Product Moment of Correlation. There are 100 respondents, 65 or 65% female and thirty five (35) or 35% male. Sixty (60) or 60% of the respondents has a nuclear family while forty (40) or 40% belong to extended family. The learning style of the respondents include sensing thinking or mastery style, forty or 40% pupils answered that they have this learning style, the sensing feeling or interpersonal style got 10 or 10%, the intuitive thinking or understanding style got 15 , the sensing feeling or self expressive got 30 or 30% respondents . Five pupils did not reveal their learning style. Type of family has a significant relationship with the learning style of the pupils at 0.01 level of significance. Hence, the hypothesis of the study is rejected.

Keywords: Sensing thinking or mastery style, sensing feeling or interpersonal style, intuitive thinking or understanding style, intuitive feeling or self expressive style.

INTRODUCTION

Educators tend to teach the way they were taught, Carlos (2014). Studies revealed that there is a strong relationship existing between a teacher's preferred teaching style and student learning style , Celarta (2014). Unfortunately, there is no "one size fits all" approach to teaching and or learning due to individual character traits. Then this creates a mismatch that requires attention.

Pupils have their own learning style and discover which is due to extraordinary capacity to learn in many different ways. They should be explored to various learning style and encourage to improve or shift to other style to eventually lead to better teaching and learning process that will lead to lifelong learning with the main objectives of producing productive members of the country. It is for the reason that researcher conceptualized this study.

STATEMENT OF THE PROBLEM

This study aimed to find out the learning styles of grade four pupils in the Dra.Ruperta G.Caluag Elementary School during the school year School Year 2014-2015. Results of the study will be utilize for enrichment program. Specifically the study sought answer to the following questions:

1. What is the profile of the respondents in terms of:
Sex
Age ?
2. What is the learning style of the respondents as to?
Mastery style or sensing thinking style
Interpersonal style or sensing feeling style
Understanding style or intuitive thinking style
Self-expressive style or intuitive feeling
3. What is the type of family of the respondents?
4. What is the relationship of the type of family to the learning style of the respondents?

Hypothesis

There is no relationship between the learning style of the respondents and their family type.

METHODOLOGY

This study used the correlational research design. The learning styles of the respondents were related to their family type. The respondents were the 100 grade four pupils during the school year 2014-2015

The instrument used was a questionnaire partially adopted from Harvey F. Silver et.al. Additional information which were not gathered from the questionnaire were obtained through informal interview and observation. The data were treated using the frequency distribution, average mean and the Pearson Product Moment of Correlation.

REVIEW OF LITERATURE

Several studies have been conducted related to learning style of the pupils. Trying to identify the styles. All these gained towards the development of the pupils in school, at home and the community as well.

Corpus et.al. (2006) stressed out that as many as the member of the students in class that is also the member of learning styles, various authors give varied learning styles. According to Timmerman (2000) learning is self centered. It should involve more student activity rather than teacher activity; they should be more active learner not passive, make decisions about learning. Task assigned to those must be open ended so they can develop their own learning styles.

Teaching and learning are should complement with each other. Methods of teaching facilitate learning and must result in quality education which is imperative to the development of the learner maximum potentials. This means giving him all opportunities for learning that is taught until he attains level of mastery.

Corpus et.al (2006) identified the four (4) learning style mentioned by Harvey F. Silver, the Sensing-Thinking (ST) or mastery learner who prefers to learn by: seeing tangible result, practicing what he has learned, following directions one step at a time, being active rather than passive and knowing exactly what is expected of her, how well the task must be done and why. They learn best from: drill, demonstration, practice and hands-on experience. The Intuitive Thinking (NT) or understanding learner prefers to learn by: studying about ideas and how things are related, planning and carrying out a project of his own making and interest, arguing or debating a point based on logical analysis and problem solving that requires collecting, organizing and evaluating data. They learn best from lectures, reading, logical discussions and debates and project of personal interest.

The Sensing Feeling (SF) or Interpersonal Learner, prefers to learn by: studying about things that directly affect people's lives rather than impersonal facts or theories, receiving personal attention and encouragement from his teachers, being a part of team-collaborating with other students, activities that help her learn about herself and how she feels about things they learns best from: group experiences and project, giving attention, personal expression and personal encounters and role playing.

The Intuitive Feeling (NF) or Self Expressive learner prefers to learn by: being creative and using his imagination, planning and organizing her work in her own creative ways, working on a number of things at one time, searching for alternatives solutions to problems beyond those normally considered, discussing real problems and looking for real solutions. They learn best from, creative and artistic activities, open-ended discussions of personal and social values, activities that enlighten and enhance: myths, human achievement, drama, etc.

Studies show that learning style are develop from the home, that is true because the home serves as the first school of child and parents serves as their first teachers.

This study therefore is an attempt to determine the learning style of the respondents and determine if there is a relationship exists between the home related factor and their learning style among students in the college of Industrial Education.

FINDINGS

The modal profile of the respondents revealed that majority of the respondents are female. There are sixty five (65) or 65% female and thirty five(35) or 35% male respondents in the study. Findings revealed that there are 72 or 72% respondents belong to 9-10 years old bracket, 20 or 20% belong to 10-11 years old and 8 or 8% belong to 12 years old and above. Sixty or 60% of the respondents have a nuclear family while 40 or 40% belong to extended family

The learning styles of the respondents are the following: mastery style got 40 respondents or 40%, the understanding style got 15 respondents or 15%, interpersonal style got 10 respondents or 10 % and self-expressive style got 30 respondents or 30%, five respondents did not identified their learning style.

Table 1.
Frequency Table of the Learning Style of the Respondents

Learning Style	Frequency	Percent
Mastery Learner	40	40%
Understanding Learner	15	15%
Interpersonal Learner	10	10%
Self Expressive Learner	30	30%
Missing System	5	5%
Total	100	100%

With regards to the correlation of the type of family to the learning style of the respondents it has a significant relationship at 0.01 level of significance.

SUMMARY

Guided by the statement of the problem, this research study determined the learning style of the respondents. The relationship of the type of the family to their learning style. The respondents of this study were sixty five (65) or 65% female pupils thirty five (35) or 35% male pupils. Mastery learner 40 or 40%, understanding learner 15 or 15%, interpersonal learner 10 or 10%, and self expressive learner 30 or 30% and 5 or 5% did not identify their learning style. On the correlation of the type of family and learning style There is a significant relationship exist between the type of family and the learning style of the respondents at p .05 level of significance.

CONCLUSIONS

Based on the summary, the following are the conclusions of the study:

1. Majority of the respondents of the study are female.
2. The learning styles of the respondents varies. The dominant type is the Mastery Learner while the least dominant is Interpersonal Learner
3. Majority of the respondents has a nuclear family.
4. Type of family has a significant relationship with the learning styles of the students.

RECOMMENDATION

Based on the findings of the study, the following are recommended:

1. Teachers should match their teaching style to the learning style of the students for effective and efficient teaching and learning to take place in the classroom.
2. Similar studies should be conducted utilizing other variables.
3. It is highly recommended that there should be an intervention program to enhance the Interpersonal Learner and Understanding Learner such as activities/projects so as to enhance these learners.

REFERENCES

Corpus, et.al. (2010) Teaching Strategies, LORIMAR Publishing House. Quezon City
 Department of Education Culture and Sports, Bureau of Secondary Education
 Curriculum (2002) PSSLIC.
 Department of Education Culture and Sports (1990) SEDP Handbook
 Development Program Teachers Manual.

Department of Education(2002) The primer on Basic Education Curriculum.

Silver, Harvey F. et al(2000) So Each May Learn. Virginia USA

Silver Strong Associates Inc.

Streeter, L.D. Tesque, F.A. and Newhouse, B.S.(1984) Media for Teachers and

Trainers.Dubuque,I.A: Kendall/Hunt Publishing House.

DISASTER RISK REDUCTION MANAGEMENT: A GOOD GOVERNANCE PRACTICE

JOHNNY D. DARIAGAN, DPA
College of Management
Capiz State University – Main Campus
Roxas City, Capiz, Philippines

ABSTRACT

This descriptive research determined the preparedness of Local Government Units (LGUs) in Panay Island, Philippines in terms of Disaster Risk Reduction Management (DRRM); potential disaster hazards; levels of preparedness and vulnerability to natural hazards; and the problems encountered in implementing DRRM programs. The research involved LGUs of the whole Island of Panay; used secondary data from DRRM offices of various provinces, cities and municipalities; Department of Interior and Local Government (DILG) regional and provincial offices; and the Office of Civil Defense regional office using the checklist formulated based on the LGU Disaster Preparedness Journal by the DILG. The results revealed that LGUs were highly vulnerable to floods, flashfloods and typhoons and vulnerable to earthquakes, drought and landslides; partially prepared in systems and structures, policies and plans, and building competencies, but prepared in equipment and supplies; provinces of Aklan and Antique had higher level of preparation than Iloilo and Capiz; with greater match of vulnerability and level of preparedness for natural hazards except on typhoons, drought, and floods/flashfloods where the level of preparedness did not match the degree of vulnerability. The main problems of the LGUs were the varied attitudes of the stakeholders, lack of manpower and poor database management, implying the need for LGUs to intensify their DRRM efforts especially those in the coastal areas being highly vulnerable to storm surge along with the strengthening of their DRRM systems and structures, policies and plans, and competencies.

Keywords-disaster preparedness; disaster hazard; vulnerability; Local Government Units ((LGUs) and Panay Island

INTRODUCTION

The World through the United Nations Forum highlighted the need for disaster preparedness in the Asia Pacific region. Dr. Noeleen Heyzer, a social scientist and Executive Secretary of the Economic and Social Commission for Asia and the Pacific, emphasized that policy makers must balance the short-term stability with long-term development. Asia Pacific needs a regional framework for resilience.

Natural disasters such as storms, floods, and droughts could derail the region's economic growth and poverty reduction efforts. But this could be averted if measures are in place to reduce disaster risk, strengthen community resiliency aAsia Pacific region is more vulnerable to natural hazards than other parts of the world. To wit, Cambodia is exposed to different hazards such as floods, drought, storms, lightning, epidemics and traffic accidents.

Indonesia, the world's largest archipelago, situated at the meeting point of four (4) large tectonic plates, is prone to geo-seismic hazards such as earthquakes, tsunamis, landslides, flooding, drought and volcanic eruptions

The western part of the country is exposed to flooding and landslide hazards due to high rainfall, while a dry zone on the eastern part of the country is vulnerable to drought (Ahmed, 2006). Furthermore, Pakistan suffered a devastating earthquake in 2005 and floods in 2010. In 2004, Indian Ocean Tsunamis killed hundreds of thousands of people. and improved preparedness.

The last three years would be remembered for deadly climate-related disasters, among them the great floods in Thailand in 2011, Hurricane Sandy in the United States in 2012, and Super Typhoon Haiyan/Yolanda in the Philippines in 2013. The message for 2014 is clear: we must do much more to prepare for disasters before they strike and not only react after the fact (Thomas, 2013).

Just recently, Typhoon Hagupit devastated the eastern part of central Philippines, exacerbating the damages and miseries caused by Typhoon Yolanda to the people who have not even recovered yet. Three factors make for more frequent repeats of these events globally: people's exposure, their vulnerability and the in-

Rising populations have meant that more people are living in harm's way, for example, in low-lying coastal areas. Environmental degradation, for instance, deforestation, has left communities vulnerable. And global warming, caused by greenhouse gas emissions, is amplifying the power of hazards everywhere (Thomas, 2013). Climate change is the main factor for the increasing frequency of super typhoons and other disastrous natural phenomena.

According to Punongbayan (1993), the Philippines is vulnerable in varying degrees to natural hazards. The highly undesirable conditions are offshoots of the tectonic, geologic, geographic and physiographic settings of the Philippine Archipelago. The vulnerability of the Philippines to natural hazards requires the emplacement of effective disaster preparedness and/or avoidance systems. The Philippines has been ranked 4th and 3rd respectively, for the last two years among ASEAN countries, as highly vulnerable to climate change (UNISDR). This implies that natural hazards would cause a significant disaster considering that it belongs to the Pacific Ring of Fire with volcanoes and earthquake faults.

And being an archipelagic country, it is also prone to strong typhoons, growing in intensity and frequency at an average of 20 harsh visits a year. As of April 3, 2014, the National Disaster Risk Reduction and Management Council (NDRRMC) reported that Super Typhoon Yolanda had left 6,293 persons dead, 1,061 missing, 28,689 injured, destroyed or partially damaged 1,140,332 houses, felled 13 million coconut trees, and inflicted damage to infrastructure worth at least Php 19.6 billion (Philippine Daily Inquirer, July 30, 2014). Measuring disaster preparedness is a daunting task. Even in the United States, the Federal Emergency Management Agency has made limited progress in measuring disaster and emergency preparedness.

The report of the Commission on Audit entitled "Disaster Management Practices in the Philippines: An Assessment" released in 2014, revealed the poor performance of the country on disaster management in the area of financial utilization, information management, leadership, monitoring, collaboration and coordination with the various stakeholders. The study revealed some interesting findings. The following are excerpts from the study:

"...the government's response and recovery efforts in Yolanda-ravaged areas clearly showed that its implementation of RA 10121 still leaves a lot to be desired. Given the multi-sectoral, multi-organizational structure of the NDRRMC and the complexity and magnitude of the disaster, the Council's key players and stakeholders had difficulty coordinating, collaborating and making timely decisions, which came across as unreadiness and ineptitude to respond to a host of emergencies and crippling crisis. "It is evident that whenever authority is shared, responsibility is dispersed and resources are scattered, emergency management, command and control can hardly operate in an expedient manner. The Yolanda disaster also exposed the low level of disaster preparedness and response capabilities of many LGUs. Despite the DILG's campaign to recognize and incentivize local government performance in institutionalizing disaster preparedness, many LGUs have yet to integrate DRRM policies into their own development plans.

"And although the national government and some LGUs have operational DRRM programs, made ample preparations and braced themselves for the worst, they were simply crushed and overwhelmed by the scope and enormity of Yolanda's destruction..." The report made a clear statement about the state of disaster preparedness in the country as a whole. This study aimed to validate that result among LGUs in Panay Island alone.

Visayas region in general is a typhoon corridor as most typhoons make landfall in Eastern Visayas and exit in Western Visayas where Panay Island is situated. The damage inflicted by Super Typhoon Yolanda in Panay Island revealed the level of preparedness in the region. This catastrophic event may have taught a lesson to everyone - that is, to be prepared. This brings to mind the scriptural admonition, "If ye are prepared, ye shall not fear." Thus, this research was conducted to determine if the LGUs in Panay Island, comprising the provinces of Capiz, Aklan, Antique and Iloilo, have taken measures with respect to preparedness and identified problems encountered in its implementation.

STATEMENT OF THE PROBLEM

This study sought to answer the following questions:

1. What is the profile of the LGUs in Panay Island in terms of land area, geographical location, income class, population, number of barangays and type of LGU?
2. What are the potential disaster hazards faced by the LGUs?

3. What DRRM preparations have been undertaken by the LGUs in terms of structures and systems; policies and plans; building (training-based) competencies; and equipment and supplies?
4. What is the overall preparedness of the LGUs in Panay Island when grouped according to province?
5. What is the level of preparedness of the LGUs when grouped according to profile?
6. What is the level of preparedness of the LGUs when grouped according to vulnerability to natural hazards? and
7. What are the problems encountered by LGU officials in implementing DRRM programs?

METHODOLOGY

The study employed a descriptive survey research design. It surveyed about the activities related to disaster preparations of the LGUs. This research design is appropriate since the study only determined the minimum actions required by the DILG in the Disaster Preparedness Journal prepared by the Local Government Academy. The study tried to determine the source of variations of the preparedness of the LGUs. This study was conducted in Panay Island from January 2015 to February 2015. Panay Island in the Philippines is divided into four provinces: Aklan, Antique, Capiz, and Iloilo, all in the Western Visayas Region. The study covered all the LGUs in these provinces, including their cities and municipalities.

The study used secondary data with the aid of the checklist formulated based on the LGU Disaster Preparedness Journal: Checklist of Minimum Actions for Mayors developed by the DILG. Secondary data gathered included some provincial/ municipal/city profile such as population, land area, geographical location, income class, number of barangays and type of LGUS.

Potential hazards of the LGUs were also identified. These hazards were floods/flashfloods, storm surge, earthquake, drought, hailstorm, forest fire, typhoon, tornado, tsunami and landslide. The checklist formulated was composed of four parts. The first part was about systems and structures. The second part covered the policies and plans and the third part was about building competencies. The last part of the checklist was about the equipment and supplies for DRRM.

In the scoring of variables, Vulnerability was scored as highly vulnerable (2.34 – 3.00), vulnerable (1.67 – 2.33), and not vulnerable (1.00 – 1.66). Preparedness was scored as prepared, if the LGU has complied at least 90 percent of the minimum actions required by the DILG Disaster Preparedness Journal (or obtained a mean score of 2.34 to 3.00); partially prepared, if it has complied between 50 to 90 percent (1.67 – 2.33); and not prepared, if it has only complied below 50 percent (1.00 - 1.66). Frequencies, percentages and means were used in the analysis of data and processed with the aid of statistical package for social sciences (SPSS).

Table 2. Potential hazards faced by the LGUs

NATURAL HAZARDS	LEVELS OF VULNERABILITY						WEIGHTED MEAN	VI
	Highly Vulnerable		Vulnerable		Not Vulnerable			
	f	%	f	%	f	%		
Flood/Flash Flood	60	65.2	28	30.4	4	4.3	2.61	Highly Vulnerable
Storm Surge	14	15.2	28	30.4	50	54.3	1.61	Not Vulnerable
Earthquake	8	8.7	50	54.3	34	37.0	1.72	Vulnerable
Drought	7	7.6	75	81.5	10	10.9	1.97	Vulnerable
Hailstorm	1	1.1	3	3.3	88	95.7	1.05	Not Vulnerable
Forest Fire	2	2.2	25	27.2	65	70.7	1.32	Not Vulnerable
Typhoon	36	39.1	52	56.5	4	4.3	2.35	Highly Vulnerable
Tornado	4	4.3	17	18.5	71	77.2	1.27	Not Vulnerable
Tsunami	6	6.5	20	21.7	66	71.7	1.35	Not Vulnerable
Others: Landslide	23	25.0	34	37.0	35	38.0	1.97	Vulnerable

This result supports the report of PAGASA in 2011, where it stated that the average 24-hour rainfall intensity increased in most parts of the country and there was a statistically significant increase in rainfall intensity in Baguio City in northern Philippines and the cities of Tacloban and Iloilo in the Visayas. An increase in daily rainfall was also observed to be in higher trending. Increase in rainfall intensity and daily rainfall intensifies the vulnerability of the LGUs to floods and flashfloods. The report of Thomas, Albert and Perez (2013) revealed that there would be highly variable or highly unpredictable rainfall in the coming years and this would increase the risk of damage as communities would be less prepared because of the sudden heavy rains.

When flooding comes, physical dislocation occurs for households residing in low-lying areas of the affected municipalities/cities. Animals, agricultural equipment and household fixtures which cannot be moved to higher grounds are often washed away to river banks.

Typhoon

More than half (56.5%) of the LGUs are considered vulnerable to typhoon while 39.1 percent are highly vulnerable. Only 4.3 percent are not vulnerable to this hazard. The overall vulnerability of the LGUs was 2.35 which is interpreted as highly vulnerable. This implies that most LGUs are susceptible to the havoc of typhoons. Typhoons carry strong winds and rains. This was evident during the super typhoon “Yolanda/Haiyan” where Panay Island was a corridor and the damage was very significant. An increase in the number of extreme typhoons increases the vulnerability of the LGUs. But the number of typhoons over the years (1951 to 2010) in the Philippines did not significantly increase per records of PAGASA. According to the Manila Observatory (2011), the annual frequency of typhoons has been highly variable (between 9 to 26 typhoons) with no clear long-term trend. However, even though there is no clear evidence in the frequency of typhoons and tropical cyclones, experts agree that the nature of these hazards are changing, such as, stronger winds and heavier rainfall, which make it more dangerous and can cause a lot of damage. This was evident during Typhoon Pablo which struck Mindanao and Typhoon Yolanda which hit the Visayas.

Earthquake

When it comes to earthquake, more than half (54.3%) of the LGUs are considered vulnerable. The geohazard maps of the provinces revealed that Panay Island has a fault line bordering Antique, Iloilo, Aklan and Capiz. Fault lines are the convergence zone of tectonic plates where there are high tendencies of ground shaking. The strongest earthquake ever recorded in Panay was called “Lady Caycay” that occurred in 1948 with a magnitude of 8.2 which had caused heavy damages in the region. Only recently, a series of minor earthquakes have been felt in Iloilo City and Roxas City. Meanwhile, the Manila Observatory geophysical hazard map placed the three provinces in Panay Island (Iloilo, Capiz and Antique) low risk to earthquakes while Aklan is placed in medium risk to earthquakes.

Drought

Drought is also a threat to most of the LGUs with 81.5 percent being vulnerable. The major sector affected by drought is agriculture. Most LGUs are dependent on the agriculture sector and water is very important in food production. Farms with irrigation have less vulnerability to drought as they have sources of water during the dry season. This result conforms to the report of the Manila Observatory research (2011) which indicated that the average temperature would increase by 0.8°C to 2.2°C by 2020 and 2050. They further reported that by 2050, Visayas and Mindanao would be drier than normal

Tsunami

More than two-thirds of the LGUs (71.7%) are considered not vulnerable to tsunami. Panay Island has few areas facing the open seas. But the LGUs in Antique are more vulnerable to tsunami as they face the Sulu Sea including some coastal LGUs in Iloilo and Aklan with 21.7 percent being vulnerable and 6.5 percent as highly vulnerable. This conforms with the geophysical hazard map of Manila Observatory which placed the provinces of Iloilo, and Antique in medium risk to tsunamis. But the overall level of vulnerability of the LGUs to this hazard is 1.35, interpreted as not vulnerable. Tsunamis are created by underwater earthquake and underwater landslide or even underwater volcanic eruption.

Landslide

The most common among natural hazards is landslide. Around 25 percent are highly vulnerable, 37 percent are vulnerable with 38 percent not vulnerable. Landslides are prevalent in upland areas where trees have been hewn down. The overall vulnerability of the LGUs is 1.97 interpreted as vulnerable.

The Mines and Geosciences Bureau named the provinces of Iloilo, Antique, and Negros Occidental to have the most number of barangays with high vulnerability to landslides. In Iloilo, the municipalities of Leon, San Joaquin, Tubungan, Igaras, Miag-ao, Lambunao, Calinog, Alimodian, Janiuay, and Concepcion have the most number of high-risk barangays to landslides. In Antique, eight municipalities topped the most number of barangays as highly prone to landslides namely: San Remigio, Laua-an, Patnongon, Hamtic, Valderrama, Barbaza, Sibalom, and Tobias Fornier.

DRRM Preparations of the LGUs

In 2008, the Preliminary Assessment on the State of Disaster Risk Management (DRM) in the Philippines was carried out. This brought forth the identification of gaps and issues on DRM in the country, to name a few: ineffective vertical and horizontal coordination among its member agencies; existing DRM efforts of government and partner organizations are still limited in coverage due to limited resources available; ineffective institutional capacities of LGUs such as managerial and technical competencies; limited funds, equipment and facilities.

In answer to the preliminary assessment, the government by virtue of Executive Order No. 888 gave birth to the Strategic National Action Plan (SNAP) which served as the blueprint for DRR (SNAP, 2011). This was accompanied by the passing of Republic Act 10121, otherwise known as the Philippine Disaster Risk Reduction and Management (DRRM) Act of 2010, which is the act strengthening the country's DRRM system (NDRRMP, 2011).

Republic Act 10121 which is a landmark Philippine DRRM Act of 2010 is a holistic framework that approaches Disaster Risk Reduction and Management at all societal levels through the National DRRM Council (NDRRMC) and the Regional DRRM Council (RDRRMC) chaired by the Office of Civil Defense-DND. The primary aim of the NDRRMC cascaded thru the RDRRMC is to achieve a "safer, adaptive and resilient communities towards sustaining development through four (4) interrelated thematic areas, namely: Prevention and Mitigation, Preparedness, Response, and Rehabilitation and Recovery."

Disaster Preparedness, which is the subject of this study, is measured in terms of compliance of the LGUs to the checklist provided by the LGU Disaster Preparedness Journal: Checklist of Minimum Actions for Mayors prepared by the DILG. There are four areas in disaster preparedness, namely: (1) creation of DRRM systems and structures; (2) institutionalization of policies and plans; (3) building competencies of created structures; and (4) provision of equipment and supplies.

The DRRM preparations undertaken by the LGUs and its level of preparedness are: Systems and Structures (Table 3) which include (a) mobilization of DRRM structures and activation of systems and processes and (b) evacuation and relief;

Policies and Plans (Table 4) covering (a) early warning, (b) mobilization of DRRM structures and activation of systems and processes, (c) evacuation and relief, and (d) search and rescue;

Building Competencies (Table 5) that include (a) early warning, (b) evacuation and relief, (c) mobilization of DRRM structures and activation of systems and processes, (d) search and rescue, and (e) lifelines; and Equipment and Supplies (Table 6) categorized into (a) early warning, (b) mobilization of DRRM structures and activation of systems and processes, (c) evacuation and relief, (d) search and rescue, and (e) lifelines.

The following were the findings about the disaster preparedness of LGUs:

Systems and Structures

In terms of Systems and Structures, as shown in Table 3, LGUs are prepared in the mobilization of DRRM structures and activation of systems and processes, but partially prepared in evacuation and relief. Overall, they are only partially prepared in systems and structures.

Table 3. Disaster preparedness of LGUs on systems and structures.

I. SYSTEMS AND STRUCTURES	WEIGHTED MEAN	VI
A. Mobilization of DRRM Structures and Activation of Systems and Processes		
1. Create the following structures at the local level such as:		
a. LDRRMC	3.00	Prepared
b. LDRRMO	2.89	Prepared
c. Community of Disaster Volunteers (CDV)	2.76	Prepared
d. Local Chamber of Commerce (LCC)	2.52	Prepared
e. Others, please specify; schools	2.37	Prepared
Mobilization of DRRM Structures and Activation of Systems and Processes Overall Weighted Mean	2.71	Prepared
B. Evacuation and Relief		
1. Direct the DRRMO/ C/MSWDO/ Municipal Engineer to designate evacuation centers	2.86	Prepared
2. Direct the Municipal Engineer to:		
a. Put up signs/directions going to evacuation center	1.64	Not Prepared
b. Put up security post	1.66	Not Prepared
c. Designate shelter for livestock	1.33	Not Prepared
d. Designate evacuation center for prisoners (if prison is vulnerable to hazard)	1.20	Not Prepared
Evacuation and Relief Overall Weighted Mean	1.74	Partially Prepared

Mobilization of DRRM Structures

The LGUs are considered prepared with regards to the creation of group or committees /structures such as the Local Disaster Risk Reduction and Management Council (LDRRMC), Local Disaster Risk Reduction and Management Office (LDRRMO), Community of Disaster Volunteers (CDV), Local Chamber of Commerce (LCC)/network of local businesses, and other structures, such as schools, with an overall weighted mean score of 2.71. These structures are in charge of the planning and implementation of the DRRM measures.

The formation of the LDRRMC is a mandate of RA 10121 as provided in Section 10 and Section 11. This motivated the officials from the barangay to the regional level to create their own committee which focuses on disaster risk reduction and management.

However, while LGUs complied with the formation of local structures and systems, COA report revealed a problem in collaboration and coordination. There was a lack of emergency management system to cope with catastrophic disasters such as Typhoon Yolanda. Emergency management, command and control could hardly operate expediently in such a structure where the authority is shared, responsibility is dispersed and resources are scattered (COA, 2014).

Evacuation and Relief

The LGUs, in general, are considered partially prepared in evacuation and relief with a weighted mean of 1.74. This is consistent with the International Organization for Migration (IOM) assessment that the Philippines is critically short of evacuation centers. A lot of evacuation centers have been destroyed during Typhoon Yolanda and much have not yet been renovated and rehabilitated (Radyo 5, 2014).

Policies and Plans

For Policies and Plans, as reflected in Table 4, LGUs are partially prepared in early warning, mobilization of DRRM structures and activation of systems and processes (B and E), and search and rescue. They are not prepared in evacuation and relief. Generally, LGUs are only partially prepared in terms of putting in place policies and plans.

Table 4. Disaster preparedness of LGUs on policies and plans.

II. POLICIES AND PLANS	WEIGHTED MEAN	VI
A. Early Warning		
1. Issue Local DRR Communication protocol	2.88	Prepared
2. Prepare templates for:		
a. Suspension of classes	2.87	Prepared
b. Suspension of work	1.88	Partially Prepared
c. Suspension of fishing	1.45	Not Prepared
d. Suspension of sea voyage	1.38	Not Prepared
e. Issuance of pre-emptive evacuation	2.16	Partially Prepared
f. Declaration of State of Calamity	2.01	Partially Prepared
Early Warning Overall Weighted Mean	2.09	Partially Prepared
B. Mobilization of DRRM Structures and Activation of Systems and Processes		
1. Sign a resolution creating a LDRRMC, LDRRMO, CDV, and LCC	2.86	Prepared
2. Create position for LDRRM Officer and 3 LDRRMO staff per RA 10121	2.74	Prepared
3. Direct the Punong Barangays to create the BDRRMC	2.18	Partially Prepared
4. Establish a Memorandum of Agreement between:		
a. Supermarkets (relief good and other supplies)	1.88	Partially Prepared
b. Funeral parlors (management of the dead)	1.33	Not Prepared
c. Volunteer groups (mobilization for various operations)	2.20	Partially Prepared
d. Transportation groups (mobilization for various operations)	1.97	Partially Prepared
e. Pharmacies (medical supplies)	1.57	Not Prepared
f. Hospitals (response, use of ambulance and management of injured persons)	1.71	Partially Prepared
g. Telecommunication companies (early warning and use of communication equipment)	1.61	Not Prepared
h. Warehouses (storage of goods for prepositioning)	1.51	Not Prepared
i. Water cooperative (relief assistance on water and restoration of lifelines)	1.55	Not Prepared
j. Electric cooperative (restoration of lifelines and use of equipment for clearing operations)	1.62	Not Prepared
5. Direct the mayor/punong barangay to instruct their constituents to prepare a 72-hour emergency/survival kit per household/individual.	1.73	Partially Prepared
Mobilization of DRRM Structures and Activation of Systems and Processes Overall Weighted Mean	1.89	Partially Prepared
C. Evacuation and Relief		
1. Establish Memorandum of Agreement between:		
a. Humanitarian Organizations (retrofitting evacuation centers/structures)	1.47	Not Prepared
b. Faith-based organizations with structures	1.53	Not Prepared
Evacuation and Relief Overall Weighted Mean	1.50	Not Prepared
D. Search and Rescue		
1. Direct the Administrator to buy insurance for the SAR responders	1.70	Partially Prepared
Search and Rescue Overall Weighted Mean	1.70	Partially Prepared
E. Mobilization of DRRM Structures and Activation of Systems and Processes		
1. Establish a Memorandum of Agreement between:		
a. Heavy equipment operators (search, rescue and clearing operations)	1.72	Partially Prepared
b. Gasoline stations (restoration of lifeline and price/ supply control)	1.91	Partially Prepared
c. Other business organizations (relief operations, livelihood opportunities post-disaster and price control)	2.08	Partially Prepared
d. Other LGUs (alliance for response, rescue and relief)	2.13	Partially Prepared
e. Barangays in the City/Municipality (inter-Barangay coordination systems/bayanihan)	1.76	Partially Prepared
2. Sign a resolution stating the cancellation of travel authority of the critical DRRM responders/team (to include the LCE)	1.28	Not Prepared
3. Direct Administrator to prepare a template for reporting and cancellation of travel authority.	1.32	Not Prepared
4. Prepare the following plans:		
a. LDRRMP (with contingency plans)	2.84	Prepared
b. LCCAP	1.90	Partially Prepared
c. AIP	1.68	Partially Prepared
d. Business continuity plans	1.38	Not Prepared

Mobilization of DRRM Structures Overall Weighted Mean	1.82	Partially Prepared
GRAND MEAN	1.88	PARTIALLY PREPARED

Plans are very important and being only partially prepared spells impending problems in the implementation of DRRM. Former Secretary Corazon Alma de Leon and then Undersecretary Lina Laigo as cited by Bionat (2000), said that the extent and magnitude of damages brought by the flood that struck Ormoc City in 1992 were beyond what the relief and rehabilitation agencies could handle.

Furthermore, the impact of the disaster was aggravated by the failure to detect its coming as well as the lack of mitigation measures, rendering both the government and the people unprepared for the disaster. They pointed out that the lack of pre-disaster mitigation measures contributed to the extent of disaster in Ormoc, Leyte where the need for multilevel disaster preparedness plan has been demonstrated. They stressed that a higher back-up plan should always be ready.

Pilar also pointed out that the lack of operational plan means a lack of institutionalized approach to disasters. Bionat (2000) found out that Iloilo as a province lack well-defined and well-outlined policies on how to deal with the eventualities of disasters. Most of local MDCCs were not able to apply or adopt specific policies to their local settings.

Early Warning

LGUs are partially prepared on issuance of templates for suspension of work, issuance of pre-emptive evacuation and declaration of state of calamity. There is no template for the suspension of fishing and sea voyage. This explains why there are some fishermen who are caught in the middle of the sea during typhoons. The overall weighted mean score in the early warning is 2.09 which is interpreted as partially prepared.

Mobilization of DRRM Structures

LGUs are only partially prepared in terms of establishing MOAs with supermarkets, volunteer groups, transportation groups, hospitals, and in directing mayors/punong barangays to instruct their constituents to prepare a 72-hour emergency kits. The LGUs are not prepared in terms of establishing MOAs with funeral homes, pharmacies, and telecommunication companies, warehouses, water and electric cooperatives. This explains why in times of calamities, utilities and communications are difficult to establish. Utilities such as electricity and water are very important in after disaster and calamities. In times of search and rescue, communication is also very important. Lack of preparedness could create problems in the area of mobilization of several volunteer groups. This is in contrast to the experience during the July 16, 1990 earthquake which hit Luzon. The aftermath of the catastrophe involved mobilization of business sectors which provided cash, medicines, blankets and old clothes. Aircrafts, ten-wheeler trucks and communication facilities were deployed free of charge (Lim as cited by Bionat, 2000).

Evacuation and Relief

The LGUs are not prepared in evacuation and relief, specifically in establishing MOAs with humanitarian and faith-based organizations having garnered a weighted mean score of only 1.5. There are very few faith-based organizations which are actively involved in evacuation and relief. Panay Island is diverse in terms of religions and denominations but their presence in partnership with LGUs in evacuation and relief operations is very minimal. This, again, is in contrast to the July 1990 Luzon Earthquake experience where the private sector dug into its collective pocket to fund rehabilitation activities. Efforts in establishing linkages with the private sector and humanitarian sector in the region have yet to be improved (Lim as cited by Bionat, 2000).

Cancellation of Travel Authority

The LGUs are not prepared in terms of signing a resolution stating the cancellation of travel authority of the critical DRRM responders/team, with a weighted mean of 1.28. DRRM responders are prohibited to travel in times of disaster. They are expected to stay at their post during and after the time of calamities. This resolution secures the presence of the DRRM responders. During the Luzon earthquake in July 16, 1990, the responder-groups among the mining companies were pressed into service. They were not allowed to travel but to stay on their post (Lim as cited by Bionat, 2000).

Building Competencies

Human resource is important in disaster preparedness. Without skills, it would be difficult to effect the concepts in actual situation. In terms of Building Competencies, as indicated in Table 5, LGUs are partially prepared in early warning, evacuation and relief, and in mobilization of DRRM structures and activation of systems and processes. They are prepared in search and rescue but not prepared in lifelines. Overall, they are only partially prepared in building or training-based competencies.

Table 5. Disaster preparedness of LGUs on building competencies.

III. BUILD COMPETENCIES	WEIGHTED MEAN	VI
A. Early Warning		
1. Conduct training on:		
a. Risk communication	1.82	Partially Prepared
b. Media management	1.54	Not Prepared
c. CCA-DRRM 101	2.74	Prepared
d. Hazard/Risk Assessment	2.84	Prepared
e. Climate and Weather Forecast	1.79	Partially Prepared
f. Warning Monitoring	2.72	Prepared
Early Warning Overall Weighted Mean	2.24	Partially Prepared
B. Evacuation and Relief		
1. Conduct training on:		
a. Camp Management	1.68	Partially Prepared
b. CBDRRM	2.70	Prepared
c. Infra Audit	1.51	Not Prepared
Evacuation and Relief Overall Weighted Mean	1.96	Partially Prepared
C. Mobilization of DRRM Structures and Activation of Systems and Processes		
a. ICS	2.68	Prepared
b. LDRRM Planning	2.83	Prepared
c. LCCA Planning	1.84	Partially Prepared
d. Community-based monitoring system	2.27	Partially Prepared
e. Alliance-building	1.50	Not Prepared
Mobilization Overall Weighted Mean	2.22	Partially Prepared
D. Search and Rescue		
1. Conduct training on		
a. Flood/Swift water search and rescue	2.86	Prepared
b. Basic Life support (First-Aid)	2.90	Prepared
Search and Rescue Weighted Mean	2.88	Prepared
E. Lifelines		
1. Conduct training on:		
a. Livelihood Training	1.70	Partially Prepared
b. Business Continuity Planning	1.48	Not Prepared
c. RDNA	1.70	Partially Prepared
d. PDNA	1.72	Partially Prepared
Lifelines Overall Weighted Mean	1.65	Not Prepared
GRAND MEAN	2.14	PARTIALLY PREPARED

Early Warning

In general, the LGUs are partially prepared in early warning, under building competencies, with an overall weighted mean of 2.24. LGUs have at least the minimum level of training in CCA-DRRM 101 which is an introduction to DRRM. Trainings on climate and weather forecast are rarely conducted as most of the LGUs are not fully equipped with the weather forecasting equipment. They only have the basic equipment. The result supports the paper of Pilar as cited by Bionat (2000) that the major shortfall of pre-disaster preparedness is forecasting and monitoring. LGUs are not that fully prepared in terms of forecasting .

The case also illustrates problems and issues that transcend the pre-disaster phase and spill into the disaster operations and post-disaster phases. Disasters, the paper asserts, confirm the notion that it is at the grass-roots level that government action becomes warmly, or non-government action becomes chillingly, real.

Lifelines

LGUs are only partially prepared in terms of livelihood training, Rapid Disaster Needs Assessment (RDNA), and Post-Disaster Needs Assessment (PDNA). This result contradicted the recommendation of De Leon (as cited by Bionat, 2000) that disaster management organizations should have adequate systems for quick assessments and monitoring of the changing needs and problems. Regular and frequent assessment of on-going relief operations by the key people implementing them is necessary for a well-coordinated service delivery. The LGUs are not prepared in business continuity planning with a weighted mean of only 1.48. Since the overall weighted mean of 1.65 was obtained, LGUs are not prepared in lifelines under building competencies. Generally, however, LGUs in Panay Island are partially prepared when training-based competencies are considered as indicated by their grand weighted mean score of 2.14.

Equipment and Supplies

In terms of preparation on Equipment and Supplies, as shown in Table 6, the LGUs are prepared in early warning equipment, mobilization of DRRM structures and activation of systems and processes, and search and rescue. They are only partially prepared in terms of evacuation and relief and in lifelines. Generally, however, LGUs are prepared in terms of equipment and supplies.

Table 6. Disaster preparedness of LGUs on equipment and supplies.

IV. EQUIPMENT AND SUPPLIES	WEIGHTED MEAN	VI
A. Early Warning		
1. Purchase/Prepare the following early warning equipment:		
a. Batingaw (or any indigenous alarm system)	2.62	Prepared
b. Megaphones	2.98	Prepared
c. Public service announcement equipment	2.87	Prepared
d. Satellite phones	1.48	Not Prepared
e. Handheld radios	2.85	Prepared
f. Rain gauge	2.33	Partially Prepared
g. Water level markers	2.71	Prepared
h. Wind vane	1.42	Not Prepared
i. Bells (you can partner with the local church to use the church bells)	2.68	Prepared
2. Direct the Municipal Engineer to create and designate public weather bulletin boards and an area for press conference/briefing	1.70	Partially Prepared
3. Secure hazard & risk maps	2.89	Prepared
Early Warning Equipment Overall Weighted Mean	2.41	Prepared
B. Mobilization of DRRM Structures and Activation of Systems and Processes		
1. Direct the DRRMO to designate EOC	2.78	Prepared
2. Direct the C/MSWDO to designate packing/repacking area (warehouse)	2.80	Prepared
Mobilization of DRRM Overall Weighted Mean	2.79	Prepared
C. Evacuation and Relief		
1. Instruct Mayors / Punong Barangays to Establish Permanent Typhoon-Resilient Evacuation Centers	1.87	Partially Prepared
2. Instruct Punong Barangays to make sure that every household has emergency "balde" (Refer to: DILG's Pampamilyang Gabay sa Panahon ng Kalamidad - www.dilg.gov.ph)	1.76	Partially Prepared
3. Direct the MSWDO to pack relief goods (stand-by) and to prepare community kitchen supplies.	2.74	Prepared
4. Instruct the DRRMO to prepare the following:		
a. Tents	2.67	Prepared
b. Medicine supplies	2.86	Prepared
c. Blankets	2.64	Prepared
d. Mosquito nets	2.26	Partially Prepared
e. Portalets	1.42	Not Prepared
5. Direct the Administrator to purchase or coordinate with organizations that may lend a mobile community kitchen in the aftermath of the disaster	1.43	Not Prepared
Evacuation and Relief Overall Weighted Mean	2.18	Partially

Table 6 (cont'd)		Prepared
D. Search and Rescue		
1. Instruct the DRRMO/ Administrator to purchase/prepare Personal Protective Equipment (collapsed structure, water search and rescue, etc.)	2.79	Prepared
2. Instruct the Administrator/ DRRMO to purchase/prepare/borrow the following response equipment:		
a. Heavy equipment for clearing operation: backhoe, chainsaw, bolo, shovel, water pump	2.83	Prepared
b. Response vehicle: ambulance, amphibian vehicle	2.89	Prepared
c. Fuel	2.90	Prepared
Search and Rescue Overall Weighted Mean	2.85	Prepared
E. Lifelines		
1. Instruct the Administrator to purchase/prepare:		
a. Mobile water treatment plant	1.42	Not Prepared
b. Generator	2.91	Prepared
c. Emergency light	2.89	Prepared
d. Solar-powered generator panel	1.35	Not Prepared
Lifelines Overall Weighted Mean	2.14	Partially Prepared
GRAND MEAN	2.39	PREPARED

The LGUs are already prepared in terms of equipment and supplies having obtained a grand weighted mean of 2.39. This jibed with the findings of Bionat (2000) in which LGUs found a means of providing themselves with the basic equipment and supplies. They have funds for the procurement of equipment and conduct of trainings. However, the COA report on DRRM practices in the country revealed that in the DILG alone, there was only a disbursement of 46 percent from its total allocated funds, which means that 54 percent were not utilized. The equipment of the LGUs could still be improved and updated by proper spending of DRRM funds.

Overall Preparedness of LGUs According to Province

The overall level of preparedness of the LGUs in Panay Island when grouped according to province revealed that the provinces of Aklan and Antique have higher level of preparation than Iloilo and Capiz since they were rated as prepared compared to the partially prepared rating for the latter. Antique and Aklan, however, are prone to earthquake and tsunami.

Table 7 shows the overall preparedness of the provinces in Panay Island. The data indicated that there are two provinces which have higher mean scores of 2.88 and 2.54 and are interpreted as prepared. These are Aklan and Antique. This could be validated by the several awards garnered by the province of Antique over the years, as among those LGUs having the best DRRM programs in Region 6. It is a province with an extensive collection of equipment and hazard maps from earthquake/ground shaking to flood, storm surge, landslide, ground liquefaction and tsunami. Likewise, the municipality of San Jose de Buenavista, the capital town of Antique, was a grand slam (3 times) national champion and 4 times regional champion in terms of DRRM in its class. Kalibo, the capital town of Aklan is also a multi-awarded LGU in the area of DRRM in its class. While Capiz province was a regional KALASAG DRRM champion for 2014, its state of preparedness and that of Iloilo province are rated only as partially prepared as indicated by their lower weighted mean scores of 2.12 and 1.82, respectively. This was evident during the onslaught of Typhoon Yolanda where Capiz and Northern Iloilo experienced greater extent of damage. Generally, however, Panay Island is prepared for disasters, having garnered a grand mean score of 2.34.

Table 7. Overall level of preparedness of the provinces in Panay Island.

PROVINCE	MEAN	VI
Aklan	2.88	Prepared
Capiz	2.12	Partially Prepared
Antique	2.54	Prepared
Iloilo	1.82	Partially Prepared
GRAND MEAN	2.34	PREPARED

Level of Preparedness of LGUs According to Profile

The level of preparedness of LGUs when grouped according to profile, as reflected in Table 8, indicated that LGUs which are located in coastal areas; classified as third class; with a population of 35,001 and above; comprising 25 or less barangays; and having a land area of 15,001 to 30,000 hectares have higher mean scores which imply higher level of preparation. However, the weighted mean scores of the LGUs were interpreted as partially prepared regardless of their profile variables.

This result supports the study of Bionat (2000) which indicated that in the Province of Iloilo, the management programs of the different municipalities did not differ. Coastal LGUs are more prepared (with a weighted mean of 2.16) than those in the other geographical location. Coastal LGUs are expected to be more prepared because they are vulnerable to several natural hazards such as storm surge, tsunamis, typhoons, rising sea level and strong winds. But, LGUs are partially prepared regardless of geographical location. First class LGUs are more prepared (2.16) than the lower classes except for the third class LGUs which garnered a weighted mean of 2.20. First class LGUs have the resources to establish their DRRM plans.

Table 8. Preparedness of the LGUs when grouped according to profile.

LGU PROFILE	WEIGHTED MEAN	VI	
Geographical Location			
Coastal	2.16	Partially	Prepared
Upland	2.15	Partially	Prepared
Plain	2.01	Partially	Prepared
Income Class			
First Class	2.16	Partially	Prepared
Second Class	2.02	Partially	Prepared
Third Class	2.20	Partially	Prepared
Fourth Class	2.15	Partially	Prepared
Fifth Class	2.04	Partially	Prepared
Population			
25000 and below	2.07	Partially	Prepared
25001 to 35000	2.07	Partially	Prepared
35001 and above	2.19	Partially	Prepared
Number of Barangays			
25 and below	2.16	Partially	Prepared
26 to 35	2.13	Partially	Prepared
36 and above	2.09	Partially	Prepared
Land Area			
15000 and below	2.12	Partially	Prepared
15001 to 30000	2.17	Partially	Prepared
30,001 and above	2.16	Partially	Prepared

Level of Preparedness of LGUs According to Vulnerability to Natural Hazards

The level of preparedness of the LGUs when grouped according to vulnerability to natural hazards, as shown in Table 9, revealed that LGUs highly vulnerable to storm surge, earthquakes, forest fire, tornado, tsunami and landslides were also the most prepared as reflected by their higher weighted mean scores. This implies a match in their vulnerability and level of preparedness. However, LGUs highly vulnerable to floods/flashfloods, drought and typhoons were not the most prepared as reflected by their lower weighted mean scores. This implies a mismatch of vulnerability and preparedness.

Table 9. LGUs preparedness when grouped according to vulnerability

NATURAL HAZARDS	PREPAREDNESS						Weighted Mean	Verbal Interpretation
	Not Prepared f %	Partially Prepared f %	Prepared f %	Prepared f %	Prepared f %	Prepared f %		
Flood/Flashflood								
Not Vulnerable		3	75.0	1	25.0	2.27	Partially	
Vulnerable	2	7.1	17	60.7	9	32.1	2.19	
Highly Vulnerable		45	75.0	15	25.0	2.11	Partially	
Storm Surge								
Not Vulnerable		35	70.0	15	30.0	2.13	Partially	
Vulnerable	1	3.6	22	78.6	5	17.9	2.07	
Highly Vulnerable	1	7.1	8	57.1	5	35.7	2.25	
Earthquake								
Not Vulnerable		31	91.2	3	8.8	1.96	Partially	
Vulnerable	1	2.0	30	60.0	19	38.0	2.21	
Highly Vulnerable	1	12.5	4	50.0	3	37.5	2.34	
Drought								
Not Vulnerable		5	50.0	5	50.0	2.38	Prepared	
Vulnerable	2	2.7	56	74.7	17	22.7	2.09	
Highly Vulnerable		4	57.1	3	42.9	2.24	Partially	
Hailstorm								
Not Vulnerable	2	2.3	63	71.6	23	26.1	2.12	
Vulnerable		1	33.3	2	66.7	2.40	Prepared	
Highly Vulnerable		1	100.0			2.23	Partially	
Forest Fire								
Not Vulnerable	2	3.1	49	75.4	14	21.5	2.09	
Vulnerable		16	64.0	9	36.0	2.19	Partially	
Highly Vulnerable				2	100.0	2.75	Prepared	

Typhoon								
Not Vulnerable			2	50.0	2	50.0	2.32	Partially
Vulnerable			45	86.5	7	13.5	2.05	Partially
Highly Vulnerable	2	5.6	18	50.0	16	44.4	2.22	Partially
Tornado								
Not Vulnerable	1	1.4	55	77.5	15	21.1	2.08	Partially
Vulnerable	1	5.9	8	47.1	8	47.1	2.32	Partially
Highly Vulnerable			2	50.0	2	50.0	2.32	Partially
Tsunami								
Not Vulnerable			46	69.7	20	30.3	2.13	Partially
Vulnerable	2	10.0	14	70.0	4	20.0	2.11	Partially
Highly Vulnerable			5	83.3	1	16.7	2.23	Partially
Landslide								
Not Vulnerable	1	1.9	46	88.5	5	9.6	2.20	Partially
Vulnerable	1	5.3	5	26.3	13	68.4	2.13	Partially
Highly Vulnerable			12	63.2	7	36.8	2.18	Partially

Flashflood/Flood

Of the ten hazards enumerated, LGUs are highly vulnerable to flood/flashflood such that out of 92 LGUs, 60 (65.2%) are highly vulnerable. But in terms of preparedness, only 15 LGUs, equivalent to 25 percent, are prepared while 45 (75%) are only partially prepared. Around 28 LGUs are vulnerable to flood/flashflood, but only 32.1 percent equivalent to nine (9) are prepared while 60.7 percent (17 LGUs) are just partially prepared. Two (2) vulnerable LGUs are not prepared at all. Floods and flashfloods are the perennial problems among majority of the LGUs, thus, they are expected somehow to make the necessary preparations. Only four (4) LGUs are not vulnerable to flood/flashflood. On the average, LGUs classified as not vulnerable to floods and flashfloods are considered partially prepared with a weighted mean score of 2.27. LGUs classified as vulnerable are considered partially prepared with a mean of 2.19 and those classified as highly vulnerable are considered also as partially prepared with a score of 2.11. It was observed that LGUs with high vulnerability to floods and flashfloods have the lowest mean of 2.11. This implies that LGUs with high vulnerability to floods and flashfloods have minimal preparations. LGUs highly vulnerable to floods and flashfloods, but with minimal preparations, would have a higher probability of incurring damages resulting to greater problems during and after calamities. Those which are highly vulnerable should be highly prepared. Former DSWD Secretary Corazon Alma De Leon, as cited by Bionat, in their experience in Ormoc City 1992 flood, mentioned that disasters are aggravated by the government and the people unprepared. The damaging effects of a calamity and disaster are minimized by preparedness.

Drought

LGUs were found vulnerable to drought. Of the 75 LGUs (81.5%) which indicated that they are vulnerable to drought, only 17 or 22.7 percent are prepared, while 56 or 74.7 percent are just partially prepared for this natural hazard. Two (2) vulnerable LGUs are not prepared. Seven (7) LGUs were found to be highly vulnerable to drought but only three (3) or 42.9 percent are prepared while four (4) or 57.1 percent are just partially prepared. Ten LGUs are not vulnerable to drought yet five (5) of them are prepared and the remaining five (5) being partially prepared. LGUs which are considered as not vulnerable have a weighted mean of 2.38 being interpreted as prepared; while those considered as vulnerable and highly vulnerable have a weighted mean of 2.09 and 2.24, respectively, and were interpreted as partially prepared. It can be noted that those LGUs which are vulnerable and highly vulnerable to drought have lower level of preparation than those which are not vulnerable. A major preparation for drought is the installation of irrigation system which is very expensive. But drought in Panay Island is not a major issue since the island receives a fair amount of rainfall every year.

Typhoon

For typhoons, 52 LGUs or 56.5 percent are vulnerable. However, of this number, only seven (7) equivalent to 13.5 percent are prepared while 45 or 86.5 percent are just partially prepared. It is worthy to note that there were 36 LGUs which considered themselves as highly vulnerable to typhoon but only 16 or 44.4 percent indicated that they are prepared for it while 50 percent equivalent to 18 LGUs are just partially prepared. Two (2) highly vulnerable LGUs are not prepared. Only four (4) LGUs are not vulnerable to typhoon with two of them considered as prepared and the other two as partially prepared. LGUs considered as not vulnerable to typhoon obtained a weighted mean of 2.32, which means they are prepared. LGUs which were considered as vulnerable and highly vulnerable to typhoon have a mean score of 2.05 and 2.22, respectively, interpreted as partially prepared. The result again revealed that those which are vulnerable and highly vulnerable are less prepared than those which are not vulnerable. This was evident during Super Typhoon Yolanda where the damage was very significant in majority of the LGUs in Northern Iloilo, Capiz

and Aklan. Being a Yolanda Corridor, it would not be long for another super typhoon to hit the region. The months of November and December are the months where typhoons' track were usually in the Visayas and Mindanao. Experts agree that there was an increasing frequency of super typhoons throughout the years, although the total number of typhoons has no clear trend (Thomas, 2013).

Earthquake

As far as earthquake is concerned, 50 LGUs or 54.3 percent were found to be vulnerable while eight (8) are highly vulnerable. Of those which are vulnerable, only 38 percent or 19 LGUs are prepared while 60.0 percent, equivalent to 30 LGUs, are partially prepared. One (1) vulnerable LGU is not prepared. Of the eight highly vulnerable LGUs, only 37.5 percent or three (3) LGUs are prepared while 50 percent or four (4) are just partially prepared for such a disaster. One (1) highly vulnerable LGU is not prepared. Thirty-four LGUs equivalent to 37.0 percent are considered not vulnerable to earthquake, yet 8.8 percent or three LGUs are prepared while 91.2 percent or 31 LGUs are partially prepared for such eventuality. LGUs considered as not vulnerable and vulnerable to earthquakes have a weighted mean of 1.96 and 2.21, respectively, which is interpreted as partially prepared; while those which are considered as highly vulnerable have a weighted mean of 2.34, interpreted as prepared.

This implies that LGUs that have higher vulnerability to earthquakes are more prepared which should be expected. The provinces of Iloilo and Antique are separated by the Panay Fault line which is the source of minor ground shaking. But the potential of a major earthquake is highly possible given the history of earthquakes in Panay Island. This should prompt the LGUs to be more conscious in their efforts in the preparation for such calamity.

Landslide

Among other natural hazards identified, landslide is the most common among the LGUs. Around 19 LGUs equivalent to 20.6 percent are highly vulnerable to landslide, occurring along mountainous and cliff areas and portions of land prone to depression. Out of 19, only seven (7) are prepared while 12 or 63.2 percent are partially prepared. Another 19 LGUs were found to be vulnerable with 13 or 68.4 percent being prepared, five (5) partially prepared and one (1) not prepared. Fifty-two LGUs equivalent to 56.5 percent are not vulnerable to landslide, yet five (5) of them are prepared, 46 or 88.5 percent are partially prepared while only one (1) is not prepared. The LGUs found to be not vulnerable to landslide obtained a weighted mean score of 2.20, those vulnerable have a mean of 2.13, and the highly vulnerable ones have a mean of 2.23, which means they are partially prepared. In general, most of the LGUs with high vulnerability to various hazards were only partially prepared. The findings implied that the state of preparedness of the LGUs vary when grouped according to vulnerability; and the level of preparedness matches the degree of vulnerability, except in some hazards like floods/flashfloods, drought and typhoons where their preparedness did not match their vulnerability. Supposedly, when LGUs are vulnerable and highly vulnerable to hazards, their preparedness should also become tougher.

Problems Encountered by the LGU Officials in Implementing DRRM Programs

The main problems encountered by the LGU officials in implementing DRRM programs were the varied attitude of the stakeholders, lack of manpower and poor database management. Table 10 shows the first six of the problems encountered by LGUs in the implementation of the Disaster Risk Reduction and Management program in Panay Island. The main problem of the LGUs is the varied attitudes among stakeholders. The least problem is the lack of support. LGU officials are very supportive to this endeavor as they are mandated by the government. Arranged according to rank, varied attitude among stakeholders registered the highest frequency of 30 (32.6%). This was closely followed by lack of manpower at 27 (29.3%) and poor database management with 20 (21.7%). Lack of financial appropriations (16.3%), lack of guidelines (15.2%) and lack of support (6.5%) ranked fourth, fifth and sixth, respectively.

Table 10. Problems encountered by the LGUs in the implementation of DRRM in Panay Island.

PROBLEMS	FREQUENCY	PERCENT	RANK
Varied attitudes among stakeholders	30	32.6	1
Lack of manpower	27	29.3	2
Poor Database management	20	21.7	3
Lack of financial appropriations	15	16.3	4
Lack of guidelines	14	15.2	5
Lack of support	6	6.5	6

CONCLUSION

Results of the study conclude: the LGUs in Panay Island are mostly coastal and highly populated; comprising 25 barangays or less; with an average land area of 15,000 hectares and below; and classified as 4th class; highly vulnerable to typhoons and floods/flashfloods and vulnerable to earthquakes, drought and landslides. In general, LGUs are partially prepared in systems and structures, policies and plans and building competencies, but prepared in equipment and supplies. Antique and Aklan are more prepared than Iloilo and Capiz. These two provinces, however, are prone to earthquake and tsunami. LGUs in Panay Island are only partially prepared regardless of their profile. There was no profile variable that can give variations to preparedness. There was greater match of vulnerability and level of preparedness among the LGUs in Panay Island for natural hazards, except on typhoon, drought and flood/flashflood where the level of preparedness did not match the vulnerability. The problems of the LGUs are related to human resource and stakeholders' attitudes.

RECOMMENDATION

The findings of the study are valuable inputs as bases for Disaster Risk Reduction Management Program in the province of Capiz, and in Region VI, Philippines. However, proper dissemination of the findings could be more comprehensive if these could be translated into a training manual to be used by the concerned agencies such as NDRRMC, NGOs and NGAs. Its translation into comics, brochures, and other forms of print media could be valuable among students, households, and other stakeholders. After these translation materials are put in place, a social research on the impact of these materials can be assessed to measure their effectivity among users.

ACKNOWLEDGMENTS

The author extends thanks and appreciation to the following:

The key officials of Capiz State University for encouraging and approving the conduct of the study; The Provincial Disaster Risk Reduction Management Offices (PDRRMO) of Capiz, Iloilo, Aklan and Antique, for sharing technical data, DRRM plans and insights; The DILG Regional Office, for accommodating the request of the researcher to obtain pertinent data on disaster preparedness of the LGUs and the Regional Office of Civil Defense, for sharing with the researcher copies of the Regional and National DRRM Plans.; The CSC provincial offices of Aklan, Antique and Iloilo for helping in obtaining DRRM plans of the LGUs.

REFERENCES

- [1] Asian Disaster Preparedness Center. 2003. The Role of Local Institutions in Reducing Vulnerability to Recurrent Natural Disasters and in Sustainable Livelihood Development in High Risk Areas. 30 September 2003. <ftp://ftp.fao.org/docrep/nonfao/ad695e/ad695e00.pdf> (Retrieved June 18, 2014).
- [2] Bionat, J. V. 2000. Disaster Management Programs of Municipalities in the Province of Iloilo: The Influence of Geographical Locations. Unpublished Thesis. Graduate School, University of San Agustin, Iloilo City.
- [3] Commission on Audit. 2014. Disaster Management Practices in the Philippines: An Assessment. COA Report 2014.
- [4] De Leon, Corazon Alma and Lina. 1993. "Flood Relief and Rehabilitation in Ormoc: Experiences and Insights of Administrators," *Philippine Journal of Public Administration*, 37, (4) 327 (October 1993).
- [5] Ignacio, L. L. & Perlas, A. From Victims to Survivors- Psychosocial Interventions in Disaster Management, Quezon City, Philippines: University of the Philippines Manila Information, Publication and Public Affairs Office, 1995, 41.
- [6] Lim, A. 2001. The Role of the Business Sector in Disaster Preparedness and Response," (u.p. and u.d.), 1.
- [7] [Napallacan, J. & Burgos, N. Jr. 2013. Tornadoes Wreak Havoc in Cebu and Iloilo Areas. http://newsinfo.inquirer.net/521769/tornadoes-wreak-havoc-in-cebu-iloilo-areas#ixzz3WUiRy8fN](http://newsinfo.inquirer.net/521769/tornadoes-wreak-havoc-in-cebu-iloilo-areas#ixzz3WUiRy8fN) (Retrieved June 21, 2014)
- [8] Thomas, V. 2013. Upping the game on Disaster Preparedness. <http://blogs.adb.org/blog/upping-game-disaster-preparedness.dpuf>

- [9] _____. 2013. Beating Climate Change Impact with Preparedness. <http://www.adb.org/vi/node/34206> (Retrieved June 20, 2014)
- [10] _____. 2013. Investing in Resilience: Ensuring Disaster Resistant Future. <http://www.adb.org/vi/publications/investing-resilience-ensuring-disaster-resistant-future> (Retrieved June 20, 2014)

ECLECTIC LEARNING MODULES IN SPEECH COMMUNICATION

JOHNNY P. CAYABAS JR.

OIC-Graduate School Dean, Mountain Province State Polytechnic College
Bontoc, Mountain Province

ABSTRACT

This study focused on the development of learning modules which provides the learners not only the opportunity to acquire the language but also to develop their skills needed for different purposes. The learning modules were designed according the propositions of eclectic approach in curriculum designing. The validity and effectiveness of the learning modules were also tested. An evaluation form used in assessing language curriculum design was used to evaluate the validity of the learning modules. To determine the degree of validity of the learning modules, weighted mean was used. T-test for independent groups was used to determine the effectiveness of the different learning modules. Based on the ratings provided by the internal and external evaluators, the learning modules were found to be much valid. Statistical analysis using t-test for independent groups reveals a significant difference on the achievement scores of the control and experimental group after taking up the modules. This means that the experimental group that used the eclectic learning modules posted a much higher achievement score than the control group. The developed learning module is then recommended for use to develop the speech communication skills of students. This can also be recommended for use as reference in other institutions. Other teachers can enrich and contextualize the learning module to suit the context of the speech classes where it will be used.

Keywords: Eclectic Approach, Communicative Speaking Activities, Learning Modules

INTRODUCTION

Learning to speak in a language is a very important part of second language education. The ability to communicate in a second language clearly and efficiently contributes to the success of the learners in school as well as to their success later in other phases of life. For this reason, it is essential that language teachers pay great attention to the teaching of speaking. Rather than leading students by pure memorization, teachers need to provide a rich environment where meaningful communication can take place.

To do this, teachers have to design and utilize various strategies that require frequent use of genuine and stimulating communication activities in the classroom. It is clear then that the teacher's job is to provide the students opportunities to use the language for themselves. Students need to learn how to say what they want to say rather than what they are directed to say. It is believed that the use of eclectic approach maximizes the learner's learning of a second language. In this approach, the goal of language teaching is to introduce students to different language learning contexts.

These contexts are designed vis-à-vis the nature of the learning content. The learning contexts provide learners various learning opportunities where their speaking skills can be developed. The purpose of advocating eclectic method in this study is to connect life experiences to the ideas presented in learning of the language. The types of learning activities teachers select are often directly related to their experiences in the real world. The learning modules developed in this study mainly applied three approaches such as the traditional approach, Computer-Aided Language Learning Approach and the Communicative Approach. Other approaches such as audio-lingual, oral-situational and direct approach were also used especially in part III of the learning module.

Rusbult (2014) contends that if some is good, more would be better. He believes that blending these approaches produces an optimal overall result. Therefore, teachers should try to design eclectic instruction by combining the best features of each approach in a blend that produces an optimal overall result -a greatest good for the greatest number in helping students achieve worthy educational goals.

This study was anchored on the eclectic theory of language which was advocated during the year 1990's. It is popular because it has the impact of good results without much focus on the learner. The advantage of this theory is that learners have a clear vision of what they are learning. Multiple tasks, high interaction, lively learning, objective, correlative, and fast results are the salient features of this method

STATEMENT OF THE PROBLEM

This study aimed to develop learning modules in Speech Communication with the application of eclectic approach in language learning. Specifically, it answered the following:

1. How valid are the developed learning modules in Speech Communication using eclectic approach?
2. How effective are the developed learning modules in Speech Communication using eclectic approach?

Research Design

This study made use of descriptive method of research in developing the learning modules. The learning contents were selected based on the updated syllabus for English 13 (Speech Communication). The research also made use of the quasi-experimental method, specifically, the time series design. The two groups involved in this study were given three pre-tests and three post-tests.

Locale and Population of the Study

This study was conducted at the Mountain Province State Polytechnic College, Bontoc, Mountain Province, SY 2014-2015. The Mountain Province State Polytechnic College is the only public tertiary institution situated in the capital town of the province. It offers various undergraduate and graduate programs. The college provides services to at least 4500 students annually.

Students come from the different municipalities of the province and from nearby provinces. Respondents for this study were students enrolled in two (2) Speech Communication classes, one offered in the Information Technology (IT) Department and another in Criminology Department, during the second semester of SY 2014-2015. There were 20 out of 38 students selected as respondents for the experimental group and 18 out of 25 respondents for the control group.

The study made use of lottery method in the selection of respondents. The two groups of respondents were heterogeneous because the students enrolled in the Speech Communication classes did not only come from the IT and Criminology departments but also from other departments. The learning modules developed in this study were subjected to evaluation by four (4) internal and four (4) external evaluators.

Data Gathering Tool

An evaluation form used in assessing language curriculum designs was used to evaluate the validity of the learning modules. This tool was based on the principles applied in language teaching.

Treatment of the Data

To determine the degree of validity of the learning modules, weighted mean was used. The following Likert scale was used. T-test for independent groups was used to determine the effectiveness of the different learning modules in Speech Communication.

FINDINGS

Validity of the Eclectic Learning Modules. The instructional material is composed of three (3) learning modules. Module I has five (5) lessons, module II has three (3) lessons while module III has five (5) lessons. Each lesson in modules I and II has its title, introduction, objectives, pretest, presentation of topics, enrichment activities, and posttest. Meanwhile, module III has a different form of presentation.

Each lesson in this module has its introduction, objectives, inputs, strategies, activities (pre-activity, during activity and post activity). The pre-activity serves as the pre-test, during activity as the enrichment activity and post activity as the posttest. The performance of students in the pre-activity and post activity was evaluated using a rubric.

Table 1 presents the results of the evaluation. Data reveals that the learning modules were rated as *much valid*. The results imply that the learning modules can be used as instructional material in Speech Communication.

Criteria	Mean	DE
The contents of the modules accelerate learning in the classroom.	3.875	MV
The modules suit the age, interest, needs, and wants of the learners.	3.875	MV
The learning objectives clearly provide what learners expect to do in a speech class.	4.00	MV
The sequencing of the content follows the spiral progression approach in curriculum design.	3.875	MV
The number of lessons in the modules suits the length of the class and the school term.	3.75	MV
The ideas in the modules increase the acceptability and usefulness of the modules outside the classroom.	3.875	MV
The layout of the modules attracts the learners.	4.125	MV
The learners have the skills to do the activities.	4.00	MV
The activities can be used for self-study.	3.875	MV
The activities suit the size of the class.	4.125	MV
The activities (group works) are manageable.	4.125	MV
The activities suit the physical features of the classroom.	4.25	VMV
The activities are useful to the learners in their future use or future learning of the language.	4.00	VMV
The modules are suitable for the teacher's skills.	4.125	MV
The activities are interesting and motivating to the students.	3.875	MV
Grand Mean	3.983	MV

While the evaluators rated the material much valid, they noted the following observations that need to be complied with: (1) The communicative activities need to be added to provide students more platforms to acquire knowledge and develop skills; (2) The rationale for the whole module should be clearly stated; (3) There is a need to apply a consistent format throughout the module; (3) Activities do not seem to fit in the context of the learners thus, there is a need to contextualize such; (4) There are few activities in Module I thus, it is important to add more especially to ensure that the concepts are profoundly understood and (5) While Module 1 focuses on principles and concepts, there is still a need to incorporate more speaking activities especially from lessons 1-5.

The suggestions were all incorporated in the learning modules. Although one internal evaluator commented that the presentation of the important aspects of each lesson was adequate and that the contents of the various lessons were presented accurately and precisely, external evaluators unanimously suggested that there should be more speaking activities even in Module 1 since the target of the module is not only equipping the students with theories on speech communication but more importantly, on developing their speaking skills using communicative tasks.

This coincides with the principles of communicative approach that says communicative activities should encourage and require a learner to speak with and listen to other learners. Communicative activities have real purposes: to find information, break down barriers, talk about self, and learn about the culture. Bilash (2009) believes that more learning takes place when students are engaged in relevant tasks within a dynamic learning environment rather than in traditional teacher-led classes.

Effectiveness of the Learning Modules. To determine the effectiveness of the learning modules, the achievement scores of the control and experimental groups were compared. Table 2.a shows the pre-test and post-test scores of students in the control group. Statistical analysis using t-test for independent means reveals a significant result. As gleaned from the table, the computed t-value (absolute value) of -6.667 is greater than the critical t-value of 2.032 at 0.05 level of significance. This implies that there is an increase of mean scores from pre-test to posttest. Further, it means that the students under the control group significantly improved their scores after taking the posttest.

Table 2.a Pre-test and Post Scores of the Control Group

	PRE-TEST	POST TEST	FINDING
MODULE 1	12.22	28.44	SIGNIFICANT
MODULE 2	9.61	21.28	SIGNIFICANT
MODULE 3	16.60	20.97	SIGNIFICANT
OVERALL	38.43	70.69	SIGNIFICANT

Table 2.b presents the pre-test and post-test scores of students in the experimental group. Statistical analysis using t-test for independent means reveals a significant result. As gleaned from the table, the computed t-value (absolute value) of -12.165 is greater than the critical t-value of 2.025 at 0.05 level of significance. This proves that there is a significant improvement of scores from pre-test to posttest. It means that students who belong to the experimental group increased their scores after taking the posttest.

Table 2.b Pre-test and Posttest Scores of the Experimental Group

	PRE-TEST	POST TEST	FINDING
MODULE 1	22.4	44.1	SIGNIFICANT
MODULE 2	19.9	40.6	SIGNIFICANT
MODULE 3	24.9	36.17	SIGNIFICANT
OVERALL	67.2	120.87	SIGNIFICANT

Table 2.b shows the result of the post test scores of students in the control and experimental groups at the end of the research period. Statistical analysis using t-test for independent means reveals a significant result. As gleaned from the table, the computed t-value (absolute value) of -2.824 is greater than the tabular t-value of 2.028 at 0.05 level of significance. This means that the null hypothesis is rejected. Furthermore, it proves that there is a significant difference on the achievement scores of the control and experimental group after taking up the modules.

Table 2.c Comparison of Post Test Scores of Control and Experimental

	CONTROL	EXPERI-MENTAL	FINDING
MODULE 1	28.44	44.10	SIGNIFICANT
MODULE 2	21.28	40.60	SIGNIFICANT
MODULE 3	20.97	36.17	SIGNIFICANT
OVERALL	70.69	109.37	SIGNIFICANT

Module I had the highest mean scores, followed by Module II, then Module III. Module I had the highest mean gain scores because the topics are purely theoretical. The module provided students topical discussions which helped them deepen their understanding of the concepts taught. In addition, what was tested in this module was the level of cognitive understanding of the students and not their speaking skills. Module III had the lowest mean gain scores because the activities were skill-oriented. What was measured was their ability to use the language in speaking activities.

While the control group gained an increase in their posttest scores, it was not as remarkable as the improvements in the posttest scores of the experimental group. The doubling effect of the learning modules in the achievement of scores of the experimental group may be attributed to some reasons. Firstly, the students were given a copy of the learning modules which they brought home. This means that they had ample time to review the past lessons as well as to make an advance reading of the next lesson.

Secondly, the students in the experimental group were given enrichment activities as these were part of the modules. Kinn (2015) opines that enrichment activities in the classroom offer an opportunity for hands-on, active learning. Active learning is desirable because students retain more of the presented information when they figure it out themselves. Instead of the traditional lecture setting where the teacher presents information and the students absorb it, active learning encourages learners to participate while the instructor acts as a guide. Research indicates that students engaged in active learning retain and generalize the information better than their peers in traditional instruction. Students who are engaged in enrichment activities are engaged in active problem solving. Research further shows that students have more information retention with this form of instruction. Enrichment activities increase student interest in new subject areas and foster a love of learning.

The enrichment activities given to the students helped them develop independence in learning because they were given chance to learn the activities on their own. This is one of the goals of using learning modules in the learning of a student to increase his autonomy in learning. In his study on the “Impact of E-Cooperative Learning Modules on Interpersonal Communication Skills”, Hassan (2003) found out that learning modules significantly improved the interpersonal communication skills of the students because there was increase in student ownership of learning. Borg (2007) believes that learning autonomy improves the quality of language learning, prepares individuals for life-long learning, that it is a human right, and that it allows learners to make best use of learning opportunities in and out of the classroom. Hassan (2003) further said that the interpersonal communication skills of students improved because the knowledge and skills of students were reinforced; there was student ownership of learning; there were more interaction and participation; and there was exposure and engagement to multiple and various types of cooperative activities.

Lizardo (2010) found out that students who made use of learning modules had a higher mean in their post-test scores than those who were not exposed to learning modules. He attributed this to the fact that the students were provided with appropriate activities found in the learning modules. He further added that better learning took place when students were given hints, references, guide questions, and illustrations, which were found in the learning modules which he developed. This is supportive to the idea that to meet the objectives of the lessons, appropriate learning experiences using various instructional media be utilized. This also proves that the learning process becomes more effective when lesson presentations are enriched with instructional materials which enhance understanding of the lesson. The learning modules developed in this study gave students both an opportunity to discover and invent new knowledge and an opportunity to practice what they have learned which helped improved their achievement scores. The experimental group also had more time to study the concepts, solve exercises in the modules because they were able to bring these home.

The use of supplementary materials facilitates the learning process in some identifiable way. Students’ interests are aroused when provided with information, especially if there are no available textbooks, thus resulting to new different points of view. In module II of the instructional material, multimedia resources like recorded lectures from native speakers and computer software were used. In the activities, students were asked to listen to video-recorded lectures instead of listening to the teacher. For instance, in the discussion of the different English sounds, students watched the lectures of the native speakers and at the same time answered the activities included in the video. Computer software was also used in their auditory discrimination activities. These may have increased the achievement scores of the students.

Numerous studies suggest that computerized media and a multimedia environment can be helpful for learning foreign language. Multi-media are now permeating the educational system as a tool for effective teaching and learning. With multimedia, the communication of information can be done in a more effective manner and it can be an effective instructional medium for delivering information. Multimedia access to knowledge is one of the possibilities of information and communication technology that has tremendous impact on learning. Instructional media have emerged in a variety of resources, and equipment, which can be used to supplement or complement the teacher’s effort in ensuring effective learning.

Neo and Neo (2000) believe that the power of multimedia lies in the fact that it is multi-sensory, stimulating the many senses of the audience. It is also interactive, enabling the end users of the application to control the content and flow of information. This has introduced important changes in the educational system and impact the way teachers communicate information to the learners.

Ogunbote and Adesoye (2006) express that multimedia technology adds new dimension to learning experiences because concepts are easier to present and comprehend when the words are complemented with images and animations. Elis (2007) opines that ICT plays a vital part in fostering intercultural competence, which is a part of learning a second or foreign language. ICT provides a variety of different approaches as well as learning styles that reinforce the material delivered in other formats. Enjoyment is very much a part of effective learning, thereby captivating learners' interest, increasing personal discovery, generating enthusiasm and the desire to learn.

Lanni (2005) states that students love working with ICT and especially using ICT as an instrument to aid in the development of their language skills. Using ICT attracts them because it is challenging, yet it is a part of their everyday lives. When students use ICT in the class, there is an undeniable improvement of language skills and strategies.

ICT, the internet and modern technology are on the forefront of language teaching offering teachers and students alike the opportunity to explore and exploit English in ways that were not possible before. Students are able to use English with ICT in a very natural, realistic environment, enabling to communicate more effectively in the language (Mcdougald, 2009).

In his study, Morareng (2004) affirmed that video-taped lessons improved the comprehension and application of mathematical concepts of students. He confirmed the positive effect of multi-media on the retention of knowledge. He found out in his study that video-taped lessons also made the students more retentive than those who were exposed to the usual expository method of teaching the subject.

In module III, the students in the experimental group were tasked to carry out communicative activities ranging from individual to group activities such as gaps, reconstructions tasks, simulation, interactive dialogue, oral reporting, cooperative learning, personalization, conversation, and many more. The communicative approach to language teaching stresses the importance of communication and interaction among the students and between the teacher and the students to learn a foreign language. Rather than repeating mechanically dialogues or grammar rules learned by heart, the communicative approach encourages students to use the target language in semi-authentic contexts. This approach also values the pupils' personal experiences outside the classroom as a way to facilitate their learning in the lesson. The good thing about the communicative approach is that it makes students speak the language even at a beginner level and they are usually enthusiastic about this.

The following were some significant observations that the researcher noted relative to the performance of the students in the experimental group in the different speaking activities.

First, while they found difficulty in articulating their ideas through a continuous speech, their level of anxiety decreased as they became engaged to more and more speaking activities. Second, their accuracy in pronunciation improved because they started to become conscious about their sound production. Finally, students enjoyed the activities which meant that they found the activities relevant and meaningful. The communicative approach to teaching language puts emphasis to introducing language learners to tasks that capitalize on their interests and experiences. They need to be introduced with authentic activities. Authentic activities are meaningful tasks added to learning opportunities. These activities are designed to resemble the kinds of situations that students face in the "real world." Constructivist theories speak of the idea that learners need to make sense of the world around them, and this process includes adding and building knowledge, and then organizing it so it can be applied. Authentic activities can help provide opportunities for learners to get these hands-on experiences that facilitate this process.

CONCLUSIONS

Based on the results and findings, the following conclusions were drawn:

1. The learning modules were evaluated as much valid in terms of the specific criteria given. This means that the learning material can be used.
2. The learning modules were found to be effective based on the achievement scores of the group of respondents. This implies that the learning modules using eclectic approach can accelerate language learning.

RECOMMENDATIONS

Based on the conclusions, the research recommends the following:
Other teachers can enrich and contextualize the learning module to suit the context of the speech classes where it will be used. The learning material can be applied for copyright at the national library.

ACKNOWLEDGMENT

The researcher expresses his sincere and deep gratitude especially to his students who stayed with him up to the completion of this study and to the many authors whose works substantiated the findings of this research.

REFERENCES

- Bilash, O. (2009). *Communicative Activities: What Counts as Speaking?*
Retrieved from: <http://www.educ.ualberta.ca/staff/olenka.bilash/Best%20of%20Bilash/communicative%20activities.html>
- Borg, S. (2007). *Learner Autonomy: English Language Teacher's Beliefs and Practices*. The Language Centre: Sultan Qaboos University
- Ellis, R. (2005). *Principles of Instructed Language Learning*. Englewood Cliffs: Prentice Hall Internationals
- Hassan, M.A. (2003). *Impact of E-Cooperative Learning Modules on Interpersonal Communication Skills*. Qatar University: Doha Qatar
- Kinn, H. (2015). *Benefits of Classroom Enrichment Activities*. Retrieved from http://www.ehow.com/info_8640862_benefits-classroom-enrichment-activities.html
- Lanni, L. (2005). *Silicon Carbide Bipolar Integrated Circuits for High Temperature Applications*. Royal Institute of Technology: Sweden
- Lizardo, A.S. (2010). *Effectiveness of Number Theory Learning Modules*. Unpublished Dissertation. Mountain Province State Polytechnic College
- Mcdougald, J. S. (2009). *The Use of Information and Communication Technology (ICT) in the EFL Classroom as a Tool to Promote L2 (English) among Non-Native Pre-Service English Teachers*. University of Jaen: Spain
- Morareng N. A. (2004). *Video-taped Lessons in Elementary Math: Effects on the Performance of Pupils in Combination Classes*. Unpublished Master's Thesis: MPSPC
- Neo, M. and Neo, T.K. (2000). *Multimedia Learning: Using Multimedia as a Platform Instruction and Learning in Higher Education*. Petaling Jaya: Malaysia
- Ogunbote, K.O. and Adesoye, A.E. (2006). *Quality Assurance in Nigerian Academic Libraries Networked Multimedia Services*. Journal of Library and Information Science
- Rusbult, C. (2014). *Optimizing the Benefits of Eclectic Instruction*. Retrieved from: <http://designprocessineducation.com/design-thinking/cm-ei.htm>

THE KATARUNGANG PAMBARANGAY LAW IN BAUKO MOUNTAIN

JONI L. PAGANDIYAN
Chairman-Criminology Department
Mountain Province State Polytechnic College

ABSTRACT

This study focused on the Katarungang Pambarangay in Bauko, Mountain Province in terms of the four components namely: levels of awareness, levels of implementation, levels of performance of the Lupong Tagapayapa, and the degree of seriousness of the problems encountered in its implementation considering the groups of the respondents. The study showed that awareness and implementation level are high, however there is still a need to conduct continuous orientation or information dissemination on the grant of economic, other incentives and budget allocation on the trainings of lupon. Analysis of the level of performance of the lupong tagapamayapa in the observance of the procedural activities in the settlement of disputes shows a very satisfactory level of performance. However, in-service training for the lupon is encouraged to be conducted regularly with emphasis on the recording of settlement of disputes and submission of reports to the regular court. Findings revealed that there are problems in the implementation of the Katarungang Pambarangay, such as: non-cooperation or diversity of ideas among lupon members, Decisions for disputes vary in the sense that lupon membership are mostly influenced by the existing customary and traditional practices for dispute settlements in the municipality.

Keywords: Katarungang pambarangay, Barangay Justice System, Bauko, Mountain Province, Cultural Communities

INTRODUCTION

The launching of the United Nations Educational, Scientific and Cultural Organization's (UNESCO) culture of peace programs, sometime in February 1994 has challenged and pushed people from all walks of life and from all nations in rallying to the challenges of moving from imposition to discussion, from monologue to dialogue, from privilege to sharing, from force to reason, and from plutocracy to democracy. These indeed are strong manifestations that conflict can be settled peacefully if all stakeholders to the crime understand each other's arguments, to their views steadfastly and civilly with due respect to the proper and legal procedures (UNESCO and A Culture of Peace, 1995).

We have a legal maxim stating that "Justice delayed is justice denied and equality before the law." Under these principles, it is imperative that judges are to exhaust adequate remedies to render fair judgment on cases brought before the courts, aimed at achieving with dispatch a high quality of justice in the solution of conflicts. Unfortunately, the administration of justice in the Philippines is viewed by the people, especially litigants as flawed since the country's judicial system suffers from certain obvious deficiencies.

Among these, is the people's penchant to indiscriminately file suit cases even for minor cases that can otherwise be settled amicably between the concerned disputing parties. Results of this overabundance of cases are a terribly long delay in case disposition. Furthermore, the willingness of overloaded judges to postpone hearings of cases which could drag on even for years. Taking all these factors together, the effect is a terrible congestion of court dockets thus, the consequent deterioration of the quality of justice dispensed by the courts (Abletez, 1996).

The system of rules and practices of settling disputes peacefully and amicably among Filipinos did not exclude the tribal people in the Cordillera (Carino, 2001). The "Tong-tong" plays a very important role in implementing the Katarungang Pambarangay Law. It displays a respected and a systematic procedure to settle disputes within the community settlers. In Mountain province, it is observed that complaint filed at the police stations are being referred at the barangay level purported for the parties to settle such complaint with the Barangay officials.
place.

The researcher was motivated to conduct such study in his hometown due to the fact that Bauko is the biggest municipality of Mountain Province which is composed of twenty two (22) barangays. Also, on account that there are no other police precincts or community outposts, other than the municipal police station, to cater complaints, peace and order concerns of the citizenry. All these redounds to a question on how cases, disputes and/or complaints are being addressed with limited law enforcement or quasi-judicial bodies in the place.

The Bauko Municipal Police Station, in an interview, always file criminal complaints at the barangay level for mediation purposes. Such complaint will only be elevated at the prosecution's office after three attempts of mediation by the *lupon*. This is also true to the action of the office of the PAO-Public Attorney's Office, Bauko district. Whereby, criminal complaints are not directly filed at the prosecution's office neither to the court who has jurisdiction over the case. Such office conducts preliminary litigation conference to the parties. This is purposely to explain the pros and cons of filing the case to the regular court.

STATEMENT OF THE PROBLEM

The study analyzed the *Katarungang Pambarangay* law in the twenty two (22) barangays of the municipality of Bauko, Mountain Province - its role in the Criminal Justice System. Specifically, it sought answers the following questions:

1. What is the level of awareness of the respondents on the *Katarungang Pambarangay* law in Bauko, Mountain Province?
2. What is the extent of implementation of the *Katarungang Pambarangay* as perceived by the group respondents?
3. What is the level of performance of the *Lupong Tagapayapa* in the observance of the procedural activities in the settlement of disputes?
4. What are the problems encountered in the implementation of the *Katarungang Pambarangay*?

METHODS

The study used the descriptive-survey research. It provides a systematic description of the implementation of the *Katarungang Pambarangay* in the Municipality of Bauko, Mountain Province. Primarily, a survey-questionnaire, after it was validated by the different groups of respondents, The validated survey-questionnaire was used to gather necessary data needed in this study.

Informal interviews and documentary gathering were also utilized as a secondary or supporting data-gathering instrument. documentary analysis and descriptive statistics by the use of frequency and weighted mean were used. In order to identify if there are significant differences in the answers of the respondents, one way ANOVA was used.

The respondents of the study were 74 barangay officials and 78 residents, which are divided further into 46 party to the disputes respondents and 32 witness to the disputes, all coming from the municipality of Bauko, Mountain Province where the study was conducted. The total population for the study is 152 respondents. The areas of concerns are sampled both randomly and non-randomly.

FINDINGS

The results of the study are presented briefly in the following discussions below.

Table 1. Level of Awareness of the respondents on the *Katarungang Pambarangay* in Bauko, Mountain Province According to Group

Indicators	A	B	C	Mean
1. The constitution of the <i>Lupon Tagapamayapa</i> ?	3.45	3.41	3.11	3.35
2. The size of <i>Lupon</i> Membership?	3.22	3.00	3.03	3.12
3. The qualifications of the <i>Lupon</i> Members?	3.20	3.30	3.15	3.21
4. The creation of <i>Pangkat ng Tagapagkasundo</i> ?	3.22	3.19	3.25	3.22
5. The monitoring scheme by the DILG office on the implementation of the KP?	3.08	2.89	2.83	2.97
6. On the technical assistance provided by the DILG office?	2.94	2.86	3.08	2.96
7. The grant of economic and other incentives to functional <i>Lupons</i> by the DILG?	2.65	2.65	2.53	2.62
8. The appropriations for <i>Lupon</i> trainings by the Municipal Government in the annual budget?	2.49	2.32	2.65	2.49
9. The recording of <i>Katarungang Pambarangay</i> proceedings?	3.17	3.16	3.18	3.17
10. The submission of quarterly reports of <i>Lupon</i> Cases to the DILG?	2.88	2.86	2.90	2.88
11. The amicable settlement procedures?	3.12	3.19	3.05	3.12
Over all mean	3.04	2.98	2.98	3.01
F-com: 0.158 F-tab: 3.32 α : 0.05 Decision: Accept Ho				

LEGEND: A. Barangay Officials B. Party to disputes C. Witness to Disputes D. Mean (A, B, & C)

As gleaned from Table 1, the Barangay Officials exhibit numerically the highest mean rating of 3.04, then followed by both the party to disputes and the witness to disputes of 2.98 weighted mean each. The levels of awareness are further seen to have different numerical values but which are interpreted similarly as much aware.

The finding of the study is similar with Norway's experience of settling disputes (Abletez, 2006). Abletez, further states that the judicial system includes conciliation bodies likened to regular courts. UNESCO and Culture of Peace (1995) further stressed that conflicts could be settled peacefully if parties fully understand, and are aware of each other's arguments steadfastly and civilly respect proper and legal procedures.

The Asia Pacific Organization for Mediation News presents that in Thailand, a "compromising house" settles disputes between the community members. Three to five villagers who are morally upright and known of their good standing are elected by the community annually; trained by lawyers on the basic judgment process to help them discharge their duties competently.

Likewise, the Japanese ministry of Home Affairs has also a "mediation commission" to provide extra legal remedies on the disputes at the community level. The results from the ANOVA, shown in the lower part of the table, revealed that the computed F-ratio of 0.158 at 5 percent level of significance is less than the tabled F-ratio of 3.32, thus the null hypothesis is accepted. This implies that there are no significant differences on the perceived level of awareness of the respondents on the *Katarungang Pambarangay* when they are grouped respectively. Corollary to the finding, Mayor (1995) states that while the primary objectives of the Municipal Conciliation Board is to bring about settlements for most civil cases, the parties for such cases are not permitted to be represented by or to appear with a lawyer.

Similarly, in Papua New Guinea, Village Courts are established in the provinces where disputes are mutually and acceptably settled considering primarily relevant customary laws.

Table 2. Level of Implementation of the respondents on the *Katarungang Pambarangay* in Bauko, Mountain Province According to Group

Indicators	A	B	C	Mean
1. The constitution of the <i>Lupong Tagapamayapa</i> ?	3.11	3.22	3.17	3.15
2. The size of <i>Lupon</i> Membership?	3.19	3.27	2.83	3.11
3. The qualifications of the <i>Lupon</i> Members?	3.00	2.92	2.61	2.88
4. The creation of <i>Pangkat ng Tagapagkasundo</i> ?	3.14	3.16	3.17	3.15
5. The monitoring scheme by the DILG office on the implementation of the KP?	2.61	2.84	2.78	2.71
6. On the technical assistance provided by the DILG office?	2.58	2.67	2.44	2.54
7. The grant of economic and other incentives to functional <i>Lupons</i> by the DILG?	2.33	2.62	2.44	2.43
8. The appropriations for <i>Lupon</i> trainings by the Municipal Government in the annual budget?	2.69	2.62	2.61	2.65
9. The recording of <i>Katarungang Pambarangay</i> proceedings?	3.08	3.05	2.94	3.04
10. The submission of quarterly reports of <i>Lupon</i> Cases to the DILG?	2.81	2.89	2.61	2.78
11. The amicable settlement procedures?	2.96	3.14	3.11	3.04
Over all mean	2.86	2.94	2.79	2.86
F-com: 0.795 F-tab: 3.32 α : 0.05 Decision: Accept Ho				

LEGEND: A. Barangay Officials B. Party to disputes C. Witness to Disputes D. Mean (A, B, & C)

As gleaned from Table 2, the area mean of 3.04 implies that the respondents perceive a much implemented level of implementation of the *Katarungang Pambarangay*. It is further shown that the ten indicators considered, the Constitution and the creation of the *Lupong Tagapamayapa* exhibit the highest mean weights of 3.15, interpreted as much implemented. It is likewise noted that the size of the *Lupon* membership is likewise much implemented, with 3.11 weighted mean. The recording of *Katarungang Pambarangay* proceedings is also perceived much implemented, evidenced by the weighted mean of 3.04. It is however shown that the grants of economic and other incentives to functional *Lupon* by the DILG is perceived slightly implemented. It is thus concluded that because of the financial considerations, the *Lupon* finds it difficult to function to its fullest and its rightful implementation.

Contrary to the finding of the study, in the United States of America, the working of the neighborhood justice center has proven to be a very effective way of settling disputes or cases before reaching the regular courts (Community Board Program, 2006). Governed by its statutes, each state has its own conflict resolution mechanism. It should however be stressed that during the Spanish era in the Philippines, early Filipinos had already implemented a system of rules and practices of settling disputes among residents of a community. The "*datu*" (tribe leader) settles cases mainly through a thorough analysis of the situations of the case and later decide how such cases are settled amicably or later be lifted to a higher justice body for the satisfaction of all concerned.

As shown in the results of the ANOVA, that the perceived levels of the groups do not significantly vary in the level of implementation. It is also clearly seen that numerically, the mean ratings among the groups are nearly similar. This is supported by the computed F-ratio of 0.795 at 5 percent level of significance which is less than the tabled F-ratio of 3.32, thus, the null hypothesis is accepted. This implies therefore, that there are no significant differences in the perceived level of implementation of the *Katarungang Pambarangay*, considering groups. It is further implied that group did not significantly vary the perceived level of implementation of the *Katarungang Pambarangay*.

Level of Performance of the *Lupong Tagapamayapa* in the Observance of the Procedural Activities in the Settlement of the Disputes

As gleaned from Table 3, the respondents perceived a very satisfactory level of performance of the *Lupong*

Tagapamayapa in the observance of the procedural activities in the settlement of disputes in the Barangay as evidenced by the area mean of 2.82. It is further shown that the settling of disputes within the prescribed period is very satisfactorily implemented, as shown from the weighted mean of 3.06.

The serving of summons to respondents by the *Lupon* Chairman is also very satisfactorily performed; the observance of timely and responsive Constitution of the *Pangkat* is very satisfactorily performed. Likewise, the settling of date for the constitution of *Pangkat ng Tagapagkasundo* is also performed very satisfactory. Furthermore, all the procedural activities in the settlement of disputes are perceived very satisfactorily performed by the *Lupon Tagapamayapa*.

Carino (2001) states that the procedure adopted by the *Lupon ng Tagapamayapa* was conciliation and arbitration of which was stressed by the Local Government Code, which was further reinforced by the *Sandigan Barangay* provided by in the Constitution.

Table 3. Level of Performance of the *Lupon Tagapamayapa* in the Observance of the Procedural Activities in the settlement of disputes (According to Group)

Indicators	A	B	C	Mean
1. The collection of appropriate filing fees by the treasurer from the complainant upon complaining through oral or writing?	2.84	2.84	2.56	2.76
2. The serving of summons to respondents by the <i>Lupon</i> Chairman, upon receipt of complaint, for them and their witnesses to appear before him for mediation?	3.00	3.08	2.78	2.96
3. The setting of date for the constitution of <i>Pangkat ng Tagapagkasundo</i> by the <i>Lupon</i> Chairman if he fails in his mediation effort within 15 days from the first meeting of the concerned parties?	2.73	2.89	2.78	2.78
4. The meeting of the <i>Pangkat ng Tagapagkasundo</i> , after its constitution, to convene not later than 3 days from constitution, on the day and hour set by the <i>lupon</i> chairman, to hear both parties and their witnesses, simplify issues and explore all avenues for amicable settlement?	2.78	2.78	2.67	2.75
5. The settling of disputes within the prescribed period?	2.96	3.14	3.17	3.06
6. The recording of settlement proceedings?	2.54	2.92	2.78	2.70
7. The submission of reports to the court within the prescribed period?	2.76	2.76	2.50	2.69
8. The observance of timely and responsive constitution of the <i>Pangkat</i> in case of failure to resolve dispute?	2.86	2.91	2.78	2.82
Over all mean	2.81	2.91	2.75	2.82
F-com: 2.038 F-tab: 3.47 α : 0.05 Decision: Accept Ho				

LEGEND: A. Barangay Officials B. Party to disputes C. Witness to Disputes D. Mean (A, B, & C)

It is further concluded that there are no significant differences in the perceived level of performance of the *Lupon Tagapamayapa* in the settlement of disputes, evidenced by the results of the analysis of variance.

The computed F-ratio of 2.038 at 5 percent level of significance is less than the tabled F-ratio of 3.47, thus, the null hypothesis which states that there are no significant differences in the perceived level of performance in the observance of the procedural activities in the settlement of disputes considering groups is accepted. It is therefore concluded that the groups did not significantly vary the perceived level of performance of the *Lupon Tagapamayapa* in the settlement of disputes in the community.

Table 4. Problems encountered in the implementation of the *Katarungang Pambarangay* (According to Group).

Indicators	A	B	C	Mean
1. The trainings/seminars for <i>Lupon</i> Members conducted by the concerned agencies?	2.67	2.84	2.73	2.73
2. The members' attendance to trainings/seminars despite of work in private or public agencies?	2.50	2.31	2.35	2.41
3. The decisions rendered by the <i>lupon</i> members due to political influence?	2.24	2.39	2.30	2.29
4. The conduct of hearing?	2.51	2.78	2.51	2.58
5. The sufficiency of honoraria given to <i>lupon</i> members to motivate and encourage membership?	2.46	2.44	2.46	2.46
6. The adequacy of communication devices or facilities for the maintenance of close coordination from one <i>sitio</i> to the other?	2.08	2.07	2.00	2.06
7. The length of time for the resolution of conflicts or disputes?	2.72	2.76	2.45	2.66
8. The unnecessary postponement of Hearing?	2.19	2.11	2.18	2.17
9. The non-cooperative or diversity of ideas among the <i>lupon</i> members?	2.11	1.85	2.00	2.02
10. The support of the community in the undertakings of the <i>Lupon</i> relative to the implementation of the <i>Katarungang Pambarangay</i> ?	2.94	1.84	2.37	2.76
11. The preference of using the traditional practices rather than the formal law in the settlement of disputes?	2.56	2.41	2.49	2.50
12. The non-appearance of parties before dispute hearings?	2.16	2.15	2.14	2.15
13. The lack of confidence of some <i>lupon</i> members sitting as panels?	2.00	2.01	2.20	2.06
14. The lack of formal schooling among <i>lupon</i> members?	2.56	1.95	2.11	2.29
15. The unfamiliarity and or non-mastery of some <i>lupon</i> members of their roles as negotiators?	2.89	2.95	2.46	2.79
16. The case that some <i>lupon</i> members stick to unacceptable traditional norms, refusing to apply existing laws?	2.00	2.11	2.03	2.03
Over all mean	2.41	2.37	2.30	2.37
F-com: 0.589 F-tab: 3.21 α : 0.05 Decision: Accept Ho				

LEGEND: A. Barangay Officials B. Party to disputes C. Witness to Disputes D. Mean (A, B, & C)

Table 4 presents the perceived problems encountered in the implementation of the *Katarungang Pambarangay*. It is evidenced by the area mean 2.37.

It is also noticed that the problems encountered that are: 1) The lack of formal schooling among *Lupon* members; 2) Support of the community in the undertakings of the *Lupon*; 3) The trainings/seminars for the *Lupon* members conducted by concerned agencies; 4) The length of time for the resolution of conflicts of disputes; 5) The sufficiency of honoraria given to *Lupon* members to motivate and encourage membership; and 6) The preference of using the traditional practices rather than the mandate in the settlement of disputes. These imply further that financial considerations pose very serious degree of seriousness in the implementation of the *Lupon*. Consequently, formal trainings of the *Lupon* membership and the preference of traditional practices for settlement processes likewise are perceived very serious. These sometimes create disparity and differences in decisions for settlement of disputes.

Decisions for disputes may vary in the sense that *Lupon* membership are influenced by the existing customary and traditional practices for dispute settlements. Influence of the elders especially among the Cordillereans is still very strong, thus this could influence settlement decisions for disputes in the community. This is affirmed by the study of Manayao(2001) that the problems perceived in the implementation of the *Katarungang Pambarangay* Law in Ifugao. Which are similar in Bauko, such as: non-cooperation or diversity of ideas among *lupon* members, Decisions for disputes vary in the sense that *lupon* membership are mostly influenced by the existing customary and traditional practices for dispute settlements in the municipality

In this regard, she posited the following: 1) The Department of Interior and Local Government should further orient the constituents and Barangay officials on the methods used in settling disputes under the *Katarungang Pambarangay* Law; 2) The Department of Interior and Local Government and other concerned agencies should continuously update the concerned constituents and Barangay officials on the proper implementation of the settlement methods used. The implementation of the *Katarungang Pambarangay* is serious as perceived by the communities of Bauko, Mountain Province. Such findings were also affirmed by Alangwawi (1997) in his study that most of the *Barangay Lupon* secretaries and *Lupon* members in the City of Baguio lack the proper skills in preparing the required forms of amicably settled disputes or that they lack knowledge of the system of amicable settlements.

Sacla (2004) states that a serious deficiency of the system is lack of training in procedure and mediation skills. One's responsibility in the community is not always a guarantee that his procedure and mediation skills are absolutely effective. While *Lupon* members may have the best intentions in settling a particular dispute, the lack of knowledge of legal procedures may result in the non-observance of the prescribed procedure. This is dangerous as it may amount to a violation of a person's right to due process. The *Katarungang Pambarangay* of Bauko, Mountain Province as mandated by the Presidential Decree 1508, similarly to other communities of the Philippines –its objectives, policies, and implementing guidelines be properly understood to establish its effectiveness and efficiency for its regulated and mandated purposes.

In the results of the analysis of variance, the computed F-ratio of 0.589 is less than the tabled F-ratio of 3.21, thus the null hypothesis is accepted. Therefore, there are no significant differences on the degree of seriousness of problems encountered in the implementation of the *Katarungang Pambarangay* when the respondents are grouped.

CONCLUSIONS

In light of the findings derived from the study, the following conclusions were deduced:

1. The level of awareness of the respondents on the *Katarungang Pambarangay* in Bauko, Mountain Province was much aware. Corollary to this, the variable on group did not significantly vary the level of awareness of the respondents on the *Katarungang Pambarangay* in Bauko, Mountain Province.

2. The perceived level of implementation of the *Katarungang Pambarangay* was much implemented. There were no significant differences on the perceived level of implementation of the *Katarungang Pambarangay* considering group.

3. The perceived level of performance of the *Lupong Tagapamayapa* in the observance of procedural activities in the settlement of disputes by the respondents was very satisfactory. Group of the respondents did not significantly vary their perceived level of performance of the *Lupong Tagapamayapa* in the observance of the procedural activities in the settlement of disputes in the barangays of Bauko, Mountain Province.

4. The respondents perceived that there are problems encountered in the implementation of the *Katarungang Pambarangay*. There were no significant differences on the problems encountered in the implementation of the *Katarungang Pambarangay* considering the different groups.

RECOMMENDATIONS

After a careful review of the findings and analysis of data, these recommendations are presented:

1. The different pillars of the *Katarungang Pambarangay* should maintain and improve organizational personnel specifying their roles and responsibilities in the system; undergo legal education so they can discharge their duties well.

2. *Lupons* should maintain their adherence to the basic requirements of Republic Act 7160 particularly on their qualifications but not to exclude age-old traditions and customary beliefs.

3. Continuous and intensified information dissemination on the basics of the Law on dispute settlements to arouse peoples' consciousness on the intentions, objectives of the law – triggering and motivating them to realize its importance and render civic duty.

4. There should be more and immediate financial support for the *Katarungang Pambarangay* operations and for the community.

5. In-service trainings for the *Lupon* should continue with emphasis on legal procedures and decision making for settlement of disputes.

6. Similar studies may be conducted in other areas with similar Justice system in order to find if similar problems exist.

7. Lastly, the Department of Interior and Local Government should look into the improvement of dispute settlements and the updating of existing system's policies that affect the *Lupons'* existence and roles for the community.

REFERENCES

- Abletez, Jose P. (1996). Katarungang Pambarangay Mediator's Manual. Manila: ROMOCO Publishing House
- Alangwawi, Jose C. (1993). Barangay Justice: Factors Affecting the Settlement of Cases in Baguio City. Master's Thesis. Saint Louis University, Baguio City
- Carino, Maritess M. (2001). The Katarungang Pambarangay Law: Its Implementation in Sadanga. Master's thesis. Mountain Province State Polytechnic College, Bontoc, Mt. Province
- Jardiniano, Pascual F. (1993). Barangay Administration Handbook, 2nd ed. Manila: Mary Jo Educational Supply
- Macalingay, Lyn. (1999). State-of-the-art of the Katarungang Pambarangay Law in Besao, Mountain Province. Master's thesis. University of Baguio, Baguio City
- Monayao, Myrna B. (1998). The Implementation of the Katarungang Pambarangay Law in Lagawe, Ifugao. Master's Thesis. Baguio Central University, Baguio City
- Sacla, Sunny G. (2005). State-of-the-Art of Barangay Justice System of La Trinidad, Benguet. Master's thesis. University of Baguio, Baguio City
- (1995). UNESCO and Culture of Peace. TEBTEBBA Foundation, Baguio City
- (2006). UN Declaration on the Rights of Indigenous Peoples and Programme of the second International Decade of the World's Indigenous People TEBTEBBA Foundation, Baguio City

NIPA INDUSTRY: TOWARDS SUSTAINABLE INVESTMENT AND DEVELOPMENT OPTIONS

MA. DOROTHEE J. VILLARRUZ, Ed.D.
Assistant Professor I
Capiz State University - Roxas City Main Campus
Capiz, Philippines

ABSTRACT

The nipa industry has important contribution to the socio-economic growth in the communities involved. The study was conceptualized to assess the industry towards the crafting of sustainable investment and development options. Mixed methods of research were used, whereby, the grounded theory method was specifically used as the approach in determining the required conceptual framework anchored on the theories of Systems Management and the New Time Theory, to explain the phenomenon in the Nipa Industry. The study determined the timelines to draw the status of the industry; and benchmarked with the best practices of nipa-related industries apart from the traditional nipa thatching for shingles; the study established that the industry is more than a century industry; production processes as old as its history with markets that had remained unchanged but challenged by technology and new nipa-based products. The status of the industry, hopeful as it benchmarked with other nipa industries in the country and in Southeast Asian region, is a promise of its future.

Keywords-sustainable investment; nipa industry; development options; benchmark; thatched; nipa shingles

INTRODUCTION

Nipa is among the minor forest products with great potential for commercial use. In the Philippines, Malaysia, Indonesia and Thailand, the fabrication of thatching panels, called locally 'shingles', 'pawid', 'pawod' or 'atap', is a significant local source of income. In Capiz, particularly in the Municipality Panay and its barangays, nipa is primarily utilized in the production of thatches, which locals commonly call "pawod" for roofing and distributed within the island and region. The industry established its antiquity as a century-old local industry which dated back as early as 1910.

In other parts of the country, like Bulacan, nipa is the primary source of raw material in the production of their famous Paombong vinegar, sasa syrup and sugar. The importance of the industry for its potential contribution to the socio-economic growth of the communities involved was instrumental to the conduct of this study, conceptualized to assess the status of the local industry towards determining its future as basis in crafting of indigenous solutions, strategies, and sustainable investment and development options benchmarking on the industry experiences in the region.

This study anchored on the theories and principles of the New Time Theory of Dr. Bradford Skow, Lean Six Sigma Tool pioneered by the Jack Welch of the General Electric Company, and the General Systems Theory of originally proposed by biologist Ludwig von Bertalanffy and the Management Theory popularized by Peter Drucker, Principles of Marketing and Management.

This study evolved around the context of sustainability of an agriculture system in production and investment along with community-based industry concept. The New time Theory. Dr. Bradford Skow, A Massachusetts Institute of Technology professor of philosophy which claims that time does not move forward, but rather, everything in time is ever-present. It posits that the past, present and future all exist together whereby, the present and the future are explained by the past [1].

The New Time Theory was considered to explain the status of the current nipa industry in the Municipality of Panay by what it was in the longest time, thus justifies the need to study the past of the industry and as to where it is now and where it would likely be in the future.

The concept of Lean Six Sigma was necessary in benchmarking the nipa industry. According to the Michael George, it is today's leading technique to maximize production efficiency and maintain control over each step in managerial process, to include production [2]. A lean Six Sigma methodology combines Lean as a process of continual improvement based on increasing value for the customer eliminating waste and streamlining the process of delivering the product or service. On the other hand, Six Sigma is a quantitative method that focuses on improving quality in manufacturing using data collection and measurement, with the goal being to eliminate errors and variation.

Management Theory of Peter Drucker's point-of-view is about organization as an open-system; management must interact with the environment to gather inputs and return the outputs of production as it recognizes the importance of the organization's relationship with the external environment; organization's objectives encompass both efficiency and effectiveness; organizations contain series of subsystems; that there are many avenues to the same outcome; and synergies exist where the whole is greater than the sum of its parts.

The General Systems Theory explains the socio-economic behavior of the industry. Ludwig von Bertalanffy advanced what he called the general system theory. The theory describes "a whole of elements and in interrelation, connection with one another". Two major tendencies appeared in work: the systems approach used to handle technical problems of production (i.e. biological relationships) and to investigate systems management and control (i.e. mathematical methods applied to economic based decision-making [3].

Anchored on the various selected theories, the research paradigm of this study is shown in Figure 1.

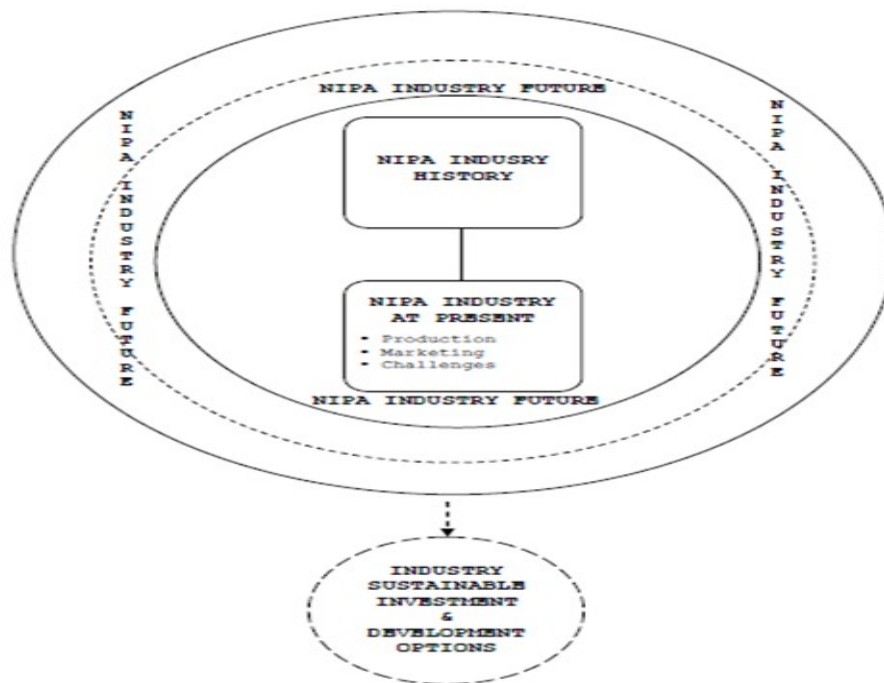


Figure 1. The schematic framework in assessing the status of the nipa industry towards development of future viable investment options.

STATEMENT OF THE PROBLEM

The study assessed the Nipa (*Nypha fruticans wurmb*) industry in Panay, Capiz benchmarking with the industry's experience in the region. Specifically, addressed the following inquiries:

1. What is the status of the Nipa industry in Panay, Capiz in terms production and marketing management?;

2. What are the challenges faced by the industry and its stakeholders?; and
3. What viable and sustainable investment and development options can be adopted benchmarking with the industry in the region?

METHODOLOGY

This research specifically studied the Nipa Industry in the Municipality of Panay, Capiz, its history, status and socio-economic investment options; and benchmarked with other the nipa industries in the Philippines like Bulacan and Surigao del Sur using the mixed methods adopting the grounded theory method and descriptive type of research, both qualitative and quantitative. It included historical and case study along the contextual framework of an agriculture-based industry and the conceptual framework design anchored on the new time and general systems theory.

The subject of the study was the Nipa Industry in the Municipality of Panay; respondents and participants were individuals associated with the industry which included nipa industry operators, workers and nipa weavers and marketing agents. The study had ten (10) key informants interviewed to gather data for the narratology of the history of the industry. Additional insights were drawn from the ten key industry players or nipa traders for a holistic view of the industry's status and future based on their actual accounts as traders or agents/middlemen. Purposive sampling, a non-probability sampling procedure, was used conforming to certain criteria (Schindler, 2006); selection of the respondents was based on the knowledge of the population and the purpose of the study. In addition, random poll sampling was also used, whereby, selection of samples were done on the locale of the study, and until the total sample size were completed.

A researcher-made survey questionnaire validated, reliability tested and translated in the vernacular was used in the study. An interview Guide translated in vernacular was also used for key informant interview. Different statements of the problem required data to be gathered and specific research methods to be used. All results and analysis were crossed with the analysis of results of previous studies and secondary data gathered. Data analysis included descriptive statistics: frequency, ranking and percentages; and benchmarking analysis. In-depth analysis of the nipa industry status was done in the context of business-economics. The industry marketing status was analyzed considering the 5Ps of marketing (Product, Price, Place, People and Promotion); production was evaluated along the different 'Ms' or resources of management; and industry challenges on the results from survey and interviews as perceived by industry players.

Participation of people associated with the nipa industry, surveyed and interviewed were voluntary and were assured that all these were strictly for the use of the study. Identities of participants/responds were treated ethically.

Findings

Key findings of this study were hopeful of a profitable and sustainable future along the time arrow of the industry.

Nipa Industry Status in terms of Production. The processes in production was as old as its history. The status of the industry, spelled out all its strengths-weaknesses-opportunities-threats. There were five major resources available for the industry, namely: skilled workers; abundant raw materials; money for profits and money for livelihood, labor are expression of time or minute; and live experiences of workers translates to workers' skill necessary to the industry as moment. Capiz Provincial Office of the Department of Natural Environment and Resources (the national agency in-charge of the industry), records had shown that the Municipality of Panay and its barangays were the only enlisted source of nipa for permits to transport. Further, records had shown over the last three years (2013-2016) an annual average nipa transported was at 3.8 million shingles per year with listed area of 219.67 hectares which by computation, was only 30 percent of the potential capacity of the industry.

Further, the records had shown to be underreported considering the two operators combined land holdings for plantation was about 450 hectares.

Nipa Industry Status in terms of Marketing. Nipa markets had practically remained unchanged but challenged by new entrants, newer technologies as alternative products are now available to replace or as an option to societies; Pricing was dictated by the middlemen or traders; price had remained low over the last three years.

Markets were Iloilo, Aklan and lately Antique, with Iloilo province as the prime market of the industry. The industry had 'pawod' as the sole product of the industry. Other related product such as vinegar and delicacies were only for personal consumptions. There are twenty major nipa traders along with their respective markets, of which had been in the trade for more than 30 years.

In terms of its marketing, 5Ps of marketing were considered: product, price, people, promotion and place. The product, nipa shingles is strongly backed-up by the abundance of its raw materials; price dynamics of nipa was not influenced by the supply-demand-price mechanisms of a market; pricing of nipa had a unique mechanism unique to the industry; people associated to the industry had remained rural and marginal; markets are available and wider considering the Rough-in-Rough-out infrastructure.

Challenges Faced by the Nipa Industry and its Stakeholders. The industry is challenged by the conversion of agricultural lands to the promise of real estate; shifting away of people from utilizing nipa shingles for house roofing towards the options available in the market and the flourishing product alternatives at a lesser cost in the long run; and the growing markets available and wider considering the Roll-on-Roll-off (RoRo) highway infrastructure. The industry is challenged by the underutilization of the resources. Based on benchmarks on production of mature plantation could produce 51,148 nipa shingles per year per hectare, then nipa industry in Panay, Capiz, Philippines with reported area (219.67 hectares), production capacity of the industry could produce as much as 11.23 million nipa shingles per year. In fact, production capacity could be more considering the understatement of area reported. The nipa industry in the Municipality of Panay, in particular, is challenged by history and culture; laid-back despite the advances in technology; non-interest among the heirs of the industry; the perception of the younger generation of the people associated to the industry that the industry is not promising thus, preferred to migrate for employment than stay in the industry; and next generation's operators are considering the conversion of nipa lands to real estates.

Viable and sustainable investment and development options that could be adopted from benchmarks with nipa-related industries. The future of the industry is hopeful as it benchmarks with the nipa sap/juice processing, vinegar, organic sugar and nipa syrup. Benchmarks from and around Asia is the utilization of nipa seeds for jams and other food products. Prospect for bio-fuel was also identified.

CONCLUSION

The study had indicated the following:

1. The nipa industry is a century old industry.
2. The production processes and management were as old as its history. The industry had shown to be a "family affair", engaging every member of the family to be associated with the industry for various tasks like weaver, harvester, trader or worker.
3. Industry benchmarks with other high earning nipa-related industries have great potential to develop. The promise for the nipa industry must be considered not being at its brink but rather at its breaking through the boundaries of a traditional system and management towards a socio-economically and sustainable industry.
4. Viable options for the industry are nipa sugar and syrup production, vinegar and wine, and other food products; not to replace the existing industry but to augment the current position.

RECOMMENDATION

The century-old Nipa Industry of Panay, Capiz is an institution. It is a true test of how the industry had survived and sustained the industry that locals may take pride and preserve its antiquity. The present status of the industry is both at its brink or at its breaking-through, thus it is recommended that:

1. Nipa operators as key leaders of the industry may begin to think outside the box and explore more options to preserve the industry without compromising the history it had gained;
2. While challenges were many, the industry may consider its vast resources and avail of the good practices of other nipa-related industries; and
3. The viable options for the industry are vinegar and sugar production. Any or both would be socio-economically beneficial to all involved in the industry and continue to live on the lived and rich experiences of the industry.

ACKNOWLEDGMENT

The author thanks the nipa industry-related communities, as the main source of information on history, current status and future directions; and, the school administrators for the resources provided.

REFERENCES

- [1] A Massachusetts Institute of Technology, Is your future already decided? New theory of time suggests that the past, present AND future co-exist in the universe, January 28, 2015 retrieved September 12, 2016 from <http://www.dailymail.co.uk/sciencetech/article-2932870/Is-future-decided-New-theory-time-suggests-past-present-future-exist-universe.html#ixzz4olXnlzIQ>
- [2] George, M.L., Maxey, J., Rowlands, D., & Price, M., (2012). The Lean Six Sigma Pocket Toolkit: A Quick Reference Guide to 100 Tools for Improving process Quality, Speed and Complexity, International Edition, McGraw-Hill Education (Asia).
- [3] Bertalanffy, L. (2003) The General Systems Theory retrieved from https://books.google.com.ph/books?id=G9IovgAACAAJ&dq=general++systems+theory+explains+the+socio-economic+behavior+of+industry+dwig+von&hl=en&sa=X&ved=ahUKEwjX5_jU_rzVAhWGJJQKHauPBQYQ6wEIJTAA

MATHEMATICS INSTRUCTION IN SQUIJOR ISLAND

MARJORIE P.ESLIT

Associate Professor V

Director, Student Personnel Welfare and Services

SQUIJOR STATE COLLEGE

North Poblacion, Larena, Siquijor, Philippines

This study investigates the “Mathematics Instruction in Siquijor Island” among the secondary students in Siquijor. It determines the profile of respondents regarding their age, and sex. It also determines the result of the diagnostic test in Mathematics based on numerical facility; problem solving, quantitative relationships, and data sufficiency. It also looks into the significant relationships between students’ performance in Mathematics and strategies used by the teachers. It also examines the significant differences between students’ performance in Mathematics and strategies used by the teachers. The respondents of the study were complete enumeration of the Mathematics teachers and randomly selected fourth year Mathematics students of the secondary schools in Larena, District, who were officially enrolled the school year 2014-2015. Questionnaire and descriptive survey method were used in this research. The statistical tools used in this study were percentage, weighted mean, chi-square, and t-test. The findings of this study show that most of the students were females and in their appropriate age for fourth year. The performance level of the students did not meet the passing rate. This implies that students were moderately deficient due to lack of basic knowledge and skills. Findings also show that the students’ performance was not affected by the frequency of teachers using different strategies. The study also reveals that there is no significant relationship between students’ performance and strategies used by the teachers. All mathematics teachers should give diagnostic test to the students to determine their strengths and weaknesses in the subject. In this way, teachers can conduct some tutorial session for those students who will be found deficient. Mathematics teachers are encouraged to utilize approaches, methods and strategies and to use devices that would keep and maintain the attention of the students especially during discussion.

Keywords: Mathematics Instruction, Numerical Facility, Problem Solving, Quantitative Relationships, and Data Sufficiency

INTRODUCTION

Mathematics plays a vital role in the lives of men. Sufficient, competence and development of power in the quantitative thinking and the use of mathematical procedures in everyday living are needed. It is a subject that can even be applied by housekeepers in their daily household chores, the merchants in inventory planning, statisticians in informing and predicting new reports, businessmen in scheduling the production and distribution of their products, the biologist in studying of some branches of biology like genetics and to the scientists caring out researches and experimental studies. Mathematics is always present throughout life. It has been said that in an increasingly world, the average person is confronted with the need to utilize the principles in mathematics daily.

The quality of Mathematics instruction is an influence on how the students learn, how will they learn the subject, and how to apply what is learned. Teachers play a very significant role to improve Mathematics instruction; notwithstanding the mathematical background of the students, their attitudes toward mathematics and the influence that the society and economy attribute. Although there are other intervening factors that contribute to the performance of the students in Mathematics: yet, the researcher believes that the individual readiness of students should be determined.

Learning mathematics involves several factors. For example, one has to consider the characteristics of the learners, their mental maturity, intellectual abilities, and effective characteristics among others. As one of the most useful and fascinating branches of human knowledge, the human capacity to think is greatly increased and sharpened. It helps people pursue important areas of study and solve intricate problems and puzzles. It gives students an insight into the how and whys of problems, operations and others. The students are natural curiosity and inquisitives will lead them to discover some meanings behind what they are doing if the teacher guides them in the right direction. As the students advance in their mathematics work, they should progress independently, explore and discover number relations, operations and problems.

The quality of Mathematics instruction is an influence on how the students learn, how will they learn the subject, and how to apply what is learned. Teachers play a very significant role to improve Mathematics instruction; not with-standing the mathematical background of the students, their attitudes toward mathematics and the influence that the society and economy attribute. Although there are other intervening factors that contribute to the performance of the students in Mathematics: yet, the researcher believes that the individual readiness of students should be determined.

Learning mathematics involves several factors. For example, one has to consider the characteristics of the learners, their mental maturity, intellectual abilities, and effective characteristics among others. As one of the most useful and fascinating branches of human knowledge, the human capacity to think is greatly increased and sharpened. It helps people pursue important areas of study and solve intricate problems and puzzles. It gives students an insight into the how and whys of problems, operations and others. The students are natural curiosity and inquisitives will lead them to discover some meanings behind what they are doing if the teacher guides them in the right direction. As the students advance in their mathematics work, they should progress independently, explore and discover number relations, operations and problems.

Knowledge and skills in mathematics are not easily learned for acquired. Therefore, it must be opened to anybody who aspires to possess them to be applied in daily life situations. It is commonly commented by majority of the students as the most difficult subject. For the reason, preventive measures must be implemented to break the barrier present in the minds of the students. One of the measures is to improve learning is to assess the factors associated with the students' performance in mathematics through constant and persistent guidance of a dedicated teacher.

Knowledge and skills in mathematics are not easily learned for acquired. Therefore, it must be opened to anybody who aspires to possess them to be applied in daily life situations. It is commonly commented by majority of the students as the most difficult subject. For the reason, preventive measures must be implemented to break the barrier present in the minds of the students. One of the measures to improve learning is to assess the factors associated with the students' performance in mathematics through constant and persistent guidance of a dedicated teacher.

The researcher being a Mathematics teacher in Siquijor State College for fourteen years claimed that many students can solve and understand only simple mathematics. Teachers decry the inability of these students to solve word and complicated problems, to analyze the problem in a clear, orderly fashion, and to interpret what they are solving. Every year the college welcomes to its campus students who come from varied experiential backgrounds. They come from different high schools that have different standards of learning. These students come to enroll without the adequate preparation to the demands of college work. It is for these reasons that the researcher feels the need to conduct this research in the secondary schools of District of Larena, Siquijor to delve on the Mathematics teachers' teaching practices in order to come up with an enhancement measures based on the students' performance in Mathematics IV in its instructions considering their weak points so that learning can be improved and be more meaningful.

Statement of the Problem. The main focus of this study was to assess the Mathematics IV instruction in the four selected secondary schools of Larena District, Siquijor, school year 2014-2015.

STATEMENT OF THE PROBLEMS

The study was further directed towards answering the following specific problems:

1. What is the profile of the respondents in terms of:
 - 1.1. Students
 - 1.1.1. age; and
 - 1.2.2. sex?
2. What is the result of the diagnostic test in Mathematics IV based on the following skills;
 - 2.1. numerical facility;
 - 2.2. problem solving;
 - 2.3. quantitative relationships; and
 - 2.4. data sufficiency?
3. What is the status of the Mathematics instruction in terms of the following:
 - 3.1 Strategies and their frequency of use;

4. Is there a significant degree of relationship between students’ performance in Mathematics IV and the strategies use?

Design

To achieve the objectives of this study, the researcher utilized the descriptive type of survey using the researcher –made questionnaire as the main tool.

A diagnostic test was conducted by the researcher to determine the performance of the students in Mathematics IV using a questionnaire that has been subjected to item analysis for its validity and reliability.

Environment

The locale of this study were the four selected secondary schools of the District of Larena, Siquijor, namely; Basac National High School (BNHS), Enrique Villanueva National High School (EVNHS), Saint Vincent Academy (SVA), and Siquijor State College (SSC).

Respondents

The respondents of this study were a complete enumeration of the Mathematics teachers and the randomly selected fourth year Mathematics IV students of the four identified secondary schools in Larena, District, who were officially enrolled during school year 2014-2015. The fourth year students were chosen because it is in this subject that the learners develop conceptual skills as they relate the figures to numerical data. Being introduced to a more complex Mathematics curriculum compared to Arithmetic and Geometry, they need to have a learning environment and develop their appreciation on the value of mathematics instead of developing mathematics anxiety.

Table 1. Distribution of Respondents

Respondents	Teachers	Students	Total
School A	2	28	30
School B	4	70	74
School C	3	61	64
School D	2	22	24
Grand Total	11	181	192

Instruments

The instrument of this study was the teacher-made questionnaire. The questionnaire intends to gather information about the profile of the Mathematics IV students and their performance on the results of the diagnostic test, the profile of the Mathematics teachers and the status of the Mathematics instruction in Mathematics IV in public secondary schools, Larena, District.

Likert- Scale form was used to measure the frequency of the strategies used and the practices employed in teaching and learning process, and the needs in mathematics instruction.

Legend:

- 1.0 – 1.74 = N, Never
- 1.8 – 2.49 = Se, Seldom
- 2.50 – 3.24 = So, Sometimes
- 3.3 – 4.00 = A, Always
- wv – weight value
- wm – weighted mean
- descriptive value
- F – frequency

To determine the performance of the students, a diagnostic test was prepared which includes the four aspects to test the skills of the fourth year students taking Advanced Algebra (Mathematics IV). The aspects are the following, fifteen (15) items for the numerical facility, ten (10) items for problem solving, fifteen (15) items for quantitative relationships, and ten (10) items for data sufficiency for a total of fifty (50) items. The test was prepared using the desired learning competencies whose items were based on table of specification. Item analysis was conducted in determining the level of difficulty and index of discrimination of the test items.

Procedure on Validity and Reliability Testing

To determine the functional validity of the research instrument, a dry run was administered to the fourth year mathematics teachers and students of the laboratory high school of Siquijor State College where the researcher is presently employed so she can personally facilitate the distribution and retrieval of the questionnaires. Should there be items that the respondents deemed to be needing re-statement or revision, these should be acted accordingly to ensure that the actual respondents of the study can understand the items in the questionnaire and to ensure that the research data gathered was valid.

Data-Gathering Procedure

The sequence of the conduct of the study was divided into three phases:

Preparation phase. Permission to administer the questionnaire to the respondents was sought by the researcher from the principals of the schools and in the case of Siquijor State College, the dean of the College of Education. Once the approval was granted, the researcher proceeded with her data collection.

Gathering the data. Before the actual administration of the instrument, the researcher provided an overview on the purpose of the study to the teachers and students. The researcher also explained to the respondents the items in the questionnaire and the reason for conducting the study. After the brief overview of about ten minutes, the researcher proceeded with the explanation of the items in the questionnaire to ensure that the respondents followed the instruction properly and the respondents were given a chance to clarify terms in the questionnaire and to unlock difficulties that they encountered in the process.

Results and Discussion

On the Profile of the Respondents

The data on the frequency and percentage distribution of the male and female students are as follows. It manifested hundred forty-one (77.90 percent) of the one hundred eighty-one students were 15-16 years old; thirty-four (18.78 percent), 17-18 years old; five (2.76 percent), 19-20 years old; and one (0.55 percent) student 21 and above year old. Majority of the students were on their appropriate age for fourth year high school. Of the hundred eighty-one students, eighty-five (46.96 percent) were male students and ninety-six (53.04 percent) were females. There were more female students than the males in the fourth year level.

Items	F	%	R
1. Age (years)			
12 and below	0	0.00	5.5
13-14	0	0.00	5.5
15-16	141	77.90	1
17-18	34	18.78	2
19-20	5	2.76	3
21 and above	1	0.55	4
2. Sex			
Male	85	46.96	2
Female	96	53.04	1

Students' Performance

The performance of the students in mathematics IV based on the results of the teacher made diagnostic test. The test measures the performance of the students on the four sub-tests namely; numerical facility, problem solving, quantitative relationships, and data sufficiency. Problem solving ranked first with a mean, standard deviation and performance level of 7.87, 2.2087 and 78.73% respectively. This was followed by numerical facility with a mean, standard deviation and performance level of 11.71, 2.6515, and 78.05%. Ranked third was quantitative relationship with a mean, standard deviation and performance level of 10.46, 3.1331 and 69.72% respectively. On the other hand, ranked fourth or the least developed skill was the data sufficiency which has a mean of 4.24, standard deviation of 2.3773 and proficiency level of 42.43%. of the four skills, problem solving and numerical facility were above 75% performance level while quantitative relationships and data sufficiency were below 75% performance level.

It was found out that the performance level of the students in numerical facility and problem solving surpassed the cut-off of 75% performance level as the passing rate. However, the quantitative relationships and data sufficiency did not reach the passing rate. The students were very low in these two areas. Something should be done by the teachers to upgrade their skills on this matter.

Skills	Numerical Facility	Problem Solving	Quantitative Relationships	Data Sufficiency	Total
Sum	2119	1425	1893	768	6205
Mean	11.71	7.87	10.46	4.24	34.28
Standard Deviation	2.6515	2.2087	3.1331	2.3773	8.4763
Performance Level	78.05	78.73	69.72	42.43	68.56
Rank	2	1	3	4	

The total score of the students were expressed in performance level and they were group as presented in Table 4 as follows:

As reflected in Table 4, there were seventy-six (41.99 percent) students with a passing rate of 75% and above. Of which seven (3.88 percent) were grouped as high; and sixty-nine (38.12 percent) as above average. Seventy-nine (43.65 percent) of the students were grouped as average with a performance level of 50%-74%; twenty-one (11.60 percent), students were grouped as below average; and five (2.76 percent) students were grouped as poor. The data revealed that less than 50% of the students reached the passing rate.

Description (PL)	Performance Level (PL), %	Frequency	Percentage	Rank
Passing	75 and above	76	41.99	
-High	90-100	7	3.88	4
-Above Average	75-89	69	38.12	2
-Average	50-74	79	43.65	1
-Below Average	25-49	21	11.60	3
-Poor	0-24	5	2.76	5
Average PL	68.56	181	100.00	6

Legend: PL = Performance Level

Status of Mathematics Instruction

Frequency of using different teaching strategies. Table 5 records the frequency of using different teaching strategies. It can be gleaned from the table that there were strategies which the students agreed in their perceptions; and there were also strategies which they differ in their perceptions as to frequency of using varied teaching strategies.

As perceived by the students, the following strategies were found out to be used by the teachers as Always. These were: lecture-discussion and problem solving with a weighted mean of 3.86 and 3.52 respectively. While those perceived to be used Sometimes_were the cooperative group work exercises, 3.25; mental arithmetic, 3.08; deductive, 2.96; and drill with a weighted mean of 2.54. Strategies which are Seldom used were peer tutoring, 2.48; inductive, 2.45; group investigations, 2.39; jigsaw-games, 2.02. Field trip, with a weighted mean of 1.45 was confirmed by the student-respondents as Never used strategy by the teachers in all secondary schools in Larena District, Siquijor.

The composite mean is 2.73 revealed that the strategies in teaching Mathematics as perceived by the students was rated Sometimes which means the teachers were using the strategies irregularly.

Items	A 4		So 3		Se 2		N 1		N	WM	D V	R	
	F	WV	F	WV	F	WV	F	WV					
1	Cooperative group work exercise	68	27 2	92	276	19	38	2	2	181	3.25	So	3
2	Deductive	71	28 4	55	165	32	64	23	23	181	2.96	So	5
3	Drill	39	15 6	52	156	57	114	33	33	181	2.54	So	6
4	Field Trip	7	28	11	33	38	76	125	125	181	1.45	N	11
5	Group Investigations	18	72	71	213	55	110	37	37	181	2.39	Se	9
6	Inductive	25	10 0	72	216	43	86	41	41	181	2.45	Se	8
7	Jigsaw/ games	11	44	49	147	53	106	68	68	181	2.02	Se	10
8	Lecture-discussion	16 3	65 2	13	39	3	6	2	2	181	3.86	A	1
9	Mental arithmetic	60	24 0	85	255	26	52	10	10	181	3.08	So	4
10	Peer tutoring	22	88	81	243	40	80	38	38	181	2.48	Se	7
11	Problem solving	11 2	44 8	59	177	3	6	7	7	181	3.52	A	2
	Composite Mean										2.73	So	

On the Relationship Between the Students' Performance in Mathematics and the Strategies Used by the Teachers

Since the computed χ^2 value of 8.492 is greater than the critical value of 5.991, there is a significant relationship between the students' performance in mathematics and the strategies used by the teachers. Thus based on the data, the students' performance in mathematics is a variable that is dependent on the strategies used by the teachers.

The t-test at $\alpha = 5\%$ within df of 12 the computed t-value at 1.223 is greater than the critical t-value at 1.782. The null hypothesis is rejected. There is a significant difference between the students' performance in mathematics and the strategies used by the teachers. This result implies that the acquired knowledge by the students is dependent on the methods used by the teachers.

CONCLUSIONS

Anchored on the aforementioned findings, the following conclusions were arrived at:

1. Most of the students were females and in their appropriate age for fourth year high school.
2. Numerical Facility and Problem Solving were the skills whose students' performance level reached the passing marked of 75% while Qualitative Relationship and data Sufficiency did not reach the passing performance level. In general, the performance level of the students did not meet the passing rate.. This implies that students were moderately deficient due to the lack of basic knowledge and skills. In as much as these students did not achieve the expected performance level, it can be deduced that they have weak foundation in the preparatory level. They lacked mastery on the Mathematics subject. Therefore, there is a need to enhance their mathematical ability to enable them to learn higher Mathematics and prepare themselves in the tertiary level.
3. Mathematics teachers frequently used Lecture-Discussions and Problem solving which are considered as the traditional way of teaching mathematics. Although they made used of the new approaches that enhance students' interest; yet, these approaches were less employed in the classroom activities.
4. The students' performance was not affected by the frequency of teachers using the different strategies. It pointed out that the frequency of using varied strategies by the teachers was not a contributing factor in their low performance. It is on how intense and how well the strategies are used by the teachers. New approaches and techniques to facilitate easy learning is not given emphasis.
5. It was established that there was no significant degree of relationship between students' performance and the practices employed in teaching and learning mathematics. It did not follow that because the students' performance was low and the teaching and learning process were slightly practiced. This displayed a sign that the teachers should realize that it was their responsibility to provide optimum learning to the students and also to the parents and students themselves.

RECOMMENDATIONS

Based on the foregoing conclusions, the following recommendations are offered:

1. At the start of the school year, all mathematics teachers should give diagnostic test to the students to determine their strengths and weaknesses in the subject. In this way, teachers can conduct some tutorial session for those students who will be found deficient. Administration should give merits to those teachers who will conduct tutorial session for them to be motivated.
2. A major point to consider in the presentation of lesson in quantitative relationships and data sufficiency is to make examples simple and clear for the students to understand and for them to find Mathematics easy and useful.
3. There is a need to employ relevant real-life or situational problems, applications and colorful visual aids in teaching in order to motivate students and to be aware that Mathematics is a tool subject, as such mathematical concepts and skills are useful.
4. Mathematics teachers are encouraged to utilize approaches, methods and strategies and to use devices that would keep and maintain the attention of the students especially during discussion. Proper group work activities must be adapted to develop independence in learning. Let them learn by doing.
5. Workbooks or exercises should be updated to keep abreast with the new trends in Mathematics teaching. Besides, more exercises in Mathematics should be provided in the classroom especially on items where they find most difficult.

ACKNOWLEDGMENT

The researcher deeply expresses with sincere appreciation and gratitude for all the support and assistance extended to her in making this endeavor a success and a reality to her beloved husband Edgar and to her two kids French Karl and Karl Lawrence. Above all, to God Almighty, the source of the researcher's wisdom and strength that enabled her to sustain despite all the odds and predicaments she encountered along the way of achieving this dream.

REFERENCES

- Biryukov, P. (2004). *Metacognitive Aspects of Solving Combinatorics Problems*. Retrieved on March 24, 2012 from <http://goo.gl/GKvyDB>
- Boud, D. (2001). *Using Journal Writing To Enhance Reflective Practice. New Directions for Adult and Continuing Education*. Retrieved on August 8, 2008 from <http://goo.gl/RolKqf>
- Brown, A. (1987). *Metacognition, Executive Control, Self-Regulation, and Other More Mysterious Mechanisms. Metacognition, Motivation, and Understanding*. Retrieved on September 5, 2002 from <http://goo.gl/ngYkXb>
- Cavanagh, S. (2007). *Understanding Math Anxiety Education Week*. http://www.teachermagazine.org/tm/articles/2007/02/21/ew_math.html?
- Chickering and Ehrmann. "Implementing the Seven Principles: "Technology as Lever". <http://www.Aache.org/technology/ehrmann.htm>
- Demoni, Ma. Daisy A. Demoni (2007). *Filipino Students Bag Medals in Australian Math Tilt SEI Web Info Group*. <http://www.sei.dost.gov.ph/oct2604.html> retrieved on June 5 2007.
- Donnelly, L. (2007) *Taking Anxiety Out of the Equation*. http://www.teachermagazine.org/tm/articles/2007/05/01/06math.h18.html?qs=math+anxiety+math_anxiety+math accessed on June 17, 2007.
- Flavel, J. H. (1976). *Metacognitive Aspects of Problem Solving. The Nature of Intelligence*. Retrieved on April 14, 2010 from <http://goo.gl/Ozhp2T>
- Garofalo, J., & Lester Jr., F. K. (1985). *Metacognition, Cognitive Monitoring, and Mathematical Performance. Journal for Research in Mathematics Education*. Retrieved on January 29, 2013 from <http://goo.gl/flyrse>
- Gourgey, A. F. (1998). *Metacognition in Basic Skills Instruction. Instructional Science*. Retrieved on May 5, 2001 from <http://goo.gl/UlqMAV>
- Johnson, D. (2003) <http://www.humboldt.edu/~dlj1mathLitRev.doc> accessed on June 8, 2007
- Maqsd, M. (1998). *Effects of Metacognitive Instruction on Mathematics Achievement and Attitude Towards Mathematics of Low Mathematics Achievers*. Retrieved on October 7, 2012 from <http://goo.gl/EV5NOR>
- Ponnusamy, R. (2006). *The Impact of Metacognition and Problem Solving Strategies Among Low Achievers in History*. Retrieved on August 11, 2014 from <http://goo.gl/KIAPWK>
- Schoenfeld, A. H. (1987). *What's All the Focus about Metacognition. Cognitive Science and Mathematics Education*. Retrieved on May 3, 2013 from <http://goo.gl/jQ2quJ>
- Shaw, K. (2007). *Research Shows Math Anxiety Ends in Poor Test Performance Issue date: 4/30/07 Section: News* <http://media.www.redandblack.com/media/storage/paper871/news/2007/04/30/>
- Steenhuysen, J. (May 31, 2007). *Study Shows Children Good at Approximate Maths*. Retrieved June 2, 2007 from http://news.yahoo.com/s/nm/20070531/od_uknm/oukoe_uk_study_shows_children_good_at_approximate.^{3,4} "Sense of numbers inbuilt, says study". NZ Herald. June 2, 2007. Retrieved June 2, 2007 from http://www.nzherald.co.nz/section/story.cfm?c_id=82&objectid=10443202http://www.smartschools.ph/SmartSchools/News/NewFindingInnateAbilities.htm retrieved on June 5, 2007.

SARI-SARI STORE'S PRACTICES: INPUT TO AN ACCOUNTING SYSTEM

MARVELIN D. DOCE
RODELYN M. DELA PEÑA
ANGELICA D. FANUGON,
CHRISTIAN JOHN R. GASPAR
College of Management
Capiz State University – Main Campus
Roxas City, Capiz, Philippines

ABSTRACT

No business could sustain operation without the knowledge of its costs, earnings, and profits. This baseline and developmental study investigated the existing organizational and functional structures and the existing accounting practices of selected three sari-sari stores in Barangay Lawa-an, Roxas City. The accounting practices in terms of sales and receipts process, and purchases and disbursements process were evaluated based on accounting standards and BIR regulations applicable for merchandising business. The descriptive -case study method of qualitative research design was used and a researcher-made interview guide subjected to content and face validity was used to gather data. Findings revealed that these sari-sari stores had no existing functional and organizational structures and did not have appropriate accounting systems. Their only business document was a temporary sales invoice issued to the customers and a temporary pro-forma record like a notebook used to record transactions. There were no proper processes observed in sales and receipts, likewise in purchases and disbursements. Internal control across the three samples were also weak. The translational research of this study was the development of an accounting system for a sari-sari store set-up compliant of Bureau of Internal Revenue requirements to enhance their existing organizational and functional effectiveness and sustainability.

Keywords-accounting; accounting practices; accounting system; internal control, sari-sari store

INTRODUCTION

Accounting is essential in the world of business. It is the system that measures business activities, processes that information into reports and communicates the results to decision-makers. Accounting quantifies business communication. For this reason, accounting is called the language of business [2]. Furthermore, Ballada and Ballada (2014), state that no business could operate very long without knowing how much it was earning and how it was spending. Accounting provides the business with this information and more. Without accounting, a business could not function optimally; it would not know where it stands financially, whether it is making profit or not, and it would not know its financial situation. Personal financial planning, education expenses, car amortization, business loans, income taxes, and investments are based on the information system we call accounting.

Thus, an accounting system is essential and beneficial for business' success. Small or big business institutions need an appropriate accounting system. Even a simple sari-sari store that sells the basic necessities of a household needs a correct procedure in their daily operation. Sari-sari stores are often categorized as part of the micro enterprises and are considered informally as part of the "underground economy" due to its small business size and are not usually registered with appropriate government agencies. Usually, a sari-sari store is a constant feature of residential neighborhoods in the Philippines both in rural and urban areas, proliferating even in the poorest squatter communities. It is part and parcel of daily life for the average Filipino. About ninety-three percent (93%) of all sari-sari stores nationwide are located in residential areas and are typically operated from a portion of the owner's house [3].

Despite the popularity of sari-sari stores, there are still some that don't last long. Majority of small business owners of sari-sari store do not usually have a set of guidelines in accounting the business' assets, liabilities, equity, expense, and revenue. Money earned from the business is not properly accounted. Instead, they are combined with personal resources of the owners, thus, defeating the purpose of the entity concept. According to Ballada, W. and Ballada, S. (2014), entity concept states that an accounting entity is an organization that stands apart from other organizations and individuals as a separate economic unit. This means that the transactions of the business should be separated from the personal transactions of the proprietors. Transactions of different entities should not be accounted for together.

Furthermore, the granting of credit attracts customers but often gives stress to store owners on how to locate people who are not paying their debts. Chepkemoui (2013) also mentioned that the most probable cause why Small and Medium Enterprises (SMEs) have not performed well is due to lack of or limited bookkeeping. Majority of SMEs fail to complete accounting records as they think there is no need to keep accounting records and that it exposes their financial position (Amoako, 2013). Maseko and Manyani (2011) also attributed it to lack of accounting knowledge and the cost of hiring professional accountants.

However, a good accounting is not the only aspect that will determine the success of the business. Small businesses are known for having weak internal controls. Due to the business scale, human resource, financial and its own conditions, many SMEs under the ownership and franchise's restrictions, unwilling to establish the standard internal control system. They believe that establishing internal control system is a high cost method, which will bring heavy burden to the enterprise and maybe without significant results that cannot be compared with the manager's management of all aspects of the business. According to the survey, the SMEs do not recognize the internal management problem has become a common phenomenon. From the results of survey, only 6.8% of the enterprises think that it is necessary to improve their internal management [8].

Furthermore, Campbell and Hartcher (2013) explained that good internal control is essential regardless of company size, for many valid reasons. Fraud prevention, embezzlement detection, and accurate financials are all reasons to follow good internal control practices.

Hence, this study was conducted to determine the accounting practices of sari-sari stores as basis for the development of accounting system that will help the owner-manager understand and sustain business operation through proper accounting of its day-to-day transactions.

STATEMENT OF THE PROBLEM

The main objective of this study was to determine the accounting practices of sari-sari stores in Barangay, Lawa-an, Roxas City and formulate a proposed accounting system.

Specifically, this sought to answer the following questions:

1. What is the existing organizational and functional structure of the sari-sari stores?
2. What are the accounting practices of the sari-sari stores in terms of the following processes:
 - a. sales and receipts; and
 - b. purchases and disbursements?
3. What input can be drawn to improve the accounting practices of the sari-sari stores?

METHODOLOGY

This study used the descriptive-case study method of qualitative research. Purposive sampling design was used to determine the subject and respondents of the study. A researcher-made interview guide subjected to content and face validity by panel of experts were used in the key-informant interview. The respondents were the proprietors of the three sari-sari stores at Barangay Lawa-an, Roxas City.

A letter of approval was sent to the proprietors. Data gathered were analyzed and interpreted using the analysis process of Powell and Renner (2003) which includes the following steps: get to know the data; focus the analysis; categorized information; identify patterns and connections within and between categories; and interpretation. Data on organizational structure was evaluated using the principles of organization, while the existing accounting practices in terms of business documents, records, process, and internal control were evaluated based on applicable accounting standards and BIR regulations for merchandising business.

FINDINGS

The three sari-sari stores in Barangay Lawa-an operates primarily to provide additional income to sustain their family needs. manager, cashier, bookkeeper, inventory officer, purchaser and disburser.

Existing Organizational and Functional Structure. Findings revealed that there was no existing organizational and functional structure in the three sari-sari stores. However, each sari-sari store has its own way of operating their business. Store A and Store C were both composed of the owner and a sales clerk . The

owner served as the manager of the operation, bookkeeper, purchasing officer, disbursing officer, and inventory officer. The sales clerk served as the cashier and helper of the proprietor. He/she was responsible for accepting payments, making change to customers and recording their daily transactions. Store B was only composed of the proprietor and was responsible for all the operation of the business. She acted as the manager, cashier, bookkeeper, inventory officer, purchaser and disburser.

Accounting Practices of the Sari-Sari Stores. The accounting practices in terms of sales and receipts process showed that the three stores had no proper documents and records in every transaction. They were just using pro-forma records like notebook and any pad paper. In their everyday process, Store A and Store C automatically stored all the cash received in the cash storage and at the end of the day they tallied their total sales. Store B was just counting all the cash received but did not record it. By that, Store B could not determine if they have income or none.

In terms of purchases and disbursements process, Store A and Store C used pro-forma records like notebook in recording purchases and cash disbursements. Store B had no records at all. In the process of purchasing goods, they did not have documents and records in monitoring the level of inventory. They just purchased goods if they were already out of stock and they had the capital to use.

In so far as documentation and record keeping are concerned, they did not find a need for this because it was just a waste of time to sit down and write things regarding the transactions. Most of them thought that what was important is the inflow of cash.

In terms of process, most of them did not find the need to create policies and procedures or just even basic flow charts defining the key business processes which could probably be an effective procedure that can align business objectives and help establish best practice operating procedures.

As to internal control, the recording of sales were not done promptly by the three sari-sari stores. In handling credit files, only Store B and C permitted customers to be in debts in purchasing goods but did not have credit limit. Store C set a maximum limit of one month for debtors to pay for their bills while Store B did not have specific weeks on when the debtor should pay for his debts. In contracts to this, Store A did not allow debtors in her store. Only Store C treats their business as a separate legal entity. It has a separate account for paying the bills related to business and the bills they used at home.

Input to Improve the Accounting Practices of the Sari-Sari stores. An accounting guide for sari-sari stores was developed based on the results of the study. It contained the business forms, records, processes and internal control policies.

CONCLUSION

Based on the results, there was no functional organizational structure. There was a duplication of effort since few people is usually involved as the nature of the business calls for it.

In terms of documentation and record keeping in sales and receipts process and purchases and disbursements process, these three sari-sari stores did not keep complete and proper accounting records. The types of records most maintained by the owners were the sales and disbursement records. Therefore, it would be a threat in the business in a way that the proprietor would be misled in reporting and analyzing the results of the daily transactions, thus, affecting important decisions.

It was also revealed that the owners used an inadequate internal control process. Regardless of the policies and procedures established by an organization, only reasonable assurance may be provided that internal controls are effective and financial information is correct. The effectiveness of internal controls is limited by human judgment. A business will often give high-level personnel the ability to override internal controls for operational efficiency reasons. People working together may act in a manner in which internal controls cannot detect or prevent fraud from occurring.

In the overall analysis, no formal accounting system was used by the sari-sari store owners because they were not aware of the basic accounting knowledge and its importance to the success of the business.

RECOMMENDATION

Based on the conclusions drawn from the study, sari-sari store owners may develop an appropriate organizational and functional structure for small business and to embrace proper accounting practices in order to monitor the financial performance of their businesses. No matter how small it is, there is a need to consider adapting sound accounting practices because chances of business growth and benefits from the government are also at stake. Thus, a need to have an improved accounting system in terms of business documents, records, process, and internal control may be considered in their sales, receipts, purchases and disbursement process.

In business documents and records, business forms and books are proposed such as daily sales log sheet, sales invoice, credit log sheet, accounts receivable ledger, inventory log sheet, order log sheet, daily cash log sheet, cash receipt books, and cash disbursement books.

In terms of process, a proposed sales and receipts process, and purchases and disbursements process were developed.

While in terms of in internal control, the researchers proposed internal control policies and procedure related on how to handle cash receipts and disbursements, grant of credit and collection. Pre-numbered forms and records were also established.

In addition, considering the significant contribution of the sari-sari stores in the retail sector, the government should implement seminars and trainings for sari-sari store owners specifically located in the provinces and educate them about the basic knowledge of proper bookkeeping and formal internal control frameworks in order to address the concern of limited awareness among the owners. Furthermore, the trainings and seminars received should provide practical examples, guidelines and templates that they can use in the operation of their business.

ACKNOWLEDGMENT

The authors thank Dr. Ma. Dorothee J. Villarruz, Prof. Angela D. Besiño and Prof. Ma. Leah J. Moleño for the technical assistance, the school administrators for the resources provided, and the owners of the sari-sari stores for the permission to conduct the study.

REFERENCES

- [1] Amoako, G. (2013). Accounting Practices of SMEs: A Case Study of Kumasi Metropolis in Ghana. *International Journal of Business and Management*, Vol. 8, No. 24.
- [2] Ballada, W. and Ballada, S. (2014). *Basic Accounting; Made Easy*, 2nd Edition, Sampaloc, Manila. Domdane Publishers.
- [3] Bonnin, C. (2004). "Windows to the Market: Exploring Women' Strategies and Supports as Home-based Traders in Metro Manila," MA Thesis, Dalhousie University, Halifax, Nova Scotia, Canada. Retrieved on December 29, 2016 from <http://sunzi.lib.hku.hk/ER/detail/hkul/3516327>.
- [4] Campbell, S. and Hartcher, J. (2013). *Internal Controls for Small Business: A Practical Guide*. Published by CPA, Australia. Retrieved on February 1, 2017 from <http://www.cpaaustralia.com.au>.
- [5] Chepkemoi, J. (2013). Factors Influencing the Financial Sustainability of Selected SMEs in Kenya, *Kenya Economic Review*, 4, 24-29.
- [6] Maseko, N. and Manyani, O. (2011). Accounting practices of SMEs in Zimbabwe: An investigative study of record keeping form performance measurement (A case study of Bndura). *Journal of Accounting and Taxation*, Vol. 3(8), 171-181.
- [7] Powell, E. and Renner, M. (2003). *Analyzing Qualitative Data. Program and Development and Evaluation*. University of Wisconsin-Extension. Cooperative Extension. Madison, Wisconsin. Retrieved on January 31, 2017 from <http://www.uwex.edu/ces/psdande>.
- [8] Yearbook of China SMEs (2013). Retrieved on January 13, 2017 from <http://www.citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1.1.1.1>.

MANAGEMENT OPERATION OF METRO COTABATO WATER DISTRICT, COTABATO CITY, PHILIPPINES

Engr. MHD. FAHEEM M. ALIUDEN, Ph.D.
Project Planning and Development Officer
Planning and Design Division
Engineering and Operation Department
Metro Cotabato Water District, Cotabato City, Philippines

ABSTRACT

The study aimed to evaluate the adequacy and effectiveness of the water service delivery of Metro Cotabato Water District. A descriptive correlation research design was employed in this study using a survey instrument as a tool to be filled up by the concessionaires of MCWD. Data were also collected through interview and documentary analysis. A total of 392 respondents, who are concessionaires of Metro Cotabato Water District, the general manager, two (2) department managers, the chemist, the forester and the water maintenance foreman constituted the study population. Through the Statistical Package for Social Science (SPSS), computations and analysis were done. The ratings of the respondents were analyzed using the weighed means and correlation analysis. The study was conducted last November 2012. The major findings of the study showed that resources of MCWD in the sustainable water service delivery in terms of water source, pumping of water and capacity of water distribution were effective; likewise the management operation of MCWD in the sustainable water service delivery in terms of planning, controlling monitoring and evaluation were effective. Accordingly, there is significant correlation between all the queries stated in the study. Resources have an effect on sustainability of consumers' satisfaction technically and functionally. It is said adequate resources will lead to effective services. Finally, recommended for the Metro Cotabato Water District (MCWD) to sufficient deliver and allocate to each clientele they should: maintain the rehabilitation and protection campaign for Dimapatoy Water Reserve and strengthened the encouragement on the participation of all stakeholders especially concessionaire in its program to promote sustainability.

Keywords: Adequacy, Correlations, Effectiveness, Evident, Sustainability

INTRODUCTION

The Metro Cotabato Water District (MCWD) is mandated to deliver constant, adequate and safe water supply to residents of Cotabato City and parts of Datu Odin Sinsuat and Sultan Kudarat towns in Maguindanao province. Metro Cotabato Water District (MCWD) has instituted its operation on October 12, 1976 after taking over the defunct NAWASA in 1973. Through Board Resolution.

No. 3 dated March 7, 2004, it was renamed Metro Cotabato Water District.

It is the vision of the Metro Cotabato Water District for a water utility responsive and committed to provide adequate and affordable supply of potable water to its concessionaires. It aspires to attain corporate viability, maintain organizational efficiency and pursue technological dynamism and consciousness in environmental protection and to uphold a highly reliable system for the benefit of the populace within its service area.

The management in cooperation with the district's four departments should continuously work on various enhancement programs and technological innovations to fulfill its vision-mission. As a water utility, it should operate systematically and interdependently as one entity. Each department accomplishment must be a contributor for the agency's greater good. Metro Cotabato Water District (MCWD) is continuously working with integrity and excellence for the benefit of customers.

The management must address the problems met in order to provide excellent service to the people of Cotabato City, Sultan Kudarat and Datu Odin Sinsuat Municipalities. Through their well-trained personnel and well structured resources these concerns may possibly cease.

Further, a study on the assessment of its frontline services, it was found out in the areas of Maintenance and Engineering Services immediate responses are required (Badrudin, 2008).

In another study of Farañal (2009), it was also found out that areas and services that needed concern and attention are detection of defective meters, responding to consumers' complaints on time, demand for 24 hours supply of water and good quality of water in all of the agency's service area coverage.

For these reasons, the researcher conducted this study to evaluate the adequacy and level of satisfaction of the concessionaires on the present water service delivery of the district.

The Metro Cotabato Water District mission is to provide adequate and affordable supply of potable water to its concessionaires, attain corporate viability, maintain organizational efficiency and pursue technological dynamism and consciousness in environmental protection, to sustain a highly reliable system for the benefit of all people within its service area (mandate of MCWD).

The purpose of its operation is to acquire, install, improve, maintain and operate water supply and distribution systems for domestic, industrial, municipal and agricultural use for residents and lands within the boundaries (Sec. 5, Chapter II of PD 198).

Koontz et. al. (1994) claimed that human beings have needs, whether consciously or subconsciously felt. There are two accepted service quality models which the Metro Cotabato Water District can make use of. First is the **Gronroos's service quality model**, wherein Gronroos (1984) attempted to understand how the quality of a given service is distinguished by consumers. It divides the consumer's awareness into two dimensions: the technical quality that is what the consumer receives and the technical outcome of the process. The second dimension is functional quality referring to how the consumer receives the technical outcome that Gronroos called the "expressive performance of a service" (Gronroos, 1984).

In another study done by Badrudin (2009) on the Service Delivery of the Metro Cotabato Water District, she found out that there are areas of services that needed attention and concern specifically on the detection of defective meters and in responding to consumers' complaints on time.

Water is one the basic necessities in life, along with food and shelter. It is essential to the survival not only human but also other organisms. Having said that, water must also be clean, safe and adequate (Development Research News, 2011).

STATEMENT OF THE PROBLEMS

The study aimed to evaluate the adequacy and effectiveness of the water service delivery of Metro Cotabato Water District. Specifically, the study sought to answer the following queries:

1. To what extent is the adequacy of resources in the water service delivery of Metro Cotabato Water District (MCWD) in terms of:
 - a. Water source
 - b. Pumping of water
 - c. Capacity of water distribution
2. Prevailing management operation in the water service delivery of Metro Cotabato Water District in terms of:
 - a. Planning
 - b. Controlling
 - c. Monitoring/ Supervision
 - d. Evaluation.
3. The extent is the consumers' satisfaction in the water service delivery of Metro Cotabato Water District in terms of:
 - a. Technical quality
 - a.1. Payment
 - a.2. Concessionaires
 - b. Functional quality
 - b.1. Amount of water services
 - b.2. Water consumable of Metro Cotabato Water District.
4. Is there significant relationship between resources of Metro Cotabato Water District such as: water source, pumping of water and water distribution and consumers' satisfaction such as: payment, concessionaires, amount of water and water consumable?

5. Is there significant relationship between management operation of Metro Cotabato Water District in terms of planning, controlling, monitoring and evaluation and consumers' satisfaction such as: payment, concessionaires, amount of water and water consumable?

METHODOLOGY

A descriptive evaluative method of research was utilized in this study. This method of research is suited in describing the different variables. Survey questionnaire and interview were used as main tools in gathering data in the assessment of the effectiveness of water delivery system of Metro Cotabato Water District (MCWD). The descriptive correlation method was also used to describe the relationship between variables. The researcher conducted the study in Cotabato City where the Metro Cotabato Water District is located.

Cotabato City is about 698.9 nautical miles from the country's capital, Manila. It is bordered by the municipalities of Sultan Kudarat to the north, Kabuntalan to the east, and Datu Odin Sinsuat to the south. It faces Illaña Bay to the west. It has a total land area of 176 square kilometers. It has a population of 163,849 in 2000 and subdivided into thirty seven (37) barangays).

In determining the sample size, Slovin formula was used. The total population of active consumers in Cotabato City is 20,824 as of June 30, 2012 Inventory of Active Consumers. Thus the target sample was 392 as the subject of the study at five (5) percent significance level. Below is the formula of Slovin:

$$n = \frac{N}{1 + N(e)^2}$$

The 20,824 concessionaires were categorized by zone which consists of 18 zones which covers 37 barangays in Cotabato City.

A questionnaire was used in gathering data. It was subjected to validity and reliability tests since it was never been used before. It was pilot- tested to thirty (30) respondents who were not included in the actual conduct of the study.

The split-half method was used in determining its reliability. All of the 66 tested items demonstrated high reliability with a value of 0.89.

The first part of the survey questionnaire presented indicators of resources classified as water source, pumping of water and capacity of water distribution.

The second part of the survey questionnaire provided indicators that described the management operation in terms of controlling, monitoring and evaluation. The third part of the survey questionnaire supplied items that described the consumers' satisfaction such as technical quality in terms of payment and concessionaires; functional quality in terms of amount of water services and water consumable.

Guide questions were used to interview the general manager, department managers, forester, chemist and foreman of the agency. The researcher personally conducted interviews with the concern personnel. Document analysis was also done to essential reading materials related to the study.

Data was processed using the Statistical Package for the Social Science (SPSS). For the descriptive problem in this study, it was analyzed using weighted mean. However, the inferential problem was analyzed using correlation analysis.

A 4-point scale was utilized throughout the four parts of survey questionnaire to rate the following: adequacy and effectiveness of Metro Cotabato Water District (MCWD) water distribution system, management of Metro Cotabato Water District (MCWD) and the quality of consumers' satisfaction

The range of means include from 1.0 - 1.49 described as not adequate, not evident or not satisfactory; 1.50 - 2.49 as less adequate, less evident or less satisfactory; 2.50 - 3.49 as adequate, evident or satisfactory; and 3.50 - 4.0 very adequate, very evident or very satisfactory.

FINDINGS

A. Adequacy and Effectiveness of Water Service Delivery

The findings of the study revealed that resources of MCWD were adequate and effective in delivery of water service in terms of water source, water pumping and water distribution. The finding in the water source as component in the management operation was rated effective, while water pumping and water distribution were rated similarly effective.

1. Resources in terms of Water Source

In this study, the importance of resources was studied as basic in the realization of sustainable water delivery services. Generally, the results of this study on the resources of MCWD in terms of water source are “adequate” as revealed by the overall mean of 3.104 as presented in table 1.

Item 3 got the highest mean of 3.29 interpreted as adequate. It states that water sources are protected. Taking and testing sample of water source (Item 1) got the second highest mean rating of 3.25 interpreted as adequate. Another case in point which has an adequate description is item 4 which states “observes water as natural resource” with a rating mean of 3.22.

These imply that MCWD is responsive and committed to provide adequate and sustainable supply of potable water to its concessionaires. One of its objectives embodied in its corporate short term plan 2012-2014 is to produce additional 12% and 25% annually of the existing production for years 2012 and 2013 respectively, and 27% for year 2014. As to the present status of MCWD, according to Atty. Delfin Hilario, the district has five water sources. These are as follows: Tanuel Spring, located at Datu Odin Sinsuat Municipality, producing an average of 445,000 cu. m. of treated water per month; Dimapatoy River situated at Datu Odin Sinsuat Municipality, producing an average of 250,000 cu. m. of treated water per month; Rebuken Deep Well located at Sultan Kudarat Municipality, producing an average of 58,000 cu. m. of treated water per month; Macaguiling Deep Well No. 1 located at Sultan Kudarat.

Municipality, producing an average of 45,000 cu. m. of treated water per month; Macaguiling Deep Well No. 2 located at Sultan Kudarat Municipality, producing an average of 37,000 cu. m. of treated water per month.

Items	Mean	Description
Takes and test sample of water source	3.25	Adequate
Conducts early survey of other water source for future use.	2.96	Adequate
Water sources are protected.	3.29	Adequate
Observes water as natural resource.	3.22	Adequate
Serves clear odorless and tasteless water supply.	3.00	Adequate
Improves overall health and management of Dimapatoy Critical Watershed Forest Reserve	3.18	Adequate
Ensures that every household is connected to the piped water system.	3.09	Adequate
Gears for water treatment plant for safety of potable water before supplying to concessionaires.	3.19	Adequate
Enough quantity of water supply for everyday needs.	2.88	Adequate
Water source is free from water borne-diseases.	2.98	Adequate
OVERALL	3.10	Adequate

2. Resources in terms of Pumping of Water

The concessionaires rated adequate all the items on resources in terms of pumping of water. These are: item 11 with a mean of 3.03 that refers to reducing water interruptions caused by natural calamity; item 5 that pertains to bringing piped water close to the homes with a mean of 3.00 and item 4 is regarding about the delivery of water at sufficient pressure with a mean of 2.94.

Items 12 and 13 have the same mean of 2.97. Item 13 is about the delivery of 24 hours continuous water service on concessionaire’s line. Item 14 is concerning the delivery of water from treated plant.

The findings show that MCWD’s resources in terms of pumping of water is adequate as made known by the overall mean of 2.93 as shown in table 2. This tells that MCWD is capable of supplying water to its customers even there are interruptions or breakdown in the system. The current strength as far as pumping and distribution of water is concerned; MCWD produces a total of 835,000 cu. m. per month from the pumping stations. But the volume distributed is only 626,250 cu. m. or 75%, due to water losses resulting from system or pipe leaks, water pilferages and illegal connections, which account to 25% non-revenue water.

He further said that all concessionaires are able to receive or consume sufficient water for their daily needs. With total connections of 26,658 as of July 31, 2012 at an average consumption per household of 22.19 cubic meter or total consumption of 591,541 cubic meter., the volume distributed which is 626,250 cubic meter. is enough to supply all concessionaires.

In case of turbid water, the introduction of food grade water treatment compounds shortens the time of service interruption .

Table 2
Mean Values of Resources in Terms of Pumping Of Water
N = 400

Items	Mean	Description
Reduces water interruptions caused by natural calamity.	3.03	Adequate
Delivers water at sufficient pressure.	2.97	Adequate
Delivers 24 hours continuous water service concessionaire’s line.	2.97	Adequate
Delivers water from treated plant.	2.94	Adequate
Brings piped water close to the homes	3.00	Adequate
OVERALL	2.93	Adequate

3. Resources in terms of Capacity of Water Distribution

The results in this study on the resources of Metro Cotabato Water District (MCWD) in terms of capacity of water distribution presented in table 3 revealed the overall mean of 2.92 described as adequate.

Item 20 is about maintaining the rehabilitation and protection campaign for the Dimapatoy Watershed Reserve got the highest mean of 3.11 construed as adequate. Moreover, providing massive campaign for watershed protection and rehabilitation garnered a mean of 3.07 (item 19) while accommodating additional service connection gathered a mean of 3.03 (item 17). The respondents also rated “Adequate” the item numbers (16) distributes water at sufficient pressure, 2.98; (18) avails proper accessibility of water distribution, 2.90; (21) involves users in the planning and implementation of projects, 2.62; (22) coordinates the concerned barangay areas in safeguarding the Metro Cotabato Water District (MCWD) facilities and resources, 2.87; (23) encourages participation of customers in the MCWD programs to promote its sustainability, 2.81.

Based on the result, it could be said that the district is capable of distributing water to its concessionaires.

The findings corroborated with Hilario’s (2012) affirmation that Metro Cotabato Water District (MCWD) produces a total of 835,000 cu. m. per month from the pumping stations. With total connections of 26,658 as of July 31, 2012 at an average consumption per household of 22.19 cu. m. or a total consumption of 591,541 cu. m., the volume distributed which is 626,250 cu. m. is enough to supply its concessionaires.

Table 3
Mean Values of Resources in terms of Capacity of Water Distribution
N =400

Items	Mean	Description
Distributes water at sufficient pressure	2.98	Adequate
Accommodates additional service connection	3.03	Adequate
Avails proper accessibility of water distribution.	2.90	Adequate
Provides massive campaign for watershed protection and rehabilitation.	3.07	Adequate
Maintains the rehabilitation and protection campaign for the Dimapatoy Watershed Reserve.	3.11	Adequate
Involves users in the planning and implementation of projects.	2.62	Adequate
Coordinates the concerned barangay area sin safeguarding the MCWD facilities and resources.	2.87	Adequate
Encourages participation of customers in the MCWD programs to promote its sustainability.	2.81	Adequate
OVERALL	2.92	Adequate

B. Management Operation

As far as the management operation of MCWD in water service delivery in terms of planning, controlling, monitoring and evaluation is concern, the study showed that they were all effective. Planning is important part of management function of the agency and the study revealed that it is evidently observed in the delivery of the water service on the aspect of controlling; the study confirmed that it was similarly evident as rated by the respondents. Monitoring and evaluation were all found to be evident as shown in the finding of the study.

1. Management Operation in terms of Planning

Table 4 reveals the effectiveness on management operation in the aspect of planning. The respondents who were asked to rate the four indicators rated all items as “evident”.

Items 26 and 27 both got the highest means of 3.11 described as evident which state that the district “ensures acquisition of new computers and software to improve office transactions and establishes enhancement programs and activities to achieve the goals of MCWD. Aside from above-mentioned items, another feature of planning being shown by the agency is ensuring expansion service connection to both rural and urban areas (item 24) which got the second highest mean rating of 3.06 interpreted as effective.

Item 25 is about establishing an overall strategy to achieve sustainability water delivery services to its concessionaires” is rated evident with a mean of 3.00.

The ratings imply that as water utility, MCWD must create constancy of purpose and every process of planning for continual improvement of products and conform to its vision of being a highly efficient water utility rendering excellent service to be community.

Table 4
Mean Values of Management Operation in terms of Planning
N = 400

Items	Mean	Description
Ensures expansion service connection both rural and urban areas.	3.06	Evident
Establishes an overall strategy to achieve sustainability water delivery services to its concessionaires.	3.00	Evident
Ensures acquisition of new computers and software to improve office transactions.	3.11	Evident
Establishes enhancement programs and activities to achieve the goals of MCWD.	3.11	Evident
OVERALL	3.07	Evident

2. Management Operation in terms of Controlling

The results in this study on the management operation of MCWD in terms of controlling are presented I Table 5. It revealed that all items were rated evident with an average mean of 3.09 by the respondents. Item 30 have the highest mean of 3.11 which reveals that MCWD provides constant effort to improve water delivery system. Items 28 and 29 have the mean of 3.10 that were both described as evident. Item 28 states about the increasing water rate and service connection fee reasonably. But due to the district’s capability to sustain water, water rate is not recommended. It was in 2006 that water rate increase was implemented. Item 28 refers to continuous service improvement to come up with a better way to do the job.

Furthermore, taking counteractive measures as needed is to provide control of water borne-diseases (item 31) with a mean of 3.09. Indeed, MCWD has executed a MOA with the Cotabato Regional and Medical Center to conduct the weekly bacteriological test on the potability of water and monitor the water quality in order to maintain the quality of water.

Item 32 have a mean of 3.06, which reveals that strengthening the implementation of standard procedures of frontline services is evidently observed. The result entails that front liners handle well the task and function assigned them to meet consumer satisfaction.

Table 5
Mean Values of Management Operation in terms of Controlling
N = 400

Items	Mean	Description
Increases water rate and service connection fee reasonably.	3.10	Evident
Continuous service improvement to come up with a better way to do the job.	3.10	Evident
Provides constant effort to improve water delivery system.	3.11	Evident
Provides control of water borne-diseases.	3.09	Evident
Strengthens the implementation of standards and procedures of frontline services.	3.06	Evident
OVERALL	3.09	Evident

3. Management Operation in terms of Monitoring

Table 6 presented the management operation of MCWD in terms of monitoring.

Based from the table, the respondents rated highest item 36 that refers to testing the physical and chemical properties of water regularly to maintain quality of water with a mean of 3.19 described as evident.

Another management trait being shown by the district is ensuring the public of speedy action of their complain with established action center (item 37) which got the second highest mean rating of 3.16 described as evident. This goes to show that MCWD has instituted strategies of improvement mechanism.

Alerting all the time security guards on facilities and water resources, another monitoring function is item 38 with a mean rating of 3.07 described as evident. This is an indication that the agency is ready to any human related threats and natural disasters that could cause water utilities damage and great loss.

Furthermore, another good thing in the observance of management operation in the aspect of monitoring are item 39, item 33 and item 35 with the average means of 3.07, 3.06, 2.96, correspondingly.

Item 41 refers to monitoring and checking on the quality of new connections with and item 40 refers to monitoring the water volume in all service areas to maintain 24-hour water supply with average means of 2.95 and 2.93, and respectively.

Finally, item 34 has the least mean of 2.91 that discloses that the monitoring of water pressure in all service areas to maintain 24-hour water supply. This serves as a hint that the agency has to exert extra effort on improving this particular area of concern.

The overall mean of 3.04 indicates that the district is evident in this aspect of management. This means that MCWD is doing its best in monitoring the state of water delivery system to meet the customers’ water needs.

Table 6
Mean Values of Management Operation in terms of Monitoring
(N = 400)

Items	Mean	Description
Monitors presence of water pollutants.	3.06	Evident
Monitors water pressure in all service areas to maintain 24-hour supply.	2.91	Evident
Intensifies monitoring of illegal connections.	2.96	Evident
Tests physical and chemical properties of water regularly to maintain quality of water.	3.19	Evident
Ensures the public of speedy action of their complain with established action center.	3.16	Evident
Alerts all the time security guards on facilities and water resources.	3.15	Evident
Attends immediately on unnecessary water interruptions.	3.07	Evident
Monitors the water volume in all service areas to maintain 24-hourwater supply.	2.93	Evident
Monitors and checks on the quality of new connections.	2.95	Evident
OVERALL	3.04	Evident

4. Management Operation in terms of Evaluation

The result showed that Management Operation in terms of Evaluation as practiced by MCWD is effective as revealed in the overall mean of 3.14 as shown in table 7.

Item 42 with a mean of 3.34 is referring to encouraging concessionaires' prompt payment with disconnection policy.

Item 43 with a mean of 3.12 interpreted as effective is pertaining to the reviews on the effectiveness of quality management.

Furthermore, item 45 is relating to assess results of internal quality audit on services with a mean of 3.05 interpreted as evident.

Lastly, item 44 is about assesses continuing sustainability of quality policy with the lowest mean of 3.03. The respondents' "evident" ratings on all items imply that evaluation as a tool of management procedure is most of the times observed or present. The administrators effectively assess, audit and review results on evaluation of services.

Table 7
Mean Values of Management Operation in terms of Evaluation
N = 400

Items	Mean	Description
Encourages concessionaires' prompt payment with disconnection policy.	3.34	Evident
Reviews on the effectiveness of quality management.	3.12	Evident
Assesses continuing sustainability of quality policy.	3.03	Evident
Assesses results of internal quality audit on services.	3.05	Evident
OVERALL	3.14	Evident

C. Quality of Consumers' Awareness

The study revealed that payment, as technical quality of consumers' satisfaction on water service delivery of MCWD was satisfactory. Likewise, concessioners, as component of technical quality of consumers' satisfaction are similarly satisfactory. On the functional quality of consumers' satisfaction on water service delivery of MCWD was found to be the same.

Finally, the amount of water service and consumers' water service delivery, as part of functional quality of consumers' water service delivery both was rated satisfactory.

Table 8
Mean Values of Consumers' Satisfaction
in terms of Payment
N = 400

Items	Mean	Description
Payments can be made directly to MCWD offices.	3.48	Satisfactory
Payments can be made in full.	3.44	Satisfactory
Payments can be made over-the-counter	3.45	Satisfactory
Payments can be made debit from account	3.45	Satisfactory
OVERALL	3.46	Satisfactory

1. Consumers Satisfaction in terms of Concessionaires

The ratings in table 9 manifest consumers' satisfaction in terms of concessionaires. The overall rating is "Satisfactory" (3.18), as reflected in the following means obtained from five items. The over-all rating, implies that MCWD, as service provider, is trying its best the opportunity of instituting good relationship and rapport with its customers which are not just vital factors of customer's satisfaction but also a primary factor for the agency's success.

Table 9
Mean Values of Sustainability of Consumers' Satisfaction
in terms of Concessionaires
N = 400

Items	Mean	Description
Customer care and relations are emphasized.	3.09	Satisfactory
Front liners create a sound value formation in dealing with customers	3.15	Satisfactory
Information drives are given to consumers clearly and understandably.	3.05	Satisfactory
Access to safe and clean drinking water.	3.35	Satisfactory
Quality of water is given careful attention.	3.28	Satisfactory
OVERALL	3.18	Satisfactory

1. Consumers Satisfaction in terms of Amount of Water Services

Table 10 presented the sustainability of consumers' satisfaction in terms of amount of water services. The results show that the respondents rated all items satisfactory. About item 60, again, it was in the year 2006 when the district has increased the water rate. In general, as revealed, customers are satisfied on the sustainability of the amount of water services provided by the Metro Cotabato Water District

Table 10
Mean Values of Consumers' Satisfaction in terms of Amount of Water Services
N = 400

Items	Mean	Description
High pressure of water during peak hours	2.85	Satisfactory
Assures clients cost effective service	3.07	Satisfactory
Assures accuracy of water meter billing	3.32	Satisfactory
Maintains clear and safe water for domestic and commercial consumption	3.26	Satisfactory
Meets the water demand of the growing population	2.93	Satisfactory
Gears water rate hikes toward improving MCWD services	3.17	Satisfactory
OVERALL	3.10	Satisfactory

2. Consumers Satisfaction in terms of Amount of Water Consumable

Table 11 presented consumers' satisfaction in terms of amount of water consumable. All item was rated satisfactory and item 61 mean score was 3.17 described as satisfactory is about reducing water wastage from water users.

The over-all mean in this particular aspect is 3.13 which tells that MCWD effectively serves fresh and clean drinking water its customers.

Gleaned from table 11, its overall mean is 3.13 described as satisfactory which conveys that to have a safe drinking water is one main concern of the district besides a lifetime commitment to its customers.

Table 11
Mean Values of Consumers' Satisfaction
in terms of Amount of Water Consumable
N = 400

Items	Mean	Description
Reduces water wastage from water users	3.17	Satisfactory
Ensures ceaseless flow of water from pipes	3.14	Satisfactory
Maintains water system regularly	3.14	Satisfactory
Water is colorless.	3.10	Satisfactory
Water is odorless.	3.10	Satisfactory
Water is tasteless.	3.14	Satisfactory
OVERALL	3.13	Satisfactory

3. Correlation between Resources and Customers' Satisfaction in terms of Technical and Functional Qualities

Table 12 presents the results of correlation analysis of the relationship between resources and consumers' satisfaction. Based from the table, the relationship that existed between resources and consumers' satisfaction was found highly significant in terms of technical and functional qualities.

The null hypothesis of no significant relationship between resources and consumers' satisfaction is rejected. These positive coefficients imply that adequate resources result to satisfied customers.

Table 12
Correlation Matrix between Resources and
Consumer's Satisfaction in terms of Technical and Functional Qualities

Resources	Consumer's Satisfaction in terms of Technical and Functional Qualities			
	Payment	Concessionaires	Amount of Water	Water Consumable
Water source	0.360** 0.000	0.549** 0.000	0.509** 0.000	0.466** 0.000
Pumping of water	0.299** 0.000	0.463** 0.000	0.404** 0.000	0.266** 0.000
Water distribution	0.226** 0.000	0.560** 0.000	0.393** 0.000	0.366** 0.000

4. Correlation between Management Operation and Consumer's Satisfaction in terms of Technical and Functional Qualities

Table 13 presents the results of correlation analysis of the relationship between management operation and consumers' satisfaction.

The enumerated management operation such as planning, controlling, monitoring and evaluation has a highly significant result in its relationship on consumers satisfaction in terms of technical and functional qualities such as payments, concessionaires, amount of water and water consumable.

The null hypothesis of no significant relationship between management operation and costumers' satisfaction was rejected. These positive coefficients imply that a competent management operation will result to satisfied customers.

The above findings support the central thesis of Chester I. Barnard (1886-1961) that "an enterprise can operate efficiently and survive only when the organization's goals are kept in balance with the aims and needs of the individuals working for it."

It also conforms with Gronroos's service quality model (1984) so as to 'remind management that service quality must include the manner in which it is delivered.' Further, the finding is in agreement with the "Gap" model (Parasuraman *et al.* 1985; Zeithaml *et al.* 1990), which "keeps a clear focus on the perceptions of the customer, and these are seen as best."

Table 13
Correlation Matrix between Management Operation
and Consumer's Satisfaction in terms of Technical and Functional Qualities

Management Operation of MCWD	Consumer's Satisfaction in terms of Technical and Functional Qualities			
	Payment	Concessionaires	Amount of Water	Water Consumable
Planning	0.347** 0.000	0.576** 0.000	0.500** 0.000	0.450** 0.000
Controlling	0.316** 0.000	0.583** 0.000	0.560** 0.000	0.462** 0.000
Monitoring	0.294** 0.000	0.668** 0.000	0.681** 0.000	0.539** 0.000
Evaluation	0.239** 0.000	0.439** 0.000	0.509** 0.000	0.285** 0.000

** Highly significant * Significant ns Not significant

CONCLUSIONS

In view of the foregoing findings of the study, the following conclusions were formulated:

1. Resources in terms of water source, pumping of water and water distribution have an effect on consumers' satisfaction technically and functionally. It is said that adequate resources will lead to effective services.
2. Management operations of Metro Cotabato Water District (MCWD) shape customers' satisfaction on its water delivery service technically in terms of payment, concessionaires, and functionally in terms of water and water consumable.
3. Metro Cotabato Water District (MCWD) as service provider continuously improved its services specifically on pumping of water and its capacity of distribution.

RECOMMENDATIONS

On the basis of the findings, conclusions and implications of the study, the following are strongly recommended.

1. The Metro Cotabato Water District (MCWD) should maintain the rehabilitation and protection campaign for the Dimapatoy Water Reserve for sustainable water supply.
2. Metro Cotabato Water District (MCWD) should strengthening the encouragement on the participation of all stakeholders in the programs to promote its sustainability.
3. Metro Cotabato Water District (MCWD) must ensure the continued suitability, adequacy, efficiency and effectiveness of its management operation which is indeed an effective process that plays an imperative role for the district's growth and long term success.
4. Further study was recommended on the following: Sustainable Water Management of Metro Cotabato Water District; Governance of Rural Water Service Delivery in Region XII; Informal Water Vendors and Service Providers in Cotabato City; A Case Study in Water Delivery in Region XII; Assessment of Water and Sanitation Service Delivery in Cotabato City

ACKNOWLEDGMENT

Sincere gratitude is hereby extended to the following persons that never ceased in extending their help and support for the success of this study: Dr. Abdul S. Pagayao, the dissertation adviser, for the deep concern and support in the preparation and completion of the study; Dir. Pasigan U. Buisan, the Director of Research and Extension, who acted as the statistician, for the shared expertise that contributed in the analysis and interpretation of data; Dr. Sapia D. Diocolano, the reader, for checking and editing the manuscript; To the chairman and members of the Oral Defense Panel, Dr. Sema G. Dilna, Dr. Taugan S. Kikay, Dr. Zenaida P. Solaiman and Dr. Norodin Salam, for sharing their time, recommendations and worthwhile suggestions that have been helpful for the improvement of this research.

In particular, it's a pleasure to thank Dr. Saharat S. Samson, the Vice President for Academic Affairs, for her intellectual guidance and kind support for the progress of the study.

I am equally grateful to Atty. Delfin C. Hilario, the general manager, Engr. Venancio E. Villarama, Jr., the department manager of Engineering and Operations, Matilde F. Madrid, the manager of Commercial Department, James M. Bautista, the chemist, Bernardo M. Furog, Jr., the forester, and Engr. Raymundo A. Nacario, the water maintenance foreman of MCWD for giving their precious time during the conduct of interview.

I am also pleased to acknowledge the concessionaires of MCWD who were the respondents of this study, for sharing their valuable time in filling up the questionnaire.

To those whose works have been used in this thesis, especially to Zenaida A. Badrudin, Victor P. Farañal and the late Dr. Wahab M. Salakadang, the researcher wishes to convey his sincere gratitude and prayer that they be rewarded for their great contributions.

Thanks are also due to all the Staff of Cotabato City State Polytechnic College library. I offer my gratitude to my sisters and brothers as well as to my cousin, for helping me in many ways.

Words alone cannot express the appreciation I owe my mother, Hadja Aida, and my aunt, Hadja Noraini B.

Mabang, PhD, for the unwavering support provided me.

Above all, to ALMIGHTY ALLAH, for the compassion, wisdom and strength showered upon us.

REFERENCES

A. Books

1. Wehrich, H., Cannice, M. Koontz, H. Management: A Global and Entrepreneurial Perspective, 12th edition, 2011, Tata, McGraw-Hill Publishing Company Limited, New Delhi

B. Journals and Periodicals

2. Philippine Institute for Development Studies Vol. XXIX No. 3; May-June 2011

C. Unpublished Thesis and Dissertations

3. Badrudin, Zenaida A. (2008).The Service Delivery of the Metro Cotabato Water District, Mindanao State University.
- Faranal, Victor P. (2009)The Enhancement Program of Metro Cotabato Water District (MCWD). Mindanao State University.

D. Manuals

4. Metro Cotabato Water District Short-Term Corporate Plan 2012- 2014
Presidential Decree No. 198 Chapter II Section 5 Purpose and Formation. Local Water District Law

A PROPOSED ENVIRONMENTAL MANAGEMENT PROGRAM (EMP) FOR HOTELS AND RESTAURANTS IN TACLOBAN CITY

NESTOR C. SEDANZA, D.M.
Leyte Normal University
Tacloban City

ABSTRACT

The main purpose of this study was to evolve an environmental management program based on the situational analysis of the internal and external environment of hotels and restaurants in Tacloban City. This study employed the descriptive research design. A survey questionnaire and documentary analysis were used to gather data from the 325 managers and staff of 36 hotels and restaurants in Tacloban City. Statistical used included frequency counts, percentages, mean and the t-test at .05 level of significance. The results revealed that Tacloban City as the external environment of hotels and restaurants is conducive and good for hotels and restaurant business being the capital and premier city of Eastern Visayas Region. It is the center of trade and industry, culture, education, communication, transportation and tourism. There are however, possible problems that were encountered by hotel and restaurant operators such as high power rates, lack of food supply, lack of potable drinking water during rainy days, sewerage and wastewater disposal system, solid waste management, and natural calamities such as earthquake, flood, and typhoon. The DOT accredited hotels and restaurants practiced most of their existing environmental management practices than the non-DOT accredited hotels and restaurants. The management and staff have much awareness, motivation, and commitment as well as so much need for learnings. The people involved in DOT accredited hotels and restaurants have higher awareness and training needs than the people involved in non-DOT accredited hotels and restaurants. At .05 level of significance, managers and staff respondents do not differ significantly on awareness, motivation, commitment, and training needs.

Keywords: environmental management program, environmental management practices, accredited and non-accredited, hotels and restaurants

INTRODUCTION

One of the most concerns of countries today is environmental protection and preservation. This is not surprising since the environment is everybody's concern and the hotel and restaurant sector is no exception.

That is why the Hotel and Restaurant Association of the Philippines (HRAP), a non-profit organization founded in 1951, has deliberately raised the environmental consciousness among 113 member hotels and 127 member restaurants in the country (HRAP 1996).

Another organization which collaborates with the HRAP on environmental issues and concerns is the Philippine Business for the Environment (PBE). This non-government organization established in 1992 is involved mainly in information and education campaigns, promotion of clean technology, and other environment enhancement projects that uphold the dictum that the care of environment makes good business sense (PBE 1992).

The HRAP reported that the number of hotels and restaurants nationwide is increasing everyday. Seemingly, they are planned and operated with very little, if any, consideration for the environmental impact on their wastes.

HRAP and PBE in the nationwide survey of 116 hotel and restaurant respondents revealed the following: solid wastes were not sorted and ended up in one garbage container and dumped directly into the sewer or taken by garbage collectors without going through the stages of waste minimization – recycling, reclamation, exchange or treatment, only 30% re-use or sell their waste oils and the rest dumped directly their waste into landfills or rivers, not one of the respondents surveyed has a wastewater treatment facility, hence all wastewater goes directly to the street canals, some respondents have sinks with grease traps, however, the use of grease trap is not centralized for the whole establishment, some respondents used styrofoam and plastic bags which they disposed of like all other garbage and these materials ended up clogging canals and rivers, the use of chlorine disinfectant in addition to soap and detergents, to ensure efficient cleaning is a common practice among the respondents, this practice adversely affects living organisms in receiving water

bodies. Also, some sectors identified poor environmental practices by local hotels and respondents.

The above findings clearly show that there are hotel and restaurant firms that do not pay proper regard to the environmental and social consciousness of their business activity.

In another development, the City Government of Tacloban launched a Clean, Green and Beautification Project with the theme: "Pahusaya an Tacloban". The City Tourism Office, City General Services and City Agriculturist Office were leading the effort of the project to cover the areas - city streets and tourist attractions.

In support of the HRAP and PBE environmental advocacies and the clean, green and beautification project of the LGU Tacloban, and in the belief that the hotel and restaurant has an important role in protecting and enhancing the environment for future generations, as well as to help secure the long-term sustainability of the tourism industry in Tacloban City and in the country as whole, this study was conducted.

This study aimed to come up with a situational analysis of the environmental implications of the establishment and management of hotels and restaurants in Tacloban City. It involved people in the hotel and restaurant establishments with particular reference to their awareness, commitment, motivation, and training needs as gleaned from their existing environmental management practices. It attempted to evolve a practical and workable program on environmental management intended for hotels and restaurants in Tacloban City. The program will help the hotel and restaurant operators integrate environmental concerns into the various functions of the hotel and restaurant management and identify opportunities for waste minimization and lessening of adverse environmental damage with the end goal of improving the profitability of business while at the same time being responsible for protecting and enhancing the environment.

A solid waste management program was implemented by Shakey's Pizza in 1996, a fast food restaurant located at Greenbelt, Makati. The focus of the program was the recovery of waste materials which can still be used or sold. The program became part of the Total Quality Management (TQM), a strategy adopted by the restaurant. This restaurant was able to save and realized additional income from recoverable waste accumulated by five outlets.

In the case study of a restaurant in Manila named Executive Banclounge, Inc. came up with its own EMMRO program for all outlets of the company, namely: Sign of the Anvil Restaurant, Bridge Café and Tower II Food Center. The main objective of the program was "To Save and not To Waste". This program reaped encouraging results in a short period of time for all the outlets of the company such as paper recycling, proper disposition of leftovers and maximum utilization of raw materials.

Kamayan restaurant, a mid-range restaurant in Makati, has this report: "simply by segregating our wastes, we were able to sell our recoverable waste materials and lessen the volume of the solid waste which ended up in the dumpsites. The additional income that was recycled was shared by the employees among themselves.

In the case of hotels, Holiday Inn Manila, deliberately tried to raise environment consciousness among its employees. An internal environment committee was formed to spearhead the efforts of the hotel. The hotel was able to have savings by towel re-usage, use of dispensers, changing plastic packaging to papers, salvage sales of used oil, wet/dry garbage, scrap and others. Also, the hotel has succeeded in raising the environment consciousness not only of its employees but also its neighbors – small group of business within Ermita area tasked with safeguarding the immediate environs.

In Hungary, Budapest Hilton have the following economic and environmental benefits: the overall waste volumes were reduced by more than 30% through recycling initiatives and compacting non-recyclable waste. Waste collection fees was reduced to US \$ 10,000. The return on investment of the waste compactor was one year. Apart from the proper disposal of waste, this effort helps to overcome problems pertaining to limited storage space in hotels. The hotel was awarded the Environmental Prize of the Hotel Association of Hungary, the prize money was distributed amongst line employees who demonstrated a strong environmental commitment.

All of the foregoing studies and programs reviewed were selected because they illustrate similarities in methodologies and concerns but programs evolve pointed out different approaches in design and according

to their own specializations and purposes.

OBJECTIVES OF THE STUDY

This study aspired to evolve an environmental management program (EMP) for hotels and restaurants in Tacloban City. The situational analysis of the existing environmental management practices of the hotels and restaurants served as the basis for the development of the program.

Specifically, this study aimed to attain the following objectives. Come up with a situational analysis which shall be presented with data derived from the external and internal environment of hotels and restaurants in terms of

- a. environmental aspects (external):
 - a.1 economic
 - a.2 legal-political
 - a.3 technological
 - a.4 socio-cultural

- b. existing environment management practices of DOT and non-DOT accredited hotels and restaurants (internal):
 - b.1 water use generation reduction
 - b.2 waste recovery and management
 - b.3 energy conservation

- c. awareness, commitment, motivation and training needs of the people involved in the implementation of environmental management practices in DOT and non-DOT accredited hotels and restaurants (internal):
 - c.1 manager
 - c.2 staff

- d. comparison of the existing environmental management practices of DOT and non-DOT accredited hotels and restaurants.

- e. comparison of the awareness, commitment, motivation and training needs of the people involved in the implementation of environmental management practices of DOT and non-DOT accredited hotels and restaurants.

Evolve a practical and workable environmental management program (EMP) which is dependent on the situational analysis of hotels and restaurants.

METHODOLOGY

This study used a descriptive research design which utilized a survey questionnaire for gathering data.

The main instrument used in this study was modified from the questionnaire used by Lumbab and Salazar (2000) and EMMRO. The instrument included the personal profile of each respondent and business profile of the hotel/restaurant. It consists of two parts: Part I was designed to gather information regarding environmental management practices of the hotel / restaurant. It is divided into three environmental checklists, namely: 1) water use generation, 2) waste recovery and management, and 3) energy conservation. Part II was used to gather information on the involvement of the manager and staff in the implementation of environmental management practices of the hotel/restaurant as to their awareness, motivation, commitment and training needs. A dry run of the survey questionnaire was conducted before it was finally fielded to the respondents. For the environmental aspects variables, pertinent documents were secured from the concerned agencies for analysis.

Purposive sampling was used to get the 325 respondents of the study with 36 managers and 289 staff of the hotels and restaurants in Tacloban City. For the comparative data analysis, 151 managers and staff from 18 DOT accredited and 174 managers and staff from non-DOT accredited hotels and restaurants were used. All the managers and staff of the 36 hotels and restaurants were included as research respondents. However, hotels and restaurants with more than 10 staff were represented by only 10 staff respondents.

The data collected from the survey questionnaire were tabulated and interpreted for the situational analysis, largely through the use of frequency counts and percentages. The mean was used to get the average of the awareness, commitment, motivation and training needs of the manager and staff towards their existing environmental management practices, including the people involved in DOT and non-DOT accredited hotels and restaurants. The t-test was used to test the null hypotheses of the study of no significant differences in the existing environmental practices of DOT and non-DOT accredited hotels and restaurants and the awareness, motivation, commitment and training needs of the people involved in DOT and non-DOT accredited hotels and restaurants towards their existing environmental management practices.

RESULTS AND DISCUSSION

1. The first question sought to assess the environmental aspects of hotels and restaurant Tacloban City in terms of economic, legal-political, technological, socio-cultural and demographic.

Based on the documents gathered, Tacloban City is classified as Highly Urbanized City by virtue of Presidential Proclamation N. 1637. The total annual income of more than Php500 million. The major sources of revenue are: Tax Revenue, Internal Revenue Allotment and Operational Miscellaneous Receipt. The hotels and restaurants have contributed to the income of the city by paying taxes regularly.

Tacloban City is the capital and premier city of Region 8-Eastern Visayas and the gateway to the region. It is the center of trade and industry, culture, education, communication and tourism. Therefore, the city environment is good for hotel and restaurant business. That is why most number of accommodations and eating establishments are found in this area of region 8 for which the locale of this study was held and the proposed program is intended. However, the city faces potential hazards such as earthquake, coastal and slope erosion, flood prone area particularly those low lying areas, and often visited by typhoons.

Other problems that the city should take into considerations are high power rates and unannounced power interruptions, expensive food, lack of potable drinking water during rainy days, sewerage and wastewater disposal system and solid waste management. The city has no sewerage system that handles the disposal and treatment of liquid wastes, no collection services are provided for hospitals and clinical wastes as well as industrial wastes. The increase of waste generation is not only attributed to the increase of population and business activities but also the lifestyles of the people. Using more disposable materials on environmental unfriendly materials such as utensils, weapons, containers, diapers, etc. Efforts to reduce, reuse and recycle these wastes at sources is considerably minimal. This is one area that will therefore be addressed in future management programs of the city government which is being considered by the proposed EMP in this study.

2. The second question sought to assess the existing environmental management practices of DOT and non-DOT accredited hotels and restaurants in Tacloban City in terms of water use generation, waste recovery and management, and energy conservation.

This area of concern revealed that hotels and restaurants practiced environmental management practices. The DOT accredited hotels and restaurants emerged with the highest number of items of 25 (75.76%) in terms of performing the best practices in water use generation reduction, waste recovery and management and energy conservation than the non-DOT accredited hotels and restaurants with the lower number of items of 8 (24.24%) on the 33 best practices.

3. The third question sought to assess the awareness, commitment, motivation, and training needs of the manager and staff towards their existing environmental management practices.

This area of concern revealed motivation, commitment, and have enough training needs towards their environmental management practices.

4. The fourth question sought to compare the existing environmental management practices of DOT and non-DOT accredited hotels and restaurants.

The DOT accredited hotels and restaurants practiced most of their existing environmental management practices than the non-DOT accredited hotels and restaurants. The environmental management practices include water use generation reduction, waste recovery and management, and energy conservation.

The comparison on awareness , motivation, commitment and training needs between the manager and staff respondents revealed that the staff respondents have slightly higher awareness than the manager respondents while manager respondents Have higher motivation, commitment and training needs than the staff respondents towards their existing environmental management practices. Likewise, the comparison on the awareness, commitment, motivation and training needs between the people involved in DOT and non-DOT accredited hotels and restaurants towards their existing environmental management practices revealed that the people involved in DOT accredited hotels and restaurants have higher awareness and training needs than the people involved in non-DOT accredited hotels and restaurants while the people involved in non-DOT accredited hotels and restaurants have higher commitment and motivation than the people involved in DOT accredited hotels and restaurants.

CONCLUSION

The result of the independent samples test between the managers and staff respondents resulted in no significant differences on awareness, commitment, motivation and training needs. For the people involved in DOT and non-DOT accredited hotels and restaurants, the independent samples test revealed that the people involved in DOT accredited differ significantly on awareness than the people involved in non-DOT accredited hotels and restaurants while both the people involved in DOT and non-DOT accredited hotels and restaurants have no significant difference on motivation, commitment and training needs towards their existing environmental management practices.

RECOMMENDATIONS

Based on the above discussions and conclusions, the following are recommended:

1. To the hotel and restaurants owners/managers in Tacloban City, the proposed EMP is highly recommended, and each may adopt the program according to their needs and financial capabilities.
2. The owners/managers of non-DOT accredited hotels and restaurants in Tacloban City should submit their establishments for DOT accreditation to ensure the safety, comfort and convenience of the customers/ tourists and to be at par with DOT accredited hotels and restaurants in performing the best practices in environmental management.
3. The Department of Tourism and City Tourism Operations Office should make DOT accreditation compulsory to all hotels and restaurants and include EMP as part of the requirement for accreditation.
4. The City Government of Tacloban should have a comprehensive waste management system devised/ employed right away from the very sources where wastes are generated to reduce generated to a more manageable level and recycling be encouraged. Whatever wastes left from the initial step shall be disposed of in properly designated and managed land fills. Also, the city should provide a wastewater treatment facility and collection services for hospitals, clinical and industrial wastes to avoid pollution in our drainage systems, river banks and coastal areas.
5. Use of environment friendly materials in hotels and restaurants and other establishments even at home should be encouraged.
6. A follow-up study be conducted to those hotels and restaurants who adopted the proposed EMP to find out if it successful or not. Other studies could be conducted relevant or related to environmental management protection.

REFERENCES

- Case Study of Executive Banclounge, Inc.*
- City Government of Tacloban Clean, Green and Beautify Project.*
- City of Tacloban Profile*
- Code on Sanitation of the Philippines (PD 856) pp.4-6*

City Ordinance No. 94-51(1994) – An Ordinance Enacting A Code Governing the Operation and Activities of All Persons, Firms, Entities and Establishments that Engage in the Business of Hotels, Resorts, Travel Agencies in the City of Tacloban. Pp.3-35

Environmental Charter of HRAP, DOT, and the Asia Foundation .

Environmental Management Manual for Restaurant Operators (EMMRO) , pp.2-54

Eastern Visayas Region Situationer

Hilton Hotel, Budapest

Holiday Inn Hotel, Manila

Hotel and Restaurant Association of the Philippines (HRAP) Brochure , p.1

Kamayon Restaurant Profile

Lumbab, Nisa J. (2000). An Integrated Computer-Based Information Systems: A Model for SUCs in Region 8, Unpublished Dissertation of Leyte Normal University, Tacloban City

Philippine Business for Environment Primer .pp.2-4

Salazar, Arturo N.(2000). A Predictive Model for Total Quality Management of the Department of Environment and Natural Resources, Unpublished Dissertation, Leyte Normal University, Tacloban City

STATE UNIVERSITY PRODUCTIVITY: INPUT TO PERFORMANCE ENHANCEMENT STRATEGIES

NILO D. DELFIN, Ed.D.
Vice-President for Administration and Finance
Capiz State University
Fuentes Drive Roxas City Capiz

ABSTRACT

The study was conducted to determine the productivity of Capiz State University for AY 2015-2016. Specifically, it aimed to ascertain the institutional profile of the university in terms population (academic and non-academic personnel, students); programs offered; level of productivity vis-à-vis accredited programs and accreditation level; number of graduates; percentage of board passers; faculty researches conducted and published; extension projects and income-generating projects implemented. This descriptive study used frequency, percentage and mean to analyze the data of the personnel from the 10 campuses of the university as respondents. The results revealed that all the 10 campuses were committed to enhance the intellectual, technical and creative skills of the students through the offerings of quality and relevant curricular programs. Of the 10 campuses, the Roxas City Main Campus had the biggest number of academic personnel, students, accredited programs, graduates, board passers and number of extension projects conducted. On the other hand, the Buriás Campus had the biggest number of non-teaching personnel and most number of programs accredited level III phase 2 status; while the Pontevedra Campus had the highest number of curricular programs offered and highest number of researches conducted and published. Results of the study implied the need to develop strategies for the university to upgrade its level of productivity by crafting demand-driven strategies to enhance performance in the quality delivery of the university's mandates to be an input in the strategic planning and policy direction.

Keywords-Productivity; performance; strategic planning; and demand-driven strategies

INTRODUCTION

Productivity is the measurement of production performance using the expenditure of human effort as a yardstick. It describes the efficiency with which resources are converted into commodities and/or services. Greater productivity is best achieved by better processes, improved or modern equipment, or any other factor that improves the utilization of manpower [1].

Productivity is a measure of institutions' efficiency and effectiveness used as a tool of monitoring and evaluation for planning, resource allocation and utilization, and strategic direction setting [2].

STATEMENT OF THE PROBLEM

The primary objective of the study was to determine the productivity of the Capiz State University (CAPSU), specifically, it sought answers to the following:

1. What is the institutional profile of Capiz State University in terms of personnel/faculty and student population and program offered?
2. What is the level of productivity of CAPSU in terms of:
 - a. Accredited programs and Accreditation Level;
 - b. Number of graduates;
 - c. Percentage of board passers;
 - d. Researchers conducted;
 - e. Researches published;
 - f. Extension projects conducted; and
 - g. Income generating projects implemented
3. What input to strategic planning and policy direction could be drawn based on the results of the study?

METHODOLOGY

This is a descriptive study towards the strategic and policy direction of the University adopting the input-process-output model. A validated and reliability tested survey questionnaire was used to gather data. The respondents of the study were the Campus Administrators and Satellite Directors, Registrars, Extension Directors, Research Directors and IGP in-charge of the 10 campuses of the Capiz State University.

FINDINGS

Institutional profile of Capiz State University. Capiz State University at the time of the study had ten (10) campuses, namely: Roxas City Main Campus, Dayao, Burias, Dumarao, Mambusao, Pilar, Pontevedra, Sapián, Sigma and Tapaz. Among the ten campuses, the Roxas City Main Campus had the biggest faculty size with 119 and (144) contractual followed by Pontevedra, Burias, Sigma Satellite College and Dayao Satellite College. Sapián Satellite College had the smallest faculty size of 11.

The 10 CapSU campuses had varied academic graduate and undergraduate program offerings and data showed that Pontevedra Campus had the most number of academic offerings with 17 programs followed by Roxas City Main Campus, 13 and Burias, 12. Sigma and Tapaz Satellite Colleges were offering only four (4) academic degree programs. The three most common undergraduate academic degree programs offered were Education, Agriculture and Business Administration.

The Roxas City Main campus had the highest number of accredited programs at the time of the survey, with three (3) programs qualified for Level III phase 2 status, while six (6) programs were in Level I status.

CapSU Pontevedra ranked second highest in terms of accredited programs with three (3) programs reaccredited level III, and 5 programs at level II reaccredited status. Other campuses had level III phase 2, while others had a majority of level II.

Data further revealed that the highest number who enrolled in 2012 and graduated in 2016 was from Roxas City Campus with a total of 1,016. The least number of enrolled students was from Tapaz Campus with 131 students enrolled and only 101 graduated, or a survival rate of 77 percent. The lowest survival rate was from Sapián Satellite College with only 81 graduates out of 100 or a survival rate of only 50.62 percent.

Capiz State University was able to have a significant number of board passers especially in LET-Secondary Education program. Roxas City Campus had a good passing percentage in LET-Secondary Education with 79.75 percent in September 2015 results of Board Examination. The Campus with lowest passing percentage in September 2015 LET-Secondary Education was the Tapaz Satellite College with 28.57 percent. Roxas City Campus also showed an excellent performance in 2015 Architecture Board Examination with 100 percent passing percentage.

Research Capability. The number of researches conducted and published by CAPSU Campuses within one year totaled to 44 researches conducted and published with 41 from Pontevedra Campus; 12 from Burias; 7 from Roxas and Poblacion; 3 from Dayao and one (1) from Sigma.

Extension. The total number of extension projects conducted in the different CAPSU Campuses within a year, were 111 extension projects with 22 conducted by the Roxas City Campus. Dumarao and Sapián Campuses only had one. The extension projects were varied included but not limited to the conduct of seminars and trainings in Livelihood, Organic Farming Technology and Developing Entrepreneurial Mindset.

Income Generating Projects. There were 31 income generating projects conducted in a year across the 10 campuses. Dumarao Campus had five (5) income generating project; Tapaz Campus had only 1 and Sapián Campus, none.

Input to strategic planning and policy direction. Results of the study gave strong insights for the administration to look into and consider developing and creating mindsets not only for stakeholders but more importantly of the faculty and non-academic personnel.

CONCLUSION

Based on the findings, the following conclusions were drawn:

1. Capiz State University campuses vary in faculty size, number of academic personnel and size of student population. The more academic programs offered the bigger is the size of the student population and consequently, the more the number of faculty and non-teaching personnel.
2. Capiz State University campuses submit to voluntary accreditation.
3. Capiz State University campuses fulfill their functions in research extension. Some faculty members conduct and publish research and involve in extension activities and endeavor in income generating projects.

RECOMMENDATION

The following are recommended based on the results of the study:

1. Capiz State University Campuses must review and rationalize their varied curricular program offerings that are relevant and responsive to the needs of the industry;
2. Strengthen resource allocation and utilization to maximize on productivity potentials.
3. Institutionalize submission of programs for accreditation to ensure sustainable quality education and service delivery of global and international standards;
4. Institutionalize regular review of curriculum to include review classes for board courses as integral part of an academic program;
5. Develop strategies and strong mechanisms that will institutionalize research culture among faculty and staff;
6. Develop collaborative efforts in enhancing production and commercialization of mature technologies; and
7. A similar study may be conducted to verify the findings of the present study using other variables.

ACKNOWLEDGMENT

The author thanks the administration and management of the Capiz State University – the central office and administration and the ten campuses.

REFERENCES

- [1] Matz, A. USRY (2000). Planning and Control Mutual Books Inc. Retrieved on January 29, 2017
- [2] Matz, A. USRY (2000). Planning and Control Mutual Books Inc. Retrieved on January 29, 2017

STUDENTS' PROBLEM SOLVING COMPETENCE IN MATHEMATICS

ROLLY T. DAGDAGUI

Mountain Province State Polytechnic College,
Bontoc Campus, Bontoc, Mountain Province. Philippines.

ABSTRACT

This study determined the level of competence of grade-7 students in solving word problems on the selected topics: Sets, Integers, Fractions, Geometry and Age; and the relationships between the problem solving competence of the students and the following variables; Math Grade and English Grade. The respondents of this study were the grade 7 students of Tadian 2 District namely: Am-am National High School, Cagubatan National High School and Dacudac National High school for the School Year 2015-2016. Total enumeration was used since there are only 81 students in the district, and to enable the proponent to effectively evaluate the problem-solving competency of the students in the district as well as to provide accurate data for the study. Descriptive-correlation method was utilized. Results revealed that grade 7 student-respondents are not much competent in solving word problems, and students' problem solving competence is weakly correlated to their grades in Mathematics and English.. Based on the findings of the study, the following are strongly recommended: Mathematics teachers should give more emphasis on the significance of problem solving or application of the concepts to the students' daily lives; teachers are encouraged to design more challenging word problems that are within the students' capacity to enable mastery among the students; teachers may integrate vocabulary in problem solving activities to enrich students' language proficiency or competencies; teachers may design varied assessments aside from paper and pencil or pure text but will still gain the competencies needed in solving problem; and school administrators, supervisors, principals, head teachers and other school authorities may also periodically check teachers' methods of assessment, conduct semestral assessment among students to address the learning gaps and provide immediate interventions. A similar research may be conducted considering other variables to validate the result.

Keywords: Competence level of grade 7 students in word problem solving, Mathematics and English grade

INTRODUCTION

Problems are at the center of what many people do at work every day. Thinking on what to do first upon waking up in the morning, what to eat, what clothes to wear, what time to sleep, what movie to watch, and a lot. Or moving to solving a problem for a client (internal or external), supporting those who are solving problems, or discovering new problems to solve. These problems can be large or small, simple or complex and easy or difficult.

Problem solving is of vital importance in our day to day activities and should be given emphasis in school for it is where students are trained to think reflectively rather than accepting conclusions subjectively from others. Being a confident problem solver is really important to success and in life. Much of that confidence comes from having a good process to use when approaching problems. With this, one can solve problems quickly and effectively. But without this, solutions to problems may be ineffective, or one can get stuck and do nothing.

The twin goals of mathematics in the basic education levels of K-10 are Critical Thinking and Problem Solving. These two goals are to be achieved with an organized and rigorous curriculum content, a well-defined set of high-level skills and processes, desirable values and attitudes, and appropriate tools, recognizing as well the different contexts of Filipino learners. The specific skills and processes to be developed are: knowing and understanding; estimating, computing and solving; visualizing and modelling; representing and communicating; conjecturing, reasoning, proving and decision-making, and: applying and connecting. The following values and attitudes are to be honed as well: accuracy, creativity, objectivity, perseverance, and productivity (K to 12 Curriculum guide, 2012).

In addition, the K-12 is a product-oriented, students' tasks should yield a product or should show overall learning outcome (output-based).). It is in this context that the researcher got interested on how equipped and competent are the grade seven students in coping with the demand of the K-12 curriculum that is output-based. Hence, the researcher wants to find out the students' level of competence in math on word problems, specifically set, integer, fraction, geometry and age problem.

Problem solving should be the site in which all of the strands of mathematics proficiency converge. It should provide opportunities for student to weave together the strands of proficiency and for teachers to assess students' performance on all of the strands. Students then should be provided frequent opportunities to be engaged in problem solving so that they can become mathematically proficient. In doing so, it develops conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and a productive disposition toward mathematics. Mathematically proficient students exhibit problem-solving behaviors such as reading problems carefully and understanding them, creating models, and making conjectures about strategies and solutions.

University of the Philippines National Institute for Science and Mathematics Education Development (UP NISMED, 2003) revealed the results of the Trends in International Mathematics and Science Study (TIMSS) in 1995, 1999 and 2003 where Philippines has a very poor performance ranking 41st out of 42, 36th out of 38, and 42nd out of 45 participating countries, respectively. In 2008 TIMSS- Advanced, a special examination participated by students who were in the final year of secondary schooling and were recognized to be the best and brightest in the country performed poorly in Advanced Mathematics, ranking 10th among the 10 participating countries. Since then, the Philippines did not join in the said examination.

Further, results of the National Achievement Test (NAT), an annual examination administered to public and private learners throughout the Philippines that aims to determine the achievement level, strengths and weaknesses of the Filipino learners in the five core subject areas: Filipino, English, Mathematics, Science, and Araling Panlipunan showed poor performance of students in Mathematics. In fact, it is the lowest among all the subject areas in both elementary and secondary (DepEd, 2015).

CCSSO (2010) elaborated that children lacking mathematical proficiency demonstrate ineffective mathematical behaviors such as attempting to solve problems without making sense of the problem's context. Learners are less likely to use their knowledge of mathematics content while solving problems. The main objective of mathematics teaching which is to enhance mathematics learning by examining, solving, and reflecting on word problems becomes a failure.

These facts challenged the researcher to find out the mathematical problem-solving competence of the grade-7 students which is the core and meat of mathematics. It had been noted that students performance standards and learning competencies in mathematics all lie on the problem-solving competence of the learners. Thus, inability of learners to solve problems entails their inability to learn mathematics.

Mathematics Learning as constructing mathematics, proceeding from one's own informal mathematical constructions to what could be accepted as formal mathematics. There are studies which point out that elementary and secondary mathematics school teachers need to base their instruction on context problems and problem-solving activities to be able to build from students' intuitive/informal knowledge, motivate students to construct their own problem-solving strategies and to accept multiple solution strategies. The problem solving standard as given in The Principles and Standards for School Mathematics states that "Instructional programs from pre-kindergarten through grade 12 should enable all students to – build new mathematical knowledge through problem solving; Solve problems that arise in mathematics and in other contexts; Apply and adapt a variety of appropriate strategies to solve problems; Monitor and reflect on the process of mathematical problem solving." Teachers' own mathematics proficiency and problem-solving competence together with a clear vision of the horizons of school mathematics play central role to the effective achievement of the goal of teaching for lasting acquisition of mathematical proficiency.

One way to foster students' success in the problem-solving process is to provide them with frequent opportunities to engage in problem solving in a student-centered environment that scaffolds students to successfully complete each stage of the process. Bostic (2011) said that problem-solving process begins with an individual reading and understanding a problem's text (i.e., first stage). The text indicates the task and provides the reader with information about the problem. At times, the task is unclear from an initial reading of the problem so an individual reread the problem. This requires being metacognition about his/her understanding so he/she can maintain engagement in the task. Understanding includes decoding the text into more manageable chunks in order to create a situation model (Verschaffel et al., 2000).

However, Aquino (1996) cited by Adawan (2010) mentioned that most mathematics teachers often hear the comment, "I can do mathematics, but I can't solve word problems." There is a great fear and avoidance of real life problems on the part of the most students. But one cannot turn back on these problems.

Isican (2014) believed that much of the failure in school mathematics is due to a traditional teaching that is inappropriate to the learning styles of the most students today. Yet, despite the fact that numerous scientific studies have shown that traditional methods of teaching mathematics are ineffective, and despite professional recommendations for fundamental changes in mathematics curricula and teaching, traditional method of teaching continue (Encyclopedia of Education, 2003). Isican (2014) added that as time evolves, knowledge evolves. In order for the students to grow knowledgeable, teachers have to grow first. Learning is not limited in the four walls of the classroom. Being resourceful is a big help to update what teachers previously learned.

These literatures are significant in this study since they serve as spring board in presenting and discussing data that will be gathered in this study.

Adawan (2010) cited that mathematics comprehension is significantly correlated with abstract reasoning skills and language ability. Students have trouble in all types of problem solving in mathematics. They experience greatest difficulty in two comprehension skills, namely verbalization of symbolic relationships and concretization of problem situation.

There is substantial evidence that students' difficulty in learning school mathematics derives in large part from their failure to recognize and apply the relationship between the formal rules taught in school and their own independently developed intuitions. Mathematics instruction based on context problems and learning by problem-solving activities provides one of the answers to this problem. Within the theory of realistic mathematics education (the successful Dutch answer to contemporary challenges of mathematics education). There are studies cited by Bostic (2011) which point out that elementary school teachers as well as teachers of mathematics need to base their instruction on context problems and problem-solving activities, to build from students' intuitive/informal knowledge, to motivate their students to construct their own problem-solving strategies and to accept multiple solution strategies. The problem solving standard as given in *The Principles and Standards for School Mathematics* (National Council of Teachers of Mathematics, 2000) states: "Instructional programs from pre-kindergarten through grade 12 should enable all students to – Build new mathematical knowledge through problem solving; Solve problems that arise in mathematics and in other contexts; Apply and adapt a variety of appropriate strategies to solve problems; Monitor and reflect on the process of mathematical problem solving." Teachers' own mathematics proficiency and problem-solving competence together with a clear vision of the horizons of elementary school mathematics play central role to the effective achievement of the goal of teaching for lasting acquisition of mathematical proficiency. The basis for this work is the analysis of a subset of the results from an initial assessment of mathematical competencies of the students.

According to Lesh and Zawojewski (2007), problem-solving as viewed from a mathematics education perspective is the process of interpreting a situation mathematically, which usually involves several iterative cycles of expressing, testing and revising mathematical interpretations – and of sorting out, integrating, modifying, revising, or refining clusters of mathematical concepts from various topics within and beyond mathematics. Actively reading a problem supports individuals to make sense of it; however, the depth and quality of students' decoding and subsequent understanding of the text impacts their success (Pape, 2004). To solve a word problem, individuals must manage both the text and the mathematics encoded within the text (Vilenius-Tuohimaa et al., 2008). One's reading ability influences how likely an individual will solve a word problem (Vilenius-Tuohimaa et al., 2008) and similarly, one's knowledge of mathematics influences how well an individual deciphers mathematics texts.

STATEMENT OF THE PROBLEM

This study aimed to find out the word problem analysis skills in mathematics of the Grade 7 students of the secondary schools in Tadian 2. Specifically, it sought answer the following questions:

1. What is the level of competence of the respondents in the following word problems on the selected topics: Sets, Integers, Fractions, Geometry, Age.
2. What is the relationships between the problem solving competence of the students and the following variables: Mathematics Grade, English Grade.

HYPOTHESES OF THE STUDY

In relation to the stated problems, the following hypotheses was put to test:

1. There is a significant relationship between the problem solving competence of students and their Math Grade.
2. There is a significant relationship between the problem-solving competence of students and their English Grade.

METHODOLOGY

Research Design

This study used the descriptive survey design. A test questionnaire was used to determine the students’ problem-solving competence along the five word problems. The questionnaire was constructed based on the subject content of grade 7 mathematics from quarter 1 and quarter 2 and it was reviewed by the district mathematics teachers and validated by the district supervisor ready for administration. Student-respondents’ average grades in the First and Second Grading Grades in Mathematics and English was requested from their class advisers after the permission from the respective principals.

Population and Locale of the Study

The respondents for this study are the grade 7 students coming from different secondary schools of Tadian 2 District namely: Am-am National High School, Cagubatan National High School and Dacudac National High school for the School Year 2015-2016. Total enumeration was used since there are only 81 grade 7 students in the district. A parental consent and teacher’s consent was secured before the conduct of the study.

Treatment of Data

The raw scores were transmuted as a percentage grade and were evaluated using the 5- point scale based on the classroom assessment for the K-12 Basic Education Program.

The level of Problem Solving Competence is as follows:

Percentage Grade	DE
90-100	Outstanding
85-89	Very satisfactory
80-84	Satisfactory
75-79	Fair
74 and Below	Poor

The level of student-respondents’ problem-solving competence were obtained using the mean of the Percentage Grade of the five problems and were interpreted.

The same equivalent and range were used in grouping students’ grades for correlation. To determine the relationship between the respondents’ competence on problem-solving and grade their math grade and English Grade, Pearson r was used.

The relationship was interpreted using a range of values for r,

Range of Values r	Degree/strength of Relationship
+/-1.00	Perfect Relationship
+/-0.9- +/- 0.99	very Strong/Very high
+/-0.70- +/- 0.89	Strong/High
+/-0.40- +/- 0.69	Moderate/Substantial
+/-0.20- +/- 0.39	Weak/small
+/-0.01- +/- 0.19	Very weak
0.0	No Correlation

T- test was used to show if there is a significant relationship in the respondents’ competence in mathematics problem solving and their grades in Mathematics and English.

RESULTS AND DISCUSSION

Competence Level of the Grade 7 on Problem Solving

Table 1 presents the competence level of the student-respondents in solving word problems on the selected topics: Sets, Integers, Fractions, Geometry, and Age problems.

The table shows that the level of competence of the students in solving word problem is satisfactory on integers while fair on sets. Furthermore, the students are poor on fraction, geometry and age.

Table 1. *Competence level of the student-respondents on problem-solving*

Word Problem	Frequency					SD	Mean	DE
	O 90- 100	VS 85- 89	S 80- 84	F 75- 79	P 74 & below			
Set	2	4	33	17	25	7.27	77.54	Fair
Integer	30	2	28	8	13	13.23	83.33	Satisfactory
Fraction	14	1	18	9	39	14.45	72.41	Poor
Geometry	0	0	18	16	47	6.08	67.53	Poor
Age	10	2	10	8	51	12.87	68.27	Poor
Mean							73.82	Poor

It revealed from the table that the respondents have poor level of competence in solving word problems as shown by the overall mean which is 73.82. It implies that the students have weak foundation on word problem solving and mathematics concepts are not substantial for them to undergo problem solving. Also, it implies that the students have poor retention of the discussed lessons may be due to the effect of spiral progression of the new curriculum today for it does not have the continuity of the lesson.

Result affirms as stated by Adawan (2010) that one of the top three difficulties encountered by the students in problem solving is age because a child may understand and remember the problem but still unable to solve because they lack appropriate concepts or rules. She added that student's competence in problem solving needs the basic knowledge or skills in mathematics which is necessary to advance in math. Basic skills or knowledge are a floor not a ceiling. Thus students must learn arithmetic so that they can move on to more demanding mathematics.

In addition, Dangkiw (2009), found in their studies that student have difficulty in fractions. He added that both male and female lack sufficient skills in the fundamental operations of fractions. Results also confirms the study of Powell (2011) that students at-risk for or with learning disabilities often struggle with word-problem solving because of numerous steps and skills that are necessary to solve a word problem.

In addition, CCSSO (2010) elaborated that children lacking mathematical proficiency demonstrate ineffective mathematical behaviors such as attempting to solve problems without making sense of the problem's context. Learners are less likely to use their knowledge of mathematics content while solving problems. Moreover, the International Conference on Mathematics Education Research (ICMER, 2010) stated that in Malaysia, students were reported to have difficulties in mathematics problem solving. To relate the findings showed that respondents lacked in many mathematics skills such as number-fact, visual-spatial and information skills that information skill was the most critical. The deficiency of these mathematics skills and also of cognitive abilities in learning inhibits the mathematics problem-solving.

Relationship between the Respondents' Overall level of Competence in Problem Solving and their Grades in Math and English

Table 2 and 3 present the relationship between the overall competencies of the respondents in problem-solving and their average grades in Mathematics and English. Table 2 contains the relationship between the respondents' overall competence in problem-solving and their grades in Mathematics, while Table 3 pre-

presents the relationship between respondents' overall competence in problem-solving and their grades in English.

Table 2. *Relationship between the respondents' overall level of competence in problem-solving and their grades in Mathematics*

WORD PROBLEM	CORRELATION COEFFICIENT r	t-VALUE	DESCRIPTIVE EQUIVALENT
Set	(-) 0.079	0.00215 ^{ns}	Weak negative Correlation
Integer	0.381	0.0000409 ^{ns}	Weak Correlation
Fraction	0.358	0.0266 ^{ns}	Weak Correlation
Geometry	0.123	0.000000362 ^{ns}	Weak Correlation
Age	0.521	0.0000278 ^{ns}	Moderate Correlation
Over-all Competence	0.292	0.00019819 ^{ns}	Weak Correlation

^{ns} -Not Significant

The result is in contrary the findings of Isican (2014) that there is a significant correlation between their grade in math six and the level of their competence on the basic operations of rational numbers specifically, the whole numbers, decimals and fractions. This result was explained by Dangkiw (2009) that poor foundation in mathematics affects the level of competence of students in mathematics.

A study on the results of OECD-PISA (2003) revealed that there is a strong relationship between students' performance levels in mathematics and reading and their performance in the problem-solving assessment. Analysis shows that two factors, a mathematics factor and a reading factor, account for a substantial amount of the variability in students' scores. However, the problem-solving items draw on aspects of reasoning that can be considered to be different to reasoning skills used in mathematics and reading. On the other hand, result confirms the study of Sibaen (2015) and Rabacal (2013) that there is no relationship between mathematics grade and academic performance of student and the level of their problem solving success.

Even though problem-solving items do not involve mathematical content knowledge, other than simple arithmetic in two items, it is still expected that there should be high correlation between student performance in mathematics and problem solving, thus a higher average grade indicates a better academic performance in Mathematics. This is because mathematics also requires a high level of analytical reasoning skills. It had been also noted that students performance standards and learning competencies in mathematics all lie on the problem-solving competence of the learners. Thus, inability of learners to solve problems entails their inability to learn mathematics.

Table 3. *Relationship between the respondents' overall level of competence in problem-solving and their grades in English*

WORD PROBLEM	CORRELATION COEFFICIENT r	t-VALUE	DESCRIPTIVE EQUIVALENT
Set	(-) 0.079	0.00147 ^{ns}	Weak negative Correlation
Integer	0.083	0.00937 ^{ns}	Weak Correlation
Fraction	(-) 0.028	0.0502 ^{ns}	Weak negative Correlation
Geometry	0.071	0.000349 ^{ns}	Weak Correlation
Age	0.310	0.00242 ^{ns}	Weak Correlation
Over-all Competence	0.1142	0.00819 ^{ns}	Weak Correlation

^{ns} - Not significant

Based on table 3, the respondents' level of competence in solving problems is weak on age, geometry and integer while weak negative correlation on set and fraction problem. Weak negative correlation means that the problem solving competence of the students and their English grades vary inversely but for weak positive or weak correlation, it means they vary directly. Moreover, it has an overall weak correlation with their grades in English with r equal to 0.1142. The computed t value as 0.00819, revealed that it has no significant relationship between problem solving competence of students' and their English grades. Thus the hypothesis is rejected. It implies that English grade may not affect word problem skill of the students

This result affirms the findings of Adawan (2010) that the students' level of competence in mathematics problem solving and their English grades are not correlated. She added that the students' performance in problem solving is not affected by their English grade or competence in problem solving. Digan (2013) also added that there is no relationship between the respondents' reading comprehension grade and competence level in arithmetic problem solving.

However, results negate the findings of Adawan (2010) that mathematics comprehension is significantly correlated with abstract reasoning skills and language ability and the study of Nadiahan (2012) that English Proficiency along grammar, reading comprehension and vocabulary are related to the performance of the students in solving word problems. Nadiahan added that knowledge on the key words in a problem is of great help in the understanding and solving word problems correctly, more over knowing how this words are used in the context may help in the correct analysis of the word problems.

In addition, as cited by Nadiahan (2012) found that one reason why students have difficulty in understanding word problems is due to poor reading comprehension. Also Dokey (2004) found that English grades are significantly related to the performance of students in Mathematics, students who perform low in problem solving had linguistic problems. Moreover, in the studies he reviewed, that there is a relationship between a student language proficiency and performance on measures of mathematics achievement.

In addition, ICMER 2010 stated that students felt difficult in mathematics because they had difficulty understanding and retrieving concepts, formulas, facts and procedure and lacked the ability to visualize mathematics problems and concepts. This means weakness in understanding concepts, logic-thinking and lacking of strategic knowledge caused errors in problem-solving.

Furthermore, Powell (2011) added that students may struggle with comprehension of the text of the word problem. Students with learning disabilities struggle with mathematics and reading difficulty; therefore, embedding mathematics within a linguistic context may challenge students who also have reading deficits. To solve a word problem, students must use the text to identify missing information, derive a plan for solving for the missing information, and perform a calculation to find the missing information. Even when complex calculations are not required, students with learning disabilities struggle with problem solving compared to their average-performing peers.

Although the findings reveal that the relationship between the respondents' grade and problem solving competence are weak, this does not imply that the success in problem solving is not affected by their English skills. The English proficiency of the respondents may not be a great variable affecting their competence in problem solving.

In this study, it can also be considered that with the new types of assessment and grading system under the K to 12 curriculum, different modes of assessing students' learning are encouraged. Thus, students' grades do not necessarily project their competence in written assessment. It can be gleaned that this study utilized paper and pencil test only.

CONCLUSIONS

Based on the findings of the study, the following conclusion were drawn;

1. The grade 7 student-respondents need the basic skills and concept in order for them to improve their level of competence in problem solving.
2. Students' grade in Mathematics may not necessarily affect their level of competence in solving word problems.
3. The respondents' grade in English have no bearing with their level of competence in solving word problems.

RECOMMENDATIONS

The following recommendations are formulated based on the findings.

1. Mathematics teachers may give more emphasis on the significance of problem solving or application of the concepts to the students' daily lives.
2. Teachers are encouraged to design more challenging word problems that are within the students' capacity.
3. Teachers may integrate vocabulary in problem solving activities to enrich students' language proficiency or competencies.
4. Teachers may design varied assessments aside from paper and pencil or pure text.
5. School administrators, supervisors, principals, head teachers and other school authorities may also periodically check teachers' methods of assessment, conduct semestral assessment among students to address the learning gaps and provide immediate interventions
6. A similar research may be conducted considering other variables to validate the result.

ACKNOWLEDGMENT

The journey towards the realization of this study would not have been possible without the support of my family, who without reservations, willingly complemented, supplemented, and contributed to this endeavor, that the researcher would like to extend his gratitude, and gives back the glory for the incessant guidance and strength to the benefactor of all things, our Creator.

REFERENCES

- Adawan, W. G. 2010. *Competence level in Mathematical Problem Solving of First Year High School Students of Two Selected Private Schools in Baguio City*, Unpublished Master's Thesis, Benguet State University, La Trinidad, Benguet.
- Aquino, C.R. 1996. *Word Problem Analysis Skills in Mathematics 1 of students of Juan G. Macaraeg National High School, 1995-1996*. Unpublished Master's Thesis, University of Baguio, Baguio City.
- Bostic, J. D. 2011. *The Effects of Teaching Mathematics through Problem-solving Contexts on Sixth-Grade Students' Problem-solving Performance and Performance and Representation Use*. Unpublished Doctoral Dissertation, University of Florida, USA.
- CCSSO 2010, *Teaching Mathematics in the 21st Century*. www.pearsonhighered.com. Retrieved on August 10, 2015
- Dangkiw, A.G. 2009. *Proficiency level of the four fundamental Operations in Mathematics of the Freshmen Students in the Public High School of Sagada District*, Unpublished Masters' Thesis. Benguet State University, La Trinidad, Benguet.
- Digan, M. 2013. *Competency of Pupils in Identifying the Correct Operation on the Semantic Structures of Arithmetic Word Problems*. Unpublished Master's Thesis, Benguet State University, La Trinidad, Benguet.
- Dokey, R.A. 2004. *The Effects of Using Modular and Lecture Discussion Method of Teaching Students' Performance in College Algebra*. Unpublished Master's Thesis, Benguet State University, La Trinidad, Benguet.
- <http://www.nismed.upd.edu.ph/science>, Accessed on August 10, 2015
- <http://www.NETRC.sysportal.net>
- International Conference on Mathematics Education Research 2010, *Students' Difficulties in Mathematics Problem-Solving: What do they Say?* Retrieved March 21, 2016, from <http://www.sciencedirect.com/science/article/pii/S1877042810021257>
- Isican, P. M. 2014. *Competence level of Grade 7 students in Saint Louis University Laboratory High School on the Basic Operation of Rational Numbers*. Unpublished Master's Thesis, Benguet State University, La Trinidad, Benguet.
- Lesh, R. Zawojewski. 2007. *Problem Solving and Modelling*. In F. Lester, Jr. (Ed.), *Second handbook of Research on Mathematics Teaching and Learning* (pp. 763-804). Charlotte, NC: Information Age Publishing.
- Nadiahan, L. C. 2012. *Problem Solving in Trigonometry as Correlated with English Proficiency*, Unpublished Master's Thesis, Benguet State University, La Trinidad, Benguet.
- OECD 2004. *Problem Solving for Tomorrow's World. First Measure of Cross-Curricular Competencies from Programme for international Students Assessment (PISA) 2003*, OECD Publishing. Paris. <https://www.oecd.org/edu/school/>

- programmeforinternationalstudentassessmentpisa/34009000.pdf .Retrieved on January 10, 2016.
- Pape, S. 2004. *Middle School Children's Problem-solving Behavior: A Cognitive Analysis from a Reading Comprehension Perspective*. Journal for Research in Mathematics Education, 35, 187-219.
- Powell, S. R. 2011. *Solving Word Problems using Schemas: A Review of the Literature.*, from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3105905>, Retrieved February 21, 2016
- Rabacal, R. S. 2013. *Solving Skills on Non-Routine Problems of Mathematics Major students of Saint Louis University*. Unpublished Master's Thesis, Benguet State University, La Trinidad Benguet
- Sibaen, Nick W.,(2015) *Knowledge Construction Patterns' Success in Problem Solving: Its Correlation to Mathematics Grade and Mathematics Experience*. Unpublished Master's Thesis, Benguet State University, La Trinidad, Benguet
- Verschaffel. L., B. Greer , & E. Decorte , 2000. *Making Sense of Word Problems*. Lisse The Netherlands: Swets & Zeitlinger.
- Vilenius – Tuohimaa, P. Aunola, and J. Nurmi. 2008. *The association between mathematical word problems and reading comprehension*. Educational Psychology, 28, 409-426

ATTITUDE AND GAIN SCORES OF STUDENTS TAUGHT WITH A LEARNING MODULE IN PROBABILITY AND STATISTICS

RONALD L. CACHERO
Management Information System Coordinator
Cagayan State University
C – 2, Sanchez Mira, Cagayan
3518 Philippines

ABSTRACT

There are great differences in how each student learns that necessitates the need for instructional systems which can make higher education available to large number of students and, at the same time, offer an individualized learning experience. Looking at this scenario, the researcher felt the need to address this thematic problem. This study was conducted to compare the students' performance in probability and statistics taught with the traditional method and with the use of a learning module. It also looked into the attitude of the students towards probability and statistics before and after the experiment. The study utilized the quasi-experimental design in which two classes were used, one for the experimental and one for the control group. Results were analyzed using the t – test. Results reveal that mean gain scores of the experimental group is significantly higher than the mean gain score of the control group. Also, results reveal that the change in attitude in the experimental group is significantly higher than the change in attitude in the control group. The results indicate that the learning module brought improvement on students' attitude towards and student's performance in Probability and Statistics. The result suggests that Modular Instruction should be used in teaching probability and statistics.

Keywords: Learning Module, Probability and Statistics, quasi – experimental design, students' attitude, gain score.

INTRODUCTION

The future of a country and the world depends on the children and college students receiving the best instruction. Upgrading the framework of Philippine education will make designed roadmaps to elevate quality instruction. Along the line of Article XIV of the Philippine Constitution of 1987 a state must take steps to make quality education at all levels. Also, the state recognizes deficiencies of facilities such as substandard libraries, equipment; and unavailability of teaching materials; and services of instruction like incompetent teachers. The state is duty-bound to adopt measures to address the school problems.

As Salandanan (2001) explained, instructional materials offer the best means by which a teacher can provide direction in her students' daily search for new understandings and verifications. Even the best teachers trained in the latest teaching methods, well-informed about facts, and aware of the goals of education can fail in planning and implementing a course if she is not equipped with appropriate instructional materials. Knowledge of how to develop a course syllabus, a teaching unit or a simple learning activity can undoubtedly enhance her competence in communicating to the students the coverage and sequences of the content to be taken up. One such instructional material is the self-instructional module.

Module is a self-contained, independent unit of instruction with well-defined objectives (Wanvick (2007), The Scientific Encyclopedia (2008) or is also defined as a set of learning opportunities organized around a well-defined topic which contains the elements of instruction, specific objectives, teaching learning activities and evaluation (APEID report , 2006) which offers advantages both to students and teachers. At present, evidence suggests that modular instruction meets the needs of students more adequately than traditional instruction both with respect to the quality of learning and the content (Goldschmid and Goldschmid, 2013). Also modules suitable and purposeful, can to a great extent help students to meet the criteria set in terms of content, instructional characteristics and effectiveness (Samonte, 2004). Moreover, a comparative study of teaching psychology through learning modules and the traditional lecture discussion method by Dale (2003) showed that students subjectively preferred the modular approach to traditional method. Hence, the development of this learning module in probability and statistics deems to enhance instruction that best meets the need of the learners.

In recent years, there has been an increasing focus on individualized instruction in higher education. On the other hand, this may be viewed as a reaction to crowded classrooms and large classes which foster anonymity in teaching and learning.

Educators are now experimenting on the new methods of teaching and learning in reaching the quality of education and the quality of citizens produced by schools. They selflessly devote themselves on assessing the efficiency of these new styles in the teaching and learning process. One of the emanating new methods is the self-regulated learning approach wherein teacher intervention is very minimal or limited. This learning style is a student-centered since the student has to learn everything in the module by his own effort and phase. Such approach is scholarly designed to motivate the students develop their self-learning from their studies. It is a new alternative learning approach developed to meet the challenges and academic needs of students learning in education subjects. This learning approach is intended to help students improve their learning and deepen their understanding in learning the subject matters.

Anent to this, the advantages of modular instruction include more choice and self-pacing for students; more variety and flexibility for teachers and staff; and increased adaptability of instructional materials.

Looking at this scenario, the researcher felt two important needs in the university: to come up with ways to enhance mathematics instruction, especially in teaching probability and statistics lessons and to inculcate into the minds of these future generation the importance of their involvement in a world that is increasingly becoming more mathematics and research – oriented. On the other hand, the learning of students is well-facilitated when the teacher is on the right pace of teaching his/ her students. Thus, the use of learning module focusing on the teaching of probability and statistics lessons among CSUans is seen as a viable solution to this perceived problem.

STATEMENT OF THE PROBLEM

Generally, the study developed a learning module for teaching Probability and Statistics in college. The study aimed to provide logical answers to the following questions:

1. What is the performance of the second year students in Probability and Statistics before the use of the learning module?
2. What is the attitude of the second year students towards Probability and Statistics before the use of the learning module?
3. What is the performance of the second year students in Probability and Statistics after the use of the learning module?
4. What is the attitude of the second year students towards Probability and Statistics after the use of the learning module?
5. What is the gain score in the performance of the students taught with and without the learning module?
6. Is there a change in attitude of the students towards probability and statistics taught with and without the learning module?
7. Do students taught with the learning module differ in their gain score with those students taught using the traditional method?
8. Do students taught with the learning module differ in their attitude towards Probability and Statistics with those students taught using the traditional method?

METHODS

The study utilized the pretest and posttest quasi experimental design to measure the effectiveness of the Learning Module on Probability and Statistics.

The Learning Module that was developed consisted of five chapters, and was checked for its content validity, consistency, and language usage by five (5) Mathematics and (5) Language experts. The different lessons or topics for the Learning Module were written in a booklet which required 17 class periods at 1 hour each. The learning modules were retrieved from the students at the end of each period.

The pretest was administered to two groups/classes of students for the purpose of selection. The two groups were the students from BS Info Tech IIA and BS Info Tech IIB students of Cagayan State University at

Sanchez Mira who are currently enrolled in Probability and Statistics during the Second Semester, SY 2014 - 2015. The paired sampling technique was used in the selection. These groups consisted of 35 pairs of students taken from a class of 50 students, with similar grade in the prelim have taken. Those students who were not match were still included in the class, however, their performance were not included in the computation. The two groups/classes, the control and the experimental groups were both handled by the researcher.

In administering the test, the respondents were requested to occupy two classrooms within their college. The test has a time limit of one (1) hour similar to the time allotted for major examinations (prelim, mid-term, and finals). Proper setting arrangement, with lights and ventilation of rooms and as well as classroom discipline were observed to ensure the students' concentration during the test and to avoid cheating that will create biases to obtain positive results. Test instructions were cleared before the test will start. The students were motivated to answer the pre-test and the result was informed for the reason that it was needed for diagnostic purposes only. After facilitating the test, students' test papers were checked and recorded by the researcher. The numbers of checked responses were tabulated and the mean percentages were computed.

The following are the instruments used in this study:

The student academic achievement test was developed by the researcher which was used for the pre and posttests. The test was based on the contents of the Learning Module on Probability and Statistics lessons. The contents of the Learning Module was based on the topics covered during the midterm and from the course content of the subject Probability and Statistics it has five chapters that include the following lessons; measures of central tendency, measures of location, measures of variation, probability and counting and sample points. Each lesson has five parts; the learning objectives, pre-assessment, concepts and subject contents, learning activities and post-assessment.

The test was based on the contents of the Learning Module on Probability and Statistics lessons consisting of 50 multiple-choice questions. Moreover, the whole test paper was calculated for its reliability by means of Kuder Richardson formula 20 (KR-20). The reliability coefficient is 0.89 which means that the test is very for a classroom test and it has a very good reliability.

The assessment of the students' attitudes towards Statistics 12 was measured before and after instruction in both groups the control and the experimental groups. Weighted means were used by the researcher to determine the attitude of the students towards Probability and Statistics lessons. These are of the 5-point Likert scale based on the work of (Cacatian; 2009, Garan; 2013; and Arimas; 2014) as follows;

Weighted Mean (WM)	Descriptive Value (DV)	Trasposed Value (TV)
4.20 – 5.0	Strongly Agree (SA)	Highly Favorable (HF)
3.40 – 4.19	Agree (A)	Favorable (F)
2.60 – 3.39	Uncertain (U)	Moderately Favorable (MF)
1.80 – 2.59	Disagree (D)	Unfavorable (U)
1.0 – 1.79	Strongly Disagree (SD)	Highly Unfavorable (HU)

After six weeks of instruction using the Learning Module and the traditional method of teaching Probability and Statistics (Stat 12), a posttest similar to the pretest was administered to measure the changes in the performance of the students. The gain score and the change in attitude were computed by getting the difference in the pretest and the posttest, and these were compared using the t-test for dependent samples.

FINDINGS

Students' Performance in Statistics 12 Before the Use of the Learning Module

Table 1 discloses the pretest scores of both the control and experimental groups measured in terms of the 50 item test given covering the lessons on probability and statistics. Most of the students in both groups were "fair" in performance with scores ranging from 11 to 20. Results reveal that prior to experiment; the students were not knowledgeable about the topics as shown by the mean scores of 17.34 and 16.14 for the control and experimental groups respectively. No students were extremely good and there were some students who were extremely poor.

Table 1. Performance of the students in Probability and Statistics before the use of the learning module.

Scores	Control		Experimental		Level
	Frequency	Percent	Frequency	Percent	
41 – 50	0	0	0	0	Outstanding
31 – 40	0	0	0	0	Very Satisfactory
21 – 30	10	28.57	8	22.86	Satisfactory
11 – 20	17	48.57	17	48.57	Fair
1 – 10	8	22.86	10	28.57	Poor
Mean	17.34 (Fair)		16.14 (Fair)		

Students’ Attitude towards Statistics 12 before the Use of Learning Module

Table 2 shows the attitude of the students towards Probability and Statistics between the control and experimental groups before experiment. This was done to have a baseline data on the attitude of the students towards probability and statistics before the LM was introduced.

Data show that majority of the items were rated Uncertain by both groups. The students were not yet certain of their attitude towards the subject. Their attitude towards the subject was not yet fully developed.

Table 2. Student’s Attitude towards Probability and Statistics before the Experiment.

Indicators	Control (w/o the Use of Learning Module)		Experimental (w/ the Use of the Learning Module)	
	Weighted Mean	Descriptive Value	Weighted Mean	Descriptive Value
1. Probability and Statistics lessons are fun.	3.0	Uncertain	3.17	Uncertain
2. I like Probability and Statistics lessons.	2.94	Uncertain	2.89	Uncertain
3. I would like to belong to a mathematics club.	2.97	Uncertain	3.0	Uncertain
4. I love Probability and Statistics subject but I hate computations*	3.31	Uncertain	3.20	Uncertain
5. I enjoy solving problems on Probability and Statistics.	3.49	Agree	3.63	Agree
6. I really enjoy going to probability and statistics lessons.	3.34	Uncertain	3.29	Uncertain
7. I like to interact and share new knowledge on mathematics to my friends/classmates.	3.49	Agree	3.40	Agree
8. I love collecting books in mathematics (e. g. probability, statistics, etc.)	3.26	Uncertain	3.03	Uncertain
9. A job as a statistician would be interesting.	3.17	Uncertain	3.09	Uncertain
10. A career related to mathematics would be dull and boring.*	3.17	Uncertain	3.06	Uncertain
11. Mathematics helps to make life better.	3.51	Agree	3.63	Agree
12. Through probability and statistics, I realized that finding out new things is important.	3.34	Uncertain	3.0	Uncertain
13. I dislike solving mathematics problems.*	2.89	Uncertain	2.74	Uncertain
14. I find it boring to hear about new knowledge in mathematics subject.*	3.43	Disagree	3.09	Uncertain
15. Probability and Statistics lessons are waste of time.*	3.46	Disagree	3.49	Disagree
16. I consider probability and statistics as an important part of my education.	3.60	Agree	3.49	Agree
17. Probability and Statistics is one of the most interesting subjects in school.	2.94	Uncertain	3.31	Uncertain
18. I would prefer to read probability and statistics books than reading other reading materials.	3.34	Uncertain	3.14	Uncertain
19. I believe probability and statistics is a very useful subject.	3.66	Agree	3.60	Agree
20. Through Probability and Statistics, I learned many things on how the world is.	3.49	Agree	3.66	Agree
Over – All Mean	3.29	Uncertain	3.24	Uncertain

Note: Indicators with asterisks (*) are negative statements. For these statements, the scale was inverted.

Students' Performance in Statistics 12 after the Use of the Learning Module

After six weeks of instruction using the LM and the traditional method of teaching Probability and Statistics (Stat 12), a posttest similar to the pretest was administered to measure the changes in the performance of the students. It can be gleaned at Table 3 that the experimental group scored higher than the control group with a mean difference of 7.34. Most of the students in the experimental group were "very satisfactory" in performance with scores ranging from 31 to 40 while in the control group most of the students were "satisfactory" in performance with scores ranging from 21 to 30.

Table 3. Performance of the students in Probability and Statistics after the use of the learning module.

Scores	Control		Experimental		Level
	Frequency	Percent	Frequency	Percent	
41 – 50	1	2.86	5	14.29	Outstanding
31 – 40	6	17.14	26	74.28	Very Satisfactory
21 – 30	23	65.71	4	11.43	Satisfactory
11 – 20	5	14.29	0	0	Fair
1 – 10	0	0	0	0	Poor
Mean	28.49 (Satisfactory)		35.83 (Very Satisfactory)		

Table 4. Student's Attitude towards Probability and Statistics after the Experiment.

Indicators	Control (w/o the Use of Learning Module)		Experimental (w/ the Use of the Learning Module)	
	Weighted Mean	Descriptive Value	Weighted Mean	Descriptive Value
1. Probability and Statistics lessons are fun.	3.83	Agree	4.54	Strongly Agree
2. I like Probability and Statistics lessons.	3.89	Agree	4.23	Strongly Agree
3. I would like to belong to a mathematics club.	3.26	Uncertain	3.46	Strongly Agree
4. I love Probability and Statistics subject but I hate computations*	3.14	Uncertain	3.71	Disagree
5. I enjoy solving problems on Probability and Statistics.	3.71	Agree	4.31	Strongly Agree
6. I really enjoy going to probability and statistics lesson.	3.54	Agree	4.20	Strongly Agree
7. I like to interact and share new knowledge on mathematics to my friends/classmates.	3.74	Agree	3.91	Agree
8. I love collecting books in mathematics (e. g. probability, statistics, etc.)	3.34	Uncertain	4.03	Agree
9. A job as a statistician would be interesting.	3.63	Agree	4.43	Strongly Agree
10. A career related to mathematics would be dull and boring.*	3.71	Disagree	4.06	Disagree
11. Mathematics helps to make life better.	4.23	Strongly Agree	4.46	Strongly Agree
12. Through probability and statistics, I realized that finding out new things is important	4.11	Agree	4.43	Strongly Agree
13. I dislike solving mathematics problems.*	3.63	Disagree	4.17	Disagree
14. I find it boring to hear about new knowledge in mathematics subject.*	3.83	Disagree	4.03	Disagree
15. Probability and Statistics lessons are waste of time.*	4.06	Disagree	4.79	Strongly Disagree
16. I consider probability and statistics as an important part of my education.	4.14	Agree	4.37	Strongly Agree
17. Probability and Statistics is one of the most interesting subjects in school.	3.77	Agree	4.23	Strongly Agree
18. I would prefer to read probability and statistics books than reading other reading materials.	3.34	Uncertain	4.11	Agree
19. I believe probability and statistics is a very useful subject.	4.26	Strongly Agree	4.46	Strongly Agree
20. Through Probability and Statistics, I learned many things on how the world is.	4.11	Agree	4.29	Strongly Agree
Over – All Mean	3.76	Agree	4.21	Strongly Agree

Note: Indicators with asterisks (*) are negative statements. For these statements, the scale was inverted.

Gain Scores of the Students taught with and without the Learning Module.

Table 5 shows the gain scores of the two groups of subjects computed by subtracting the pretest score from their post-test score. It is very evident in the table that higher gain scores were attained by the students' taught with the use of the Learning Module, with a mean gain score difference of 8.55 or 43.42 percent higher. This means that the Learning Module is effective in improving the performance of the students in Probability and Statistics.

Table 5. Gain Scores of the Students taught with and without the Learning Module.

Gain Scores	Control		Experimental	
	Frequency	Percent	Frequency	Percent
21 – 30	1	2.86	17	48.57
11 – 20	17	48.57	15	42.86
1 – 10	17	48.57	3	8.57
Mean Gain	11.14		19.69	

Change in Attitude of the Students towards Probability and Statistics
Taught with and without the Learning Module

Table 6 shows the change in attitude of the students towards probability and statistics taught with and without the learning module.

After six weeks of instruction using the traditional method in the control group and using the module in the experimental group in teaching the subject, there was a significant change in their attitude which was proven by their responses to the survey questionnaire. Of the 20 indicators, “Probability and Statistics lessons are fun”, “I like Probability and Statistics lessons”, “I really enjoy going to probability and statistics lessons”, “A job as a statistician would be interesting”, “Through probability and statistics, I realized that finding out new things is important”, “Probability and Statistics is one of the most interesting subjects in school”, were all rated “Uncertain” before the experiment, and after the experiment these were now rated “Agree” in the control group; while in the experimental group these indicators were all rated “uncertain” before the experiment, and after the experiment these were now rated “Strongly Agree”. This shows that that the students exposed to the learning module have a greater change/improvement in their attitude towards probability and statistics than those students who were exposed to the traditional method.

Table 6. Change in attitude of the students towards probability and statistics taught with and without the learning module.

Indicators	Control (w/o the Use of Learning Module)		Experimental (w/ the Use of the Learning Module)	
	Before	After	Before	After
1. Probability and Statistics lessons are fun.	Uncertain	Agree	Uncertain	Strongly Agree
2. I like Probability and Statistics lessons.	Uncertain	Agree	Uncertain	Strongly Agree
3. I would like to belong to a mathematics club.	Uncertain	Uncertain	Uncertain	Strongly Agree
4. I love Probability and Statistics subject but I hate computations*	Uncertain	Uncertain	Uncertain	Disagree
5. I enjoy solving problems on Probability and Statistics.	Agree	Agree	Agree	Strongly Agree
6. I really enjoy going to probability and statistics lessons.	Uncertain	Agree	Uncertain	Strongly Agree
7. I like to interact and share new knowledge on mathematics to my friends/classmates.	Agree	Agree	Agree	Agree
8. I love collecting books in mathematics (e. g. probability, statistics, etc.)	Uncertain	Uncertain	Uncertain	Agree
9. A job as a statistician would be interesting.	Uncertain	Agree	Uncertain	Strongly Agree
10. A career related to mathematics would be dull and boring.*	Uncertain	Disagree	Uncertain	Disagree
11. Mathematics helps to make life better.	Agree	Strongly Agree	Agree	Strongly Agree
12. Through probability and statistics, I realized that finding out new things is important.	Uncertain	Agree	Uncertain	Strongly Agree
13. I dislike solving mathematics problems.*	Uncertain	Disagree	Uncertain	Disagree
14. I find it boring to hear about new knowledge in mathematics subject.*	Disagree	Disagree	Uncertain	Disagree
15. Probability and Statistics lessons are waste of time.*	Disagree	Disagree	Disagree	Strongly Disagree
16. I consider probability and statistics as an important part of my education.	Agree	Agree	Agree	Strongly Agree
17. Probability and Statistics is one of the most interesting subjects in school.	Uncertain	Agree	Uncertain	Strongly Agree
18. I would prefer to read probability and statistics books than reading other reading materials.	Uncertain	Uncertain	Uncertain	Agree
19. I believe probability and statistics is a very useful subject.	Agree	Strongly Agree	Agree	Strongly Agree
20. Through Probability and Statistics, I learned many things on how the world is.	Agree	Agree	Agree	Strongly Agree
Over – all Descriptive Value	Uncertain	Agree	Uncertain	Strongly Agree

Difference in Gain Scores of Students in Probability and Statistics taught with and without the learning module

The table displays that there exists a significant difference between the mean gain scores of the control and experimental groups as indicated by the t-value of 5.984 which is greater than the critical values of 1.995 and 2.650 at .05 and .01 level of significance respectively. Using the LM contributes significantly to the understanding of probability and statistics lessons.

This confirms the findings of Tumaneng, (2010) that to SIM (strategic intervention material) is an effective learning aid or instructional materials. The students enrich their level of performance while they are affording greater flexibility in managing their time, effort and other resources. This result is further supported by Caridaoan, (2007) who stated that the difference in the mean gain scores of the pupils in the experimental over the control group is due to the pupils' exposure to the resource package she developed.

Table 7. Difference in Gain Scores of Students in Probability and Statistics taught with and without the learning module.

Achievements	w/o Learning Module (Traditional)	w/ Learning Module (Experimental)	t - comp	t - tabular		Remarks
				.05	.01	
Mean Gain Score	11.14	19.69	5.857**	1.995	2.650	S
Mean Gain Score Difference = 8.55						

Difference in Students' Attitude Taught with and without the Learning Module Towards Probability and Statistics (Stat 12)

Table 8 presents the result of the t-test conducted to compare the attitude of the students taught with and without the learning module towards Probability and Statistics.

Results reveal that there is a highly significant difference on the attitude of the students towards Probability and Statistics after the experiment as indicated by the computed t-value of 4.75 which is greater than the critical values of 1.995 and 2.650 at .05 and .01 level of significance respectively in favor of the experimental group. This means that the attitude of the students after the use of LM is significantly higher than the attitude of the students who were not exposed to the LM.

This conforms to the study of Fishbein and Ajzen (1975) as cited by Li (2012), that a person's positive or negative attitude can influence a person's intentions to engage in various behaviors. This result is further supported by Linden (1987), who pointed out that one of the advantages of learning module is; students respond positively to a model that allows them to study independently at the time and pace that suits them.

Table 8. Difference in Attitude of Students towards Probability and Statistics taught with and without the learning module.

Attitude	w/o Learning Module (Traditional)	w/ Learning Module (Experimental)	t - comp	t - tabular		Remarks
				.05	.01	
After	3.76	4.21	4.75**	1.995	2.650	S

Conclusions

Based from the results and findings, this study elucidates the following conclusions:

1. The use of learning Module provides an aid for effective teaching and learning process and the Learning Module increases the gained knowledge of the students.
2. Also, the learning module could improve the attitude of the students towards probability and statistics.

Recommendations

In view of the findings and conclusions of the undertaking, the researcher wishes to recommend the following:

1. The learning module to be used in teaching probability and statistics in the different colleges in the campus or across campuses
2. Develop modules in other lessons to cover all the lessons covered in the subject Probability and Statistics.

References

- Arimas, R. V. (2014). "Development and Validation of a Self Learning Module on Gender Concepts and Issues in Sociology". Unpublished Dissertation. Cagayan State University – Sanchez Mira, Cagayan.
- Butler, D. & Winne, P. (1995). "Feedback and self-regulated learning: A theoretical synthesis." *Review of Educational Research*, 65, 245-281.
- Dochy, F. et.al. (2009). "Modularization and Student Learning in Modular Instruction in Relation with Prior Knowledge." Institute of Education Sciences
- Salandanan, G. *Teacher Education Journal*. Quezon City: Katha Publishing Co., Inc. 2001.
- Scientific Encyclopedia, (2008)
- Smith, K.J. 2009. Instructional design theory. Retrieved from <http://www.ic.arizona.edu/ic/edp511/isd1.html>.
- Tumaneng, R. (2010). "Culture – based Strategic Intervention Material for Teaching Selected Topics in Science and Technology." MA Thesis, Mariano Marcos State University, Laoag City
- Zimmerman, B. (2001). "Theories of self-regulated learning and academic achievement: An overview and analysis." In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-regulated learning and academic achievement: Theoretical perspectives* (2nd Ed., pp. 1–37). Mahwah, NJ: Erlbaum.
- <http://www.uvm.edu/~jleonard/AGRI85/fall2003/DataClassification.html>. Retrieved on October 10, 2014.
- <http://www-personal.umich.edu/~espring/statsMod.html>. Retrieved on September 12, 2014.
- <https://www.coursehero.com/file/p7gi5ef2/Samonte-2004-developed-evaluated-and-tried-out-an-environmental-outdoor/>. Retrieved on September 10, 2014.

GAWAD KALINGA GOVERNANCE: TOWARDS POVERTY ALLEVIATION IN THE PROVINCE OF CAPIZ

ROWENA CRISTINA D. DELA CRUZ
College of Management
Capiz State University Main Campus
Roxas City, Capiz, Philippines

ABSTRACT

Poverty remains a serious social concern and that includes the Philippines and government is spending millions on poverty alleviation programs. "Gawad Kalinga or GK," translated in English means "to give care," is a Philippine-based movement that aims to end poverty by uplifting the human dignity of the marginalized at its core through a holistic approach of empowerment and enabling environment with values-formation and leadership development. GK has become a vehicle for convergence across sectors of society of which its model of governance being replicated around the world. Established in 2003, the foundation works with over 2,500 communities in the country to include eight in the Province of Capiz. The challenges brought by Typhoon Hayan (Yolanda) in 2013 paved the way for the birth of Gawad Kalinga (GK) Capiz. Forty percent of the people affected by typhoon Hayan were below poverty line (UNDP, 2013). This study was conceptualized to investigate the claim of GK beneficiaries that are the "happy poor". Interview and survey questionnaires were employed to gather needed data on the lived experiences of the beneficiaries to give in-depth understanding of the program. On the exploratory made, GK Capiz had undertaken activities on values formation, housing, community organizing, food sufficiency, clean up drive, medical mission, scholarship programs and partnerships with academe and social enterprise development. Results had revealed that being helpful to others and the community made them feel good, enjoyed their participation and truly a stakeholder of the GK program despite that seventy nine percent of the 287 respondents come from families below poverty line. Beneficiaries of housing claimed that their lives had improved. On the other hand, workers and volunteers' level of commitment was very high; land donors believed that GK workers and volunteers were trustworthy and effective in delivering services while government partners strongly favor community projects undertaken by Gawad Kalinga.

Keywords- Governance, Gawad Kalinga, Capiz

INTRODUCTION

Poverty remains a serious social concern and is described in different ways around the world. In the Philippines, poverty is having very little or no food, suffering from unhealthy practices, little education, and having no permanent place to live. The Philippine government is spending millions to alleviate the situation but the impact is not felt and the poor are impatient. They accept the fact that they could remain poor for a long time and may die poor. This mindset puts a heavy burden on the shoulder of the government.

It is estimated that one billion people in the world today live in extreme poverty. According to the Institute of Development Studies (2015) there are many dimensions to their deprivation, low and irregular incomes, lack of safe drinking water, poor housing, limited access to health and education, and social exclusion and discrimination. Their poverty makes them extremely vulnerable to life cycle, natural, or economic hazards. In many cases, extreme poverty persists over time.

Using the definition of chronic poverty as those people who remain under the poverty line for at least five years, approximately 400 million people in the world are chronically poor (Institute of Development Studies, 2015) Being poor for a long period of time decreases whatever they have from the start. Their voice in the society becomes smaller that they are not even asked to participate in policy consultations. They are considered burden for they always need support.

Philippine President Benigno Simeon C. Aquino adopted the framework of inclusive growth in government's Philippine Development Plan of 2011 – 2016, which is aimed to sustain growth that will generate mass employment and empower the poor and marginalized and thereby improve the quality of life of the Filipino (NEDA, 2010). Poverty alleviation programs were implemented by different government agencies, yet impact were not felt by the marginal poor. Natural disasters experienced throughout the country would worsen the plight of the poor who are most vulnerable.

Gawad Kalinga describes the poor as the landless, homeless, and hungry. “Gawad Kalinga,” translated in English means “to give care,” is a Philippine-based movement that aims to end poverty by first restoring the dignity of the poor. With its motto “less for self, more for others, enough for all” GK employs an integrated and holistic approach to empowerment by creating an enabling environment with values-formation and leadership development at its core (Gawad Kalinga, 2015). GK has become a vehicle for convergence for all sectors, and its model of governance is now being replicated in all levels of Philippine society. Established in 2003, the foundation currently works with over 2,000 communities including eight in the province of Capiz.

The need to respond to the challenges brought by Typhoon Hayan (Yolanda) paved the way for the birth of Gawad Kalinga (GK) Capiz. Forty percent of the people affected by typhoon Hayan were below poverty line (UNDP, 2013) but how come GK beneficiaries in Capiz describe themselves as the “happy poor?” As a member of GK Capiz Provincial Management Team and focal person for GK-CapSU partnership, it is the purpose of the researcher to look into the experience of the provincial management team of Gawad Kalinga Capiz, its volunteers, workers, private and government partners and beneficiaries, their poverty alleviation participation and social partnership system, and the role of Gawad Kalinga in the sustainable development of the Province of Capiz and describe the experience giving deeper understanding of the project impact to the milestones travelled from where they were after the devastation of Hayan.

The expanse of the devastation of Typhoon Yolanda in November 2013 brought all sectors, both private and public, local and international, to the aid of the victims. Gawad Kalinga (GK) sent volunteers to Capiz to organize relief operations to help those affected by the so-called “Super Typhoon.” Local volunteers were gathered to address the immediate need for food, clothing and safe drinking water.

The Philippine Strategic Response Plan (2013) for the rehabilitation of Typhoon Yolanda victims in Visayas was aimed to address the immediate humanitarian needs of the people affected by the typhoon. It included building food security, providing sustainable shelter solutions, engaging women and men in livelihood or employment, prevent disease outbreaks and regain access to community and local government services, including basic education and safe environment (Philippine Strategic Response Plan, 2013). Although GK had been doing this services since 2003 in different parts of the country, GK Capiz joined the effort in response to the need brought by Typhoon Yolanda.

Poverty alleviation efforts in the Philippines can be more evidently observed in rural agricultural and coastal households. According to the Philippine Human Development Report 2012/2013, two of every three income-poor persons depend directly on agriculture for employment and sustenance and reflect low productivity (United Nations Development Programme, 2015). GK describes the poor as those seen at the “base of the pyramid” (Oquiñena, 2015). GK has been converging and building goodness among the rich and poor for 10 years concentrating in greater Manila area but spreading the goodness across the country dreaming of ending poverty for 5 million Filipino families. Oquiñena opined that “for ten years now, GK had worked towards “flipping” the pyramid contrary to the trickle down strategy or the bottom up approach to development. “Flipping” the pyramid will mean that the “haves” will have to do the heavy lifting if we want to stabilize our nation. We cannot expect the poor to play catch up, they will never be able to” (Oquiñena, 2015). Reflecting on this, GK Capiz reached farthest barangays in Capiz including coastal barangays such as Buntod, Panay and Gabuc in Pontevedra; and upland barangays Concepcion, Dumalag and San Nicolas, Tapaz.

OBJECTIVES OF THE STUDY

Generally, this study aimed to document the experiences of Gawad Kalinga in Capiz for the period covered November 2013 – to December 2015. Specifically, the study aimed to:

1. Determine the profile of the respondents;
2. Describe the different poverty alleviation activities conducted by Gawad Kalinga in the Province of Capiz;
3. Find out how these activities are funded;
4. Identify the partners of Gawad Kalinga Capiz and their role in undertaking poverty alleviation activities in Capiz;
5. Determine the factors that facilitated as well as hindered in the implementation of these activities.

METHODOLOGY

Permission was sought from Gawad Kalinga Capiz head to conduct this study. The study was descriptive in nature and utilized interview and survey questionnaires to gather needed data to describe the lived experiences of the respondents. The questionnaire was used to gather data, prepared in three parts: Part I was to gather information such as profile of respondents; Part II dealt on GK Capiz activities the respondents participated in and their role in these activities, while Part III was on the factors that facilitated or hindered success of the implementation of GK activities. The instrument was validated by the panel of experts of Capiz State University during the research symposium proposal presentation.

The study was conducted in the province of Capiz from October to December 2015. Interview with the ten (10) provincial management team members were held at Gawad Kalinga Provincial Headquarters Office at San Antonio Resort, Baybay, Roxas City, while interviews with volunteers and beneficiaries were done, in batches of ten 10 respondents per group, at Barangay Buntod, Panay and at Barangay Dinginan, Roxas City after gathering the filled up questionnaires. The respondents of this study were the 287 volunteers and beneficiaries of Gawad Kalinga Capiz who are of legal age and who had been with GK Capiz for at least a year.

Table 1 presents the distribution of respondents of the study. The 287 respondents were composed of 83.27 percent or 239 beneficiaries, 13.24 percent or 38 volunteers and 3.48 percent or 10 management team members or caretakers.

Table 1. Distribution of Respondents

Variables	Frequency	Percentage
Management Team	10	3.48
Volunteers	38	13.24
Beneficiaries	239	83.27
Total	287	100

FINDINGS

Profile of the Respondents

Table 2 presents the profile of the respondents. Of the 287 respondents, majority are female, age 30 to 59 years old, with estimated monthly family income of below Php5,000.00 and were able to attain secondary education.

Table 2. Profile of the Respondents

Variables	Frequency	Percentage
Sex:		
Male	113	39.37
Female	174	60.63
Total	287	100
Age:		
Below 18 years old	15	5.22
18-29 years old	117	40.77
30-59 years old	148	51.57
60 years old and above	7	2.44
Total	287	100
Estimated Monthly Family Income:		
Php 1,000 - 5,000	198	67.10
Php 5,001 - 10,000	76	22.20
Php 10,001 – 20,000	10	1.80
Php 30,000 and above	3	2.40
Total	287	100
Highest Educational Attainment:		
No Formal Schooling		
Elementary Level	11	3.83
High School Level	89	31.01
College Level	93	32.40
Vocational Graduate	85	29.62
Post Graduate	7	2.44
Total	2	0.70
	287	100

Gawad Kalinga Capiz Poverty Alleviation Activities

Table 3 presents the poverty alleviation activities undertaken by Gawad Kalinga Capiz. Of the eight (8) major poverty alleviation activities, values formation ranks number 1 as the most participated activity of the volunteers and beneficiaries. As stated in the poverty alleviation model of Gawad Kalinga, more than programs or funding, caretakers provide consistent presence, offering a hand in friendship and with a strong values formation and mentoring program for sustainable transformation (Gawad Kalinga Model, 2015). GK Capiz started values formation right after beneficiaries were identified. GK project directors, as caretakers, and youth volunteers meet with the beneficiaries every weekend to conduct values formation sessions while construction of houses are on-going. These sessions would usually take three hours every Sunday afternoon. So that parents can concentrate on the lectures, children below 12 years old are engaged in Paraisong Pambata, an activity that teaches love, caring and sharing, and enhances creativity too by doing fun activities and games and are usually assisted by youth volunteers. GK believes that values deterioration is one of the reasons why poverty occurs and restoring the values of parents will help them take care of their children while inculcating the right values in children will contribute in developing them into productive individuals.

Table 3. Poverty Alleviation Activities Participated by Respondents

Activities	Frequency	Percentage	Rank
1. Values Formation	287	100	1 st
House Build	281	98	2 nd
Bayan-Anihan	278	97	3 rd
Youth Camp	244	85	5 th
Business Camp	32	11	7 th
Livelihood Trainings			
Bayani Challenge	281	98	2 nd
Medical Mission	254	89	4 th
	179	62	6 th

Results also discloses that ranked second are the housing program which GK called “House Build” and Livelihood Training activities. House builds rank second since most of the youth were able to participate in this activity as it is conducted as a culminating activity during youth camps. Likewise, all beneficiaries have to earn the required number of hours to be entitled a house unit in a GK Village. On the other hand, beneficiaries and even volunteers are most willing to attend livelihood trainings to learn new skills and engage in income generating activities.

The absence of permanent address made the poor feel they do not belong to the community. They call their status NPA or “No Permanent Address”. With the housing project of Gawad Kalinga, the respondents feel they gained confidence and belongingness.

One of the indicator of poverty is poor health. “Bayan-Anihan” is a food security, health and nutrition, as well as an income generating program to improve the health and nutrition of the community particularly children. Result of the study displays that this activity ranked third since most beneficiaries (mothers) availed of trainings on natural gardening and are engaged in maintaining communal garden and livestock raising. Produce from these gardens are consumed by GK families to improve nutrition particularly of children while excess products are sold to provide additional family income.

The annual “Bayani Challenge” highlights the year-round activities of Gawad Kalinga. This is conducted week-long once a year and activities such as refurbishing schools as part of “Brigada Eskwela” together with DepEd, painting of government buildings, medical missions, clean up drive along coastal areas and Kalinga Night were simultaneously conducted and participated by almost all volunteers and beneficiaries. These activities are engaged to bring color to the minds and hearts of beneficiaries.

Reflected in table 3 are lowest ranked activities such as the medical mission and business camp. Interview revealed that medical missions were conducted only at Barangay Dinginan and Barangay Intampilan, the latter’s beneficiaries of which were not among the respondents. Whereas, the business camp conducted in 2015 was participated only by students of Capiz State University, some volunteers and beneficiaries. Though these activities are important in maintaining health and livelihood respectively, the activities were minimally conducted and had not made so much impact in the poverty alleviation of the communities under

study.

Gawad Kalinga Fund Source

Interview with the Gawad Kalinga Capiz Head reveals that donations are resources entrusted to GK for use in various activities. Donors usually opt not to participate in any way with program implementation and simply wish to be assured that their donations are able to help the GK cause. Housing funds are taken from donations of specific organizations or corporation. As a sign of gratitude most of GK villages are named after their lot or fund donors.

Partnerships are collaborations between a partner such as private corporation, a school or university, Gawad Kalinga and GK communities to achieve specific goals. These collaborations are, in most cases, defined through a Memorandum of Agreement between the partner and GK. Donations and partnerships for GK programs can generally be classified into these ways of helping communities:

- a. support urgent and ongoing campaigns such as feeding programs, Bayani Challenge, medical missions, scholarships, livelihood trainings, etc.;
- b. donate land;
 - build a GK community in a priority area;
 - Fund houses
 - Fund learning center, community center or playground
 - Support community empowerment

“Helping others makes me feel good” one GK Capiz volunteer describe the feeling of participating in a GK Bayani Challenge. At Gawad Kalinga, the poor helps each other. The respondents describe their GK Capiz experience as very enjoyable. The poor who were described as landless may still not hold a land title for the GK house granted to them but they describe their life as “much better now”. Even without a land title, they felt secure because GK made sure that they can stay at their homes for as long as they exults the values and commitment of the GK community.

Workers and volunteers look forward to the next GK activity and the next year’s Bayani Challenge. Land donors believe that GK workers and volunteers are trustworthy and effectively deliver services. During the turn-over ceremony of the Fitness First Village, Ms. Grace, land donor and an indigenous people herself, convinced another friend to donate a piece of land for Gawad Kalinga Capiz’s next GK Village in the Municipality of Tapaz.

Government partners strongly favor community projects undertaken by Gawad Kalinga. Representatives from the local government units, the provincial agriculture and the Department of Science and Technology pledge support to help develop GK income generating projects identified for each GK Village to attain food sufficiency and sustainable livelihood activities.

Factors that Facilitated or Hindered GK Program Implementation

Findings also revealed the factors that respondents perceived to have facilitated or hindered GK program implementation. As to factors that helped:

1. The highest mean of 4.64 verbally interpreted as highly facilitated revealed that respondents recognizes the partnership of the rich who are willing to share their resources such as cash, properties, machineries and technology; the academe who provides venues for activities and technology in skills development; and, government agencies who provides machineries, technology and raw materials with the poorest member of the community as key in the successful implementation of Gawad Kaling projects and activities. The provincial management team believes that without the full cooperation of partner agencies and individuals and the beneficiaries themselves, the projects and activities will not succeed.
2. The item on strength of the youth and their high level of commitment to facilitate all GK Capiz activities got the mean of 4.62, also verbally interpreted as highly facilitated. This indicates that GK’s source of strength is the participation and commitment of the young who tirelessly attend to organizing and facilitating activities. Being the future of this country, empowering them will also mean securing the future of the land.
3. Among the highly identified factor that facilitated the success of GK program implementation is the

the beneficiary mindset of dole out system with a mean of 4.52 verbally interpreted as highly hindered program implementation. Interview revealed that livelihood activities initiated by Gawad Kalinga Capiz failed since beneficiaries are not careful with fund management and that they have no obligation to return the money given to them.

3. Beneficiaries refusing to occupy houses granted to them due to lack of income generating opportunities or distance from current work or livelihood got the mean of 3.81 verbally interpreted as moderately hindered program implementation. Although the respondent beneficiaries recognizes that having a permanent place to live, protected from rain and nature attack, they still lack the capability to support their need for food and other basic commodities due to lack of economic activity in the area where GK houses were built. They tend to linger in their old location where they have established economic activities to earn a living such as selling and working for other households or farms.
4. The item on security issue for foreign visitors in security challenged communities got the lowest mean of 3.27 verbally interpreted as slightly hindered project implementation. The presence of foreign visitors, particularly foreign interns, staying at the houses of beneficiaries for a period of three weeks to two months in security challenge areas at times would result to more rigid monitoring, requesting local military involvement, and at times cancellation of activities or the stay of foreign interns in these areas.

CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

1. Majority of Gawad Kalinga Capiz activities are aligned with the Philippine Strategic Response Plan to rehabilitate Typhoon Yolanda victims which will also alleviate poverty if sustained for many years;
2. Monetary donations received from GK headquarters and local donors are complemented by the guidance of the provincial management team as caretakers, the sweat equity of the GK Village beneficiaries, valuable contributions of volunteers, the resources of local government units and agencies, the expertise of the academe and other individuals and institutions, creating a network of relationships that is key to the process of elevating the poor from poverty;
3. Problems encountered need more government partnership endeavors, continued values formation and immediate livelihood interventions.

RECOMMENDATIONS

Gawad Kalinga engages the rich and poor, young and old Capizeños, private and public sector, the Filipinos as a country and the good Samaritans around the world to pool their resources together to ensure that goodwill and positive impact is multiplied many times over. To continue this positive impact, the following recommendations are suggested:

1. Community challenges need more presence from the caretakers because to some residents it will take a while before the right values are formed while the youth needs more love, understanding and continued guidance and presence.
2. Problems encountered such as long wait for processing government documents will require a lot of patience and perseverance.
3. Security of foreign visitors may be coordinated with local authorities in advance.

ACKNOWLEDGMENT

The researcher wishes to convey gratitude and appreciation to Capiz State University management, faculty and staff of the College of Management, Gawad Kalinga Capiz Provincial Management Team, and the community leaders, beneficiaries and volunteers for their cooperation and help; for His providence, to God be the Glory!

REFERENCES

- Astrolabio, Marlo, 2015. The quest. Capiz State University Official Student Publication Vol. 39, Roxas City, Philippines.
- Clark, Helen, 2014. Speech at the 2014 EU High Level Resilience Forum, United Nations Development Programme. Retrieved from <http://www.undp.org/content/undp/en/home/presscenter/speeches/2014/04/28/helen-clark-speech-at-the-2014-eu-high-level-resilience-forum.html> dated August 22, 2015
- Gawad Kalinga Official Website <http://www.gklworld.com/>
- Oquiñena, Jose Luis, 2015. Our take on poverty. Retrieved from <http://gawadkalinga.com/whatispoverty> dated July 3, 2015
- Philippine Development Plan 2011 – 2016, NEDA. Retrieved June 20, 2015 from <http://www.neda.gov.ph/?p=1128>
- Philippine Strategic Response Plan (2013) Retrieved from <file:///C:/Users/Client/Downloads/Strategic%20Response%20Plan%20-%20Philippines%2010-Dec-2013.pdf> dated July 8, 2015.
- PSPA, 2015. The continuing search for good governance patterns, practices and prospects: higher education as catalysts for decentralization and democratization for development. Proceedings of the 2015 PSPA International Conference, Vigan, Ilocos Sur, Philippines.
- UNDP, 2013. Retrieved from <http://www.ph.undp.org/content/philippines/en/home/presscenter/typhoon-haiyan--yolanda-/situation-reports.html> dated February 5, 2015.

THE INFLUENCE OF STRATEGIC, COLLABORATIVE AND CULTURAL LEADERSHIP ON QUALITY OF WORK LIFE OF SCHOOL HEADS

SATURNINO E. DALAGAN, JR.

Director for Student Services / Concurrent Graduate School Head
Institute of Education and Teacher Training
Davao Oriental State College of Science and Technology

ABSTRACT

The study attempted to investigate the strategic, collaborative, and cultural leadership that greatly influence quality of work life of school heads of Region XI. Strategic leadership includes awareness, planning, development, results, and culture; collaborative leadership includes assessing the environment, creating clarity, building trust, sharing power and influence, developing people, and self-reflection; and cultural leadership includes parental involvement, teacher involvement, principal-teacher relationship, teachers supported, student involvement, social justice, positive school climate, risk-taking strategies, team approach, and problem-solving strategies. Quality of work life is determined through job, family, and environment. The descriptive-correlational research method was used in this study and the statistical tools were the mean, Pearson r , and multiple regression. Findings revealed that there were significant relationships between and among the variables: strategic, collaborative, and cultural leadership towards quality of work life of school heads in Region XI. The study proved that strategic, collaborative, and cultural leadership jointly influenced quality of work life of school heads. Moreover, among the three important independent variables, the strategic leadership was the best predictor of quality of work life of school heads.

Keywords- strategic leadership; collaborative leadership; cultural leadership;, quality of work life

INTRODUCTION

The quality of work life encompasses an immense variety of programmes, techniques, theories and management styles through which organizations and jobs are designed for school heads to exercise autonomy, responsibility and authority in strengthening the workplace (Gupta & Sharma, 2011; Edvarson & Gustavson, 2003). This type of quality is crucial in sustaining school heads' interest and positive attitudes toward their works and lives in general. However, the struggle of achieving high quality work life of school heads remains a regular topic both in education and leadership research (Lim, 2011).

Several studies have identified parameters of poor quality of work life. These indicators are distinct that some principals tend to resist changes initiated by teachers and other education stakeholders for uneducated reasons such as to thwart challenges to their leadership (Marsh & Willis, 2007); socio-economic background of the employees and their expectations in the work place have no significant relationship (Subramaniam & Saravanan, 2012); and, fear of rejection (Hughes, 2009).

Others are very specific on the factors that reinforced poor quality of work life. Sheel, et.al (2012) expressed that frequent changes in work environment directly or indirectly influence the performance of school heads. In the same manner, Ameen (2012) argued that work quality and productivity are reduced without any doubt when school leaders are pessimistic toward their work and feel the lack of fulfilment in doing their tasks. Lastly, the study of Sheel, Sindhwani, Goel, Pathak (2012) postulated that people working in uncertain working environments are more vulnerable to losing a sense of pride and worth in their lives and career.

In the Philippines, Sison (2000) argued that low salaries, poor working conditions, and unequipped managerial skills of most public school principals remain unattended in both research and professional development programs. This is aggravated in the long and deeply rooted problems in schools (Sison, 2000; Ortega & Hechanova, 2010) like oversized classrooms, lack of textbooks, and other socio-cultural factors. In addition, The Mindanao Examiner (2007) reported that the education crisis haunting the Philippines is partly due to the deplorable working conditions and substandard pay of public school teachers. Furthermore, in the study of Hechanova (2010) work-related stress can predict work-family conflict and quality life.

The lack of attention to the aforementioned research gap and the dearth of investigations with regard to the quality of work life of school heads has provoked the interest of the researcher to conduct a study on inves-

investigations with regard to the quality of work life of school heads has provoked the interest of the researcher to conduct a study on investigating the forms of leadership, namely; strategic, collaborative, and cultural to come up a strongest predictors of quality of work life of school heads that would be necessary to answer the seemingly not so desirable quality of work life of school heads as reflected in the above situation. This study empirically informed school leaders about the need to have quality of work life at the onset to radiate a culture of excellence and success in schools.

STATEMENT OF THE PROBLEM

The purpose of the study was to determine the influence of strategic, collaborative, and cultural leadership on quality of work life among school heads.

Specifically, it intended to answer the following questions:

1. What is the level of strategic leadership of school heads in terms of:
 - 1.1. awareness,
 - 1.2. planning,
 - 1.3. development,
 - 1.4. results, and
 - 1.5. culture?
2. What is the level of collaborative leadership of school heads in terms of:
 - 2.1. assessing the environment,
 - 2.2. visioning and mobilizing,
 - 2.3. building trust,
 - 2.4. sharing power and influence,
 - 2.5. developing people, and
 - 2.6. self-reflection?
3. What is the level of cultural leadership of school heads in terms of:
 - 3.1. parental involvement,
 - 3.2. teacher involvement,
 - 3.3. principal-teacher involvement,
 - 3.4. student involvement,
 - 3.5. social justice, and
 - 3.6. teachers supported?
4. What is the level of the quality of work life of school heads in terms of:
 - 4.1. job,
 - 4.2. family, and
 - 4.3. environment?
5. Do the combination of strategic, collaborative, and cultural leadership significantly influence quality of work life of school heads?

METHODOLOGY

Research Design

The descriptive method of research was employed in this study. A descriptive research provides an accurate picture of the status or characteristics of a situation or phenomena and it focuses on describing the variables that exist in a given situation (Christensen & Johnson, 2008). Stepwise multiple-linear regression is used to determine the influence of strategic, collaborative, and cultural leadership to quality of work life of school heads.

Research Subject

The respondents of this study were the teachers in Region XI Southern Mindanao. They determined the degree of relationship between the collaborative, strategic, cultural leadership, and quality of work life by means of the questionnaire administered to them. The study was conducted during the second semester of school year 2012 – 2013.

Table 1 showed the distribution of respondents from the ten schools division of Region XI. Respondents

from the Division of Davao City were not part of this study due to the reply of the request letter of one of the researchers of this group which she was not given the permission to conduct the study. This made the researcher not to submit his request letter and at the same time to avoid time constraint in the gathering of data. The researcher utilized the scientific process in selecting the respondents. Stratified sampling was used to determine the number of samples for each division. Stratified sampling as explained by Key (2012) is a procedure for selecting a sample that includes identified subgroups from the population in the proportion that they exist in the population. The purpose of stratified sampling is to guarantee the desired distribution among the selected subgroups of the population. The sample size of each stratum in this technique as discussed by Castillo (2009) is proportionate to the population size of the stratum when viewed against the entire population. This means that the each stratum has the same sampling fraction.

TABLE I. DISTRIBUTION OF RESPONDENTS

Division	Num-ber of Schools	Percen-tage	Number of Sample Schools	Number of Res-pondents
Compostela Valley	324	20	8	80
Davao City	285	17	-	-
Davao del Norte	171	10	4	40
Davao del Sur	387	24	10	100
Davao Oriental	159	10	4	40
Digos City	36	2	1	10
IGACOS	51	3	1	10
Mati City	149	9	4	40
Panabo City	44	3	1	10
Tagum City	29	2	1	10
Total	1635	100	34	340

Research Instrument

The study used four sets of adopted instruments. These are Collaborative Leadership Questionnaire (Turning Point National Program Office, 1997), Strategic Leadership Questionnaire (Northup, 2012), Cultural Leadership Questionnaire (Glanz, 2006), Quality of Work Life Questionnaire (Niosh, 2012). All of the instruments applied a Five-Point Likert Scale to interpret the level of scores.

FINDINGS

Level of Strategic Leadership of School Heads

The level of strategic leadership of school heads was measured through a survey questionnaire adopted from Northup (2012) with the following indicators: awareness, planning, development, results, and culture. It could be noted that the standard deviation in all indicators of strategic leadership reflected in Table 2 is less than 1.00, which is the typical standard deviation for a five point Likert-scaled study according to Wit-tink and Bayer (1994). This indicates that there is consistency of responses among the respondents of the study. The data revealed that the overall mean for the level of strategic leadership of school heads is 4.32, described as high which means that the behavior is manifested in most of the time by the school heads. This means that the school heads in Region XI show high strategic leadership. They express a strategic vision for the organization and persuade others to acquire that vision.

Table II. LEVEL OF STRATEGIC LEADERSHIP OF SCHOOL HEADS

Item	Mean	Descriptive Level
Awareness	4.38	High
Planning	4.37	High
Development	4.30	High
Results	0.31	High
Culture	4.26	High
Overall	4.32	High

Level of Collaborative Leadership of School Heads

The level of collaborative leadership of school heads was measured through a survey questionnaire adopted from Turning Point National program Office (1997) with the following indicators: assessing the environment, visioning and mobilizing, building trust, sharing power and influence, developing people, and self-reflection. It could be noted that the standard deviation in all indicators of strategic leadership reflected in Table 3 is less than 1.00, which is the typical standard deviation for a five point Likert-scaled study according to Wittink and Bayer (1994). This indicates that there is consistency of responses among the respondents of the study. The data revealed that the overall mean for the level of collaborative leadership of school heads is 4.33, described as high which means that the behavior is manifested in most of the time by the school heads. This also means that school heads in Region XI show high collaborative leadership. They accept the responsibility for building a heterogeneous team to accomplish a shared purpose.

Table III. LEVEL OF COLLABORATIVE LEADERSHIP OF SCHOOL HEADS

Item	Mean	Descriptive Level
	4.29	High
	4.35	High
Building Trust	4.35	High
Sharing Power and Influence	4.34	High
Developing People	4.35	High
Self-Reflection	4.31	High
Overall	4.33	High

Level of Cultural Leadership of School Heads

The level of cultural leadership of school heads was measured through a survey questionnaire adopted from Glanz (2006) with the following indicators: parental involvement, teacher involvement, principal-teacher involvement, student involvement, social justice, teachers supported, positive school climate, risk-taking strategies, team approach, and problem-solving strategies. It could be noted that the standard deviation in all indicators of cultural leadership reflected in Table 4 is less than 1.00, which is the typical standard deviation for a five point Likert-scaled study according to Wittink and Bayer (1994). This indicates that there is consistency of responses among the respondents of the study. The data revealed that the overall mean for the level of cultural leadership of school heads is 3.61, described as high which means that the behavior is manifested in most of the time by the school heads. This means that the school heads in Region XI show

high cultural leadership. They sustain positive climate and culture that examine their own beliefs and values and identify what they deem to be sound and nurturing school culture.

TABLE IV. LEVEL OF CULTURAL LEADERSHIP OF SCHOOL HEADS

Item	Mean	Descriptive Level
Parental Involvement	3.71	High
Teacher Involvement	3.70	High
Principal-teacher Relationship	3.11	Moderate
Student Involvement	3.63	High
Social Justice	3.69	High
Teachers Supported	3.73	High
Positive School Climate	3.57	High
Risk-taking Strategies	3.67	High
Team Approach	3.64	High
Problem-Solving Strategies	3.62	High
Overall	3.61	High

Level of Quality of Work Life of School Heads

The level of quality of work life of school heads was measured through a survey questionnaire adopted from Niosh (2002) with the following indicators: job, family, and environment. This indicates that there is consistency of responses among the respondents of the study. The data revealed that the overall mean for the level of quality of work life of school heads is 4.36, described as high which means that the behavior is manifested in most of the time by the school heads. This means that the school heads in Region XI show high quality of work life. They have the responsibility to provide congenial environment.

TABLE V. LEVEL OF QUALITY OF WORK LIFE OF SCHOOL HEADS

Item	Mean	Descriptive Level
Job	4.46	High
Family	4.13	High
Environment	4.49	High
Overall	4.36	High

Significance on the Influence of Strategic, Collaborative and Cultural Leadership of School Heads on the Quality of Work Life

With the presence of regression, the researcher would like to examine deeply if there are possible direct and indirect relationship. When quality of work life of teachers was regressed on the strategic, collaborative, and cultural leadership, it generated an R^2 of 0.704 as shown in Table 6. The ANOVA value of this regression is 258.671 significant at 0.000. It can be stated therefore that the combination of the three independent variables significantly influenced quality of work life of school heads. The R^2 of 0.704 indicates that 70.4% of the variance in quality of work life of school heads is attributed to strategic, collaborative, and cultural leadership. This means that 29.6% of the variation in quality of work life is attributed to other variables not covered in this study. Examining further, the table shows that among the three independent variables, strategic leadership has the greatest contribution (Beta = 0.447, p-value = 0.000), followed by collaborative

collaborative leadership (Beta = 0.362, p-value = 0.000) and the lowest is cultural leadership with Beta 0.074, p-value = 0.104.

Table VI. SIGNIFICANCE ON THE INFLUENCE OF STRATEGIC, COLLABORATIVE, AND CULTURAL LEADERSHIP OF SCHOOL HEADS ON THE QUALITY OF WORK LIFE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.839 ^a	.704	.701	.29631

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	68.135	3	22.712	258.671	.000 ^a
Residual	28.623	326	.088		

Model	Standardized Coefficients (Beta)	t	Sig.
1 (Constant)		4.210	.000
Strategic Leadership	.447	7.241	.000
Collaborative Leadership	.362	5.252	.000
Cultural Leadership	.074	1.632	.104

CONCLUSIONS

The influence of strategic leadership, collaborative leadership, and strategic leadership to the quality of work life of school heads is the primary objective of this study. Based on the findings, the following conclusions are provided, these are;

- The level of strategic leadership of school heads in terms of awareness, planning, development, results, and culture is high.
- The level of collaborative leadership of school heads in terms of assessing the environment, visioning and mobilizing, building trust, sharing power and influence, developing people, and self-reflection is high.
- The level of cultural leadership of school heads in terms of parental involvement, teacher involvement, principal-teacher relationship, student involvement, social justice, teachers supported, positive school climate, risk-taking strategies, team approach, and problem solving strategies is high.
- The combination of strategic, collaborative and cultural leadership significantly influenced quality of work life. Treated individually, strategic leadership has the strongest influence. Therefore, strategic leadership influenced quality of work life more than collaborative leadership and cultural leadership.

RECOMMENDATIONS

Based on the conclusions of the study, the researcher recommends the following:

- School administrators may employ good type of leadership in the organization. The strategic leadership as the strongest influence may contribute to forge high quality of work life
- Faculty members may implement Strategic Leadership-Quality of Work Life training series to uphold sustainability of good quality of work life.
- Community leaders, parents, students and other stakeholders may enter into a collective negotiation agreement to the school administrators to maintain high quality of work life.
- Researchers may conduct similar studies to determine other possible strong predictors of quality of work life among school heads.

Department of Education officials may conduct trainings and seminars that can boost the leadership skills of school heads.

ACKNOWLEDGMENT

The author would like to thank the 340 teachers of Davao Region for their untiring support. A commendation also is extended to the Schools Division Superintendents of Region XI for the approval in conducting this study.

REFERENCES

- Ahmadi, F., Salavati, A. & Rajabzadeh, E. (2012). Survey relationship between quality of work life and organizational commitment in Kurdistan province. *Interdisciplinary Journal of Contemporary Research in Business*, 4, 1. Retrieved from ijrb.webs.com.
- Edvardsson, B., & Gustavsson, B. (2003). Quality in the work environment: a prerequisite for success in new service development. *Managing Service Quality*. 13 (2), 148-163. Retrieved from <http://search.proquest.com/docview/97986378?accountid=31259>.
- Glanz, J. (2006). *What every principal should know about cultural leadership*. Thousand Oaks: California Press.
- Ghahremani, J. & Valizadeh, A. (2012). The relationship between organizational culture and quality of working life of employees. *European Journal of Experimental Biology*. 2 (5), 1722-1727. Retrieved February 9, 2013 from http://pelagiaresearchlibrary.com/european-journal-of-experimental-biology/vol2-iss5/EJEB_2012-2-5-1722-1727.pdf.
- Gupta, M. & Sharma P. (2011). *Factor credentials boosting quality of work life of BSNL employees in Jammu region*. Retrieved from <http://www.skirec.com/images/download/apjrbm/APJRBM-VOL2-ISSUE-1- JAN- 2011/2.5%20Parul%20Sharma%20FACTOR%20CREDENTIALS%20BOOSTING.pdf>
- Hughes, D. (2009). *Liquid leadership*. United Kingdom: Capstone Publishing, Ltd.
- Kashani, F.H. (2012). A review on relationship between quality of work life and organizational citizenship behaviour. *Journal of*

Basic and Applied Scientific Research, 2(9) 9253-9531.

- Retrieved February 9, 2013 from [http://www.textroad.com/pdf/JBASR/J.%20Basic.%20Appl.%20Sci.%20Res.,%202\(9\)9523-9531,%202012.pdf](http://www.textroad.com/pdf/JBASR/J.%20Basic.%20Appl.%20Sci.%20Res.,%202(9)9523-9531,%202012.pdf)
- Kheradmand, E. & Fatah, N. (2012). *Investigating the relation between organizational culture and the performance of the personnel in Islamic Azad University, North Branch of Tehran*. Retrieved from <http://www.sid.ir/en/ViewPaper.asp?ID=189792&varStr=7;KHERADMAND%20EBRAHIM,NAZEM%20FATAH;BEYOND%20MANAGEMENT;SPRING%202010;3;12;159;181>.
- Learning Point Associates (2009). Professional learning communities. Retrieved February 9, 2013 from <http://www.centerforsri.org/plc/literature.html>
- Lim, L. Y. (2001). Quality of life case studies for university teaching in sustainable development. *International Journal of Sustainability in Higher Education*, 2(2), 127-138. Retrieved from <http://search.proquest.com/docview/205032007?accountid=31259>
- Marsh, C. & Willis, G. (2007). *Curriculum alternative approaches, ongoing issues*. USA: The Lehigh Press, Inc.
- Mehrotra, S., & Prasad, K. N. (2011). Quality of work life as a mediator to work life imbalance of professional women. *International Journal of Arts & Sciences*. 4(12), 323-342. Retrieved from <http://search.proquest.com/docview/1010818401?accountid=31259>.
- Niosh, E. (2002). Quality of worklife module: general society survey 2002. Section D. Retrieved August 24, 2012 from <http://www.cdc.gov/niosh/topics/stress/pdfs/QWL2010.pdf>
- Northup, T. (2012). *Leadership management group: building excellence at all levels*. Retrieved August 24, 2012 from <http://www.lmqsuccess.com/sq.htm>.
- Ortega, R., & Hechanova, M.R. (2010) Work-family conflict, stress and satisfaction among dual-earning couples. *Philippine Journal of Psychology*. 43(1), 27-44.
- Sheel, S., Goel, S., Sindhwani, B., & Pathak, S. (2012). Quality of work life, employee performance and career growth opportunities: a literature review. *International Journal of Multidisciplinary Research*. 2(2). Retrieved August 24, 2012 from http://zenithresearch.org.in/images/stories/pdf/2012/Feb/ZIJMR/22_ZENVOL2ISSUE2_FEB12.pdf.
- Sison, M. (2000). *Scrounging funds to finance public schools in the Philippines*. Retrieved November 2, 2012 from <http://www.unesco.org/education/wef/en-news/philippines.shtm>.
- Subramaniam, B. & Saravanan, R. (2012). Empirical study on factors influencing on quality of work life of commercial bank employees. *European Journal of Social Sciences*. 28(1), 119-127. Retrieved from <http://www.europeanjournalofsocialsciences.com/pdf>.
- The Mindanao Examiner. (2007) *Philippine teachers decry poor working conditions, delay in benefits*. Retrieved November 2, 2012 from <http://zamboangajournal.blogspot.com/2007/10/philippine-teachers-decry-poor-working.html>.
- Wittink, D.R. and Bayer, L.R. (1994). The measurement imperative. *Marketing Research*. 6(4), 14.
- Zaccaro, S. J., & Banks, D. J. (2001). Leadership, vision and organizational effectiveness. In J. S. Zaccaro & R. J. Klimoski (Eds.), *The nature of organizational leadership: Understanding the imperatives confronting today's leaders* (pp. 181-218). San Francisco: Jossey-Bass.

THE STATUS OF HABLON INDUSTRIES IN ILOILO

¹DR. WILHELM P. CERBO

²PROF. MARK ANTHONY D. LAMERA

¹Professor V/Director, University Planning and Development Office
Department of Mathematics, West Visayas State University
La Paz, Iloilo City

²Instructor 1, Department of Mathematics, West Visayas State University
La Paz, Iloilo City

ABSTRACT

Hablon weaving is a basic craft developed in some parts of Iloilo, Philippines which is commonly led by women. It is done intricately and painstaking thread by thread in the handloom. This descriptive research was conducted to find out the status of hablon industries in Iloilo in terms of production, marketing, and the indigenous technologies used in production using a duly validated survey questionnaire. Purposive sampling was employed in the selection of the industries based on the list provided by the Department of Trade and Industry, Region VI. Results showed that the products commonly produced by the six major hablon industries in Iloilo were shawls, barongs, gowns, "patadyongs", ref towels, table runners, and handkerchiefs made up of polyester thread, jusi, and cotton. However, some industries also produced "bestida", blankets, and "sablay" aside from the common products. The number of days to finish weaving a hablon ranged from 1 to 2 days depending on the type of the products being weaved. The unit cost per product was calculated to be at P15 to P900 and were sold at a price ranging from P50 to P1,800 and marketed through direct selling, middleman, personal marketing, displaying in various outlets, trade fairs and festivals, made-to-order, and use of product brochures. The indigenous technologies used for production were "sab-ongan", "pangalinyasan" and "tiral". The production underwent eight processes such as planning, warping (sab-ong), beaming (likis), hedling (sulod sa binting), reeding (sulod sa salod), tie-in (higot sa baston), spooling (pangalinyas) and weaving (habol).

Keywords: culture, evaluation, hablon, impact, industry, marketing, production,

INTRODUCTION

Hablon is a heritage industry in Iloilo, Philippines. The making of hablon is not just a means of livelihood but also a culture, a tradition, an irreplaceable fragment in the whole that is Iloilo (Lebrilla, 2015). Hablon is a type of woven cloth most often seen during formal events, fashion shows, and in homes. It is taken from the Hiligaynon word "*habol*", meaning "to weave".

Hablon weaving is a basic craft which is commonly led by women. It is done intricately and painstaking thread by thread in the handloom. The production of hablon in Iloilo was clearly well-established even before the Spaniards set foot in Panay during the 1560s (Lumbo, 2013). During its heyday in 1950's to 1970's, hablon weaving evolved to become a major player in the Philippine textile industry. Iloilo is undeniably the leading center and source of hablon; exporting to other provinces and other countries at the early time.

However, hablon weaving suffered a decline in the 1980s as a result of the rise of sugar production which became the Iloilo's chief export. As a result of the opening of Iloilo port to world trade, many women became jobless because the weaving industry lost its primary importance. This also brought about a dramatic decline in the number of weavers who started to look for better livelihood opportunities and lack of interest among the younger generation to take up this weaving trade.

On the other hand, there are challenges that confront hablon weaving. According to the Gender Responsive Economic Actions for the Transformation of Women (GREAT Women, 2013), the industry growth requires a stable supply of affordable raw materials. About 46 percent of the cost of the product goes to the purchase of raw materials. In the past, the hablon thread was made from various materials such as cotton, *jusi* (banana fiber), *piña* (pineapple fiber) and the like. But nowadays, it is just mostly made from cotton and rayon thread because, unfortunately, the prices of raw materials have skyrocketed over the years

On the other hand, there are challenges that confront hablon weaving. According to the Gender Responsive Economic Actions for the Transformation of Women (GREAT Women, 2013), the industry growth requires a stable supply of affordable raw materials. About 46 percent of the cost of the product goes to the purchase of raw materials. In the past, the hablon thread was made from various materials such as cotton, *jusi* (banana fiber), piña (pineapple fiber) and the like. But nowadays, it is just mostly made from cotton and rayon thread because, unfortunately, the prices of raw materials have skyrocketed over the years.

The handloom has been around many years used for hablon weaving. Historically, the first automatic loom was designed in 1784 by Edmund Cartwright and the next 47 years were spent perfecting this design until Kenworthy and Bulough developed the Lancashire loom in 1842. However, this loom was not fully automatic and had to be stopped every time the shuttle needs new weft yarn. In 1984, George Draper and Son's marketed the Northrop loom, a fully automatic loom, with a self-feeding shuttle. In Iloilo, the weavers used locally-made looms in weaving. These looms play a significant role on their lives because they earn a living out of it through weaving.

Handloom weaving is an art practiced in the Philippines over generations. In Iloilo, handloom weaving began when the Ilonggos thought of using the materials they bartered from the Chinese during the 1960s (Piccio, 2015). Using the traditional technology or loom, weavers produced more and improved their products by making quality made hablon products (Casio, 2013).

The time-consuming manual process of weaving a hablon has remained in use by the hablon industries in Iloilo (Quijano, 2016) for many years. The looms had been used for decades to make a cloth. The process of making a hablon is very meticulous. This traditional art of hablon weaving requires people who are passionate about weaving. The intricate details and complicated process of making the textile requires a skillful weaver to carefully perform the processes involved.

Hablon is more than just an indigenous fabric of Iloilo. The joy of seeing it transformed becomes a greater delight. Appreciation is given to the local weavers' efforts in preserving the craft and for remaining devoted to it.

It is on this ground that this research was conducted to help the local weavers sustain the *hablon* industry, likewise preserving the indigenous technologies used in hablon weaving and to place a special touch in coming up with innovative fashion pieces.

RESEARCH OBJECTIVES

This research aimed to (1) identify the hablon industries in Iloilo; (2) find out the status of the industry in terms of production and marketing, and the indigenous technologies used in hablon production.

Significance of the Research Study

The results of this study hope to bring the following outputs: (1) documentation of activities of the various *hablon* industries and understanding the evolution of its growth and decline; (2) preservation of the indigenous technologies used for *hablon* production; and (3) making West Visayas State University (WVSU) as a prime mover/catalyst in establishing itself as the center for Philippine Indigenous Textile study.

METHODOLOGY

The survey research was employed in this study. According to Gay (1992), survey research, also referred to as descriptive study, determines and describes the way things are. Survey research is discussed in some detail for two major reasons. First, a high percentage of research studies rely on surveys for data, as a result, are descriptive in nature. Second, the survey method is useful in investigating a variety of educational problems and issues.

The respondents of this study were the twenty-four (24) managers/owners and weavers of the six major hablon industries in Iloilo. Purposive sampling was used in the selection of the six major hablon industries based on the list provided by the Department of Trade and Industry, Region VI. Likewise, all the managers/owners and selected weavers of the hablon industries were made as participants of the study.

A duly validated researcher-made survey questionnaire was used to gather the data needed in the study. Necessary permission and communication relevant to the study were done before gathering the data. The data gathered were tabulated and organized for analyses and interpretations.

REVIEW OF LITERATURE

The Iloilo's Colorful Hablon

The traditional production of loom weaving is a skill that was passed on through generations. Up to the present time, the hablon-making industry of Iloilo still continues to thrive as some women try to revive it (Piccio, 2015). In the production center, the older weavers teach interested young girls to do loom weaving. And, as soon as they are ready, they may already substitute their mothers in weaving. Traditionally, the girls are then expected to replace their mothers and become the breadwinners of the family.

The weaving industry has also given women an opportunity, most especially for those who can't find any work, to provide a better future for their families. The province already has many hablon weavers supported by private organizations and the LGUs. Hablon textile is also being used in the fashion industry in making barongs and gowns.

Hablon shows great potentials in the global market for textiles next to the old-time favorite piña and jusi (<http://miagao.blogspot.com>, 2007). The weaving industry in Iloilo, Philippines boasts of a long history that date back to the later part of the Spanish era, and was formerly known as "habol" or "hinabol" made only of fibrous natural materials.

The weavers made innovations by combining them with man-made fibers, introduced in the early 1920's, and started to produced colorful textiles that became to be known as, "hablon". Hablon has evolved to become a major player in the Philippine textile industry, with its heyday in the 1950's up to the 1970's. It suffered a decline in 1980's due to the predominance in the world market of less-labor intensive, machine-woven textiles. This also brought about a dramatic decline in the number of weavers, who started to look for better livelihood opportunities, and lack of interest among the younger generation to take up this weaving trade.

Although efforts were made by the Department of Tourism to revive this Iloilo heritage in the early 1990's, it was in 2001 that brought hablon back to the limelight, when Atty. Gerardo Flores assumed as Mayor of Miagao, Iloilo and made the revival of Hablon Industry, one of his priorities.

The revival of hablon caught the attention of local fashion designers, who have developed a distinct couture out of hablon that has made its way into several fashion houses in the United States, Singapore, Hongkong, and the United Kingdom. Later in 2003, a financial grant from the British Embassy was approved for the hablon weaving development project, through the endorsement by Senator Loren Legarda, an avid hablon patroness. These events reawakened the Ilonggos' interest on their nearly- abandoned local heritage and once again, the sales of hablon products have increased impressively, benefiting more families who started to depend on weaving for their basic needs (<http://miagao.blogspot.com/2007/08/miagaos-hablon-reviving-old-weaving.html>).

Process of Making Hablon

The intricate details and complicated process of making hablon followed the eight (8) processes:

(1) Planning. The first process in making a hablon is planning. This process focused on planning the patterns and colors to be used by the weavers in making any hablon product where they thread the cones with their selected colors. The cones will then be arranged according to the desired pattern.

(2) Warping (Sab-ong). In warping, the threads are set on the warping tool. The threads are grouped and rolled along the bamboo pegs of the warping frame. *These threads are counted by hand depending on the length and width of the product.*

(3) Beaming (Likis). In beaming, the threads set on the warping frame will then be rolled along the weaver's beam. The weaver's beam is the bamboo cylinder at the upper back portion of the loom.

(4) Hedding (Sulod sa Binting). In the process of hedding, each thread that is set on the warp must pass through the opening of the heddles for the purpose to separate the warp threads for the passage of the weft.

(5) **Reeding (*Sulod sa Salud*)**. In the reeding process, each thread is then inserted on each opening of the metal reed using a “reed hook” (the weaver used a bamboo).

(6) **Tie-in (*Higot sa Baston*)**. After reeding, the ends of the threads are tied into the cloth roll. The cloth roll is a wooden cane found at the base of the loom.

(7) **Spooling (*Pangalinyas*)**. Weft the thread needed for the shuttle. The weft is the filling thread used in weaving. It will then be spooled using the traditional spooling wheel. The shuttle is a holder that carries the thread which is thrown back and forth between the warp threads.

(8) **Weaving (*Habol*)**. Weaving is the final step to start creating a product. The weaver steps on the bamboo pedal to raise or lower the heddle. The weft is propelled back-and-forth across the loom by a shuttle. Then the wefts are neatly pushed against the fell of the cloth by the reed.

FINDINGS

The Major Hablon Industries in Iloilo, Philippines

Indag-an Primary Multipurpose Cooperative. The Indag-an Multi-purpose Cooperative located at Brgy. Indag-an, Miag-ao, Iloilo was established in March 3, 1991. It is registered with the Cooperative Development Authority on May 31 of the same year with Registration Number 952006009684. The cooperative produced different hablon products such as shawl, barong, gown, patadyong, table runner, and ref towel. Aside from its in-house designs, the cooperative hired design consultants for its product development.

The establishment of the cooperative comprised the skilled female labors who are residents in the barangay and who have the heart to preserve the cultural aspect of hablon weaving. According to Montagot, the manager of the Cooperative, weaving skills are passed on through generations. Young girls are usually brought to the production center and taught by older weavers to do the weaving. When these girls have already acquired the skills and are already ready to weave on their own, they substitute their mothers in weaving. Some older weavers tend to be complacent about the educational pursuit of their daughters because after finishing high school, they expect that their children will replace them at work and become providers of the family.

The initial capital of the cooperative was P70,000.00 when it was established which was invested by the members. The building used by the cooperative which served as the production center was donated by a British national. There were 25 weavers who were regularly employed in the cooperative. They were paid based on their finished products at an average of PhP 45/per meter/cut. Usually, a weaver can weave at about three to five meters a day, working for four to five days a week.

The weavers used the handlooms in weaving the hablon products. These handlooms were constructed by a carpenter in 1991 and each unit costs P11,000.00. A total of 25 handlooms were available and functional in the Cooperative.

Valencia Hablon Center. The Valencia Hablon Center is located at Brgy. Valencia, Miag-ao, Iloilo owned by Engr. Myrigin N. Silvano, a chemical engineer. The industry started in 2005, but the owner did not register it yet at DTI or CDA. It has an initial capital of P10,000.00 as a support from the then mayor of Miag-ao, Iloilo, Mayor Gerry Flores. Actually, it was Mayor Gerry Flores who inspired her to venture on the hablon industry.

The Valencia Hablon Center has 5 regular weavers and 8 handlooms. These handlooms were constructed by a carpenter in 2005 and it costs P5,000 each. Out of the 5 female weavers who were weaving at the center, 4 were old and only 1 was young at her 20's who were residents of the barangay. Weaving served as the source of their living which helped them provide the basic needs of their families. They were paid per piece/cut basis, depending upon the complexity of the designs they worked. Usually, they earned P45 to P60.00 per cut. According to Engr. Silvano, the weavers were able to send their children to school out of their income in weaving.

The Center also experienced problems in its operations due to the unavailability of the weavers especially when the demand of the hablon products was high. The following products were produced in the center: shawl, barong, gown, patadyong, and ref towel.

Susan Laboriante Obra de Amor. The Susan Laboriante Obra de Amor (Work of Love) is located at 226 Capuling Duenas, Iloilo owned by Mrs. Susan Pacheo Laboriante, who, at the same time, is working as Tourism Officer at the municipality of Duenas, Iloilo. According to her, hablon weaving was very much closed to her heart because this was handed down to her by her mother who was a hablon weaver by herself. Actually, hablon weaving has been practiced by many folks in the municipality; however, it had stopped for a long period of time due to lack of materials and other resources to be used in weaving.

However, due to the demand of hablon products, not only in the municipality of Duenas but also in the entire province of Iloilo, Mrs. Susan Laboriante who had been inspired by her mother, initiated and started again the business of hablon industry in the municipality of Duenas way back in the 90's. Actually, her initial capital to restart the business was only P360.00 which she used to buy materials for 10 table runners. It was very timely that after finishing her table runners, there was a trade fair in Iloilo City conducted by the DTI. She brought her products for display in the trade fair and in less than one hour, these were all bought by the customers. She sold the table runners at P50.00 per piece.

It was after that instance that she was deeply inspired and motivated to continue the industry. She rolled the amount that she earned from selling those table runners into different sets of products until she was able to have a bigger capital.

At present, she has one handloom being used for weaving, but she has 5 regular weavers who have their own handlooms in their homes. These weavers preferred to weaves in their respective homes so that they can do other household chores aside from weaving. The handloom being used by the Susan Laboriante Obra de Amor was made by a carpenter at a cost amounting to P5,000.00. The Susan Laboriante Obra de Amor produced different hablon products such as shawl, barong, gown, patadyong, blankets, and "bestida".

Tuburan Abaca Handicraft Association (TAHA). The Tuburan Abaca Handicraft Association (TAHA) is located at Brgy. Tuburan, Janiuay, Iloilo. This association was established in 2006 and was registered with the Department of Labor and Employment (DOLE) on August 16, 2007 with registration number V1 - 2061. Through the support of Sen. Loren Legarda, the cooperative was able to put up a Product Center where the productions of hablon were done. However, when typhoon Yolanda hit Iloilo in November 8, 2013, the Product Center was destroyed, including some handlooms which were used for weaving.

Originally, the cooperative has 5 handlooms which were constructed in 2006, wherein, each handloom costs P10,000.00. Having no place to weave at present, some of the handlooms which were not destroyed by the typhoon were brought by the weavers in their respective homes. However, these handlooms were not put into use because these were dismantled due to the limited space in the weavers' homes. In short, the weavers had stop weaving until this moment.

Inspired by the Local Government Unit (LGU) of Janiuay, the Cooperative continued its business by shifting to other products such as abaca bags, placemats, cellphone bags, polyhemp cloth, bouquet wrappers using an abaca fiber, dye, cloth (for linings), white glue and starch. Hablon weaving was no longer the priority because of the unavailability of the materials.

Oton Woven Products. The Oton Woven Products is located at Brgy. Cagbang, Oton, Iloilo owned by Mrs. Ana C. Cordova. In 1969 when the business started, the name was Straw Mat which was registered at DTI and Cooperative Development Authority. However, as the business continued, it changed its name into Oton Handwoven Products.

The industry has 8 weavers, although, she has only 5 handlooms. The handlooms were acquired in 1969 through a carpenter costing P5,000 each. The Oton Woven Products produced the following: shawl, barong, gown, patadyong, and ref towel.

Arevalo Handwoven Center. The Arevalo Handwoven Center is located at 22 Sta. Cruz, Arevalo, Iloilo City. The sole owner is Mrs. Evelyn L. Jiz. The business started in 1994. The spirit of hablon weaving was inspired to her by her mother.

The Arevalo Handwoven Center has 12 handlooms constructed by a carpenter in 1994 costing P10,000.00 each. At present, the Center has 6 weavers and 2 of them were young boys at their 20's coming from Negros Occidental. The weaving areas were grouped into two: (1) one is for the polyester used as material for

weaving the hablon, and (b) the other is for jusi materials.

The Arevalo Handwoven Center is a family legacy. Mrs. Evelyn L. Jiz who managed the business never learned the skill of handweaving, although, she was raised in a household of looms and weavers. Her mother Ramona aspired for her children to become professionals and only weaving was her means of livelihood.

In 2002, the Arevalo Handwoven Center was authorized by the UP Diliman to execute production of its patent UP Sablay, the official graduation garment of the UP System. Aside from sablay, the Center also produced the following products: shawl, barong, gown, patadyong, sablay, and ref towel

Table 1. The Hablon Industries in Iloilo

Hablon Industry	Location	Products
Indag-an Primary Multipurpose Co-operative	Brgy. Indag-an, Miag-ao, Iloilo	school uniform, shawl, barong, gown, "patadyong", refrigerator towel, table runner,
Valencia Hablon Center	Brgy. Valencia, Miag-	shawl, barong, gown, "patadyong", refrigerator
Susan Laboriante Obra de Amor	Brgy. Capuling, Duen-	shawl, barong, gown, "patadyong", refrigerator
*Tuburan Abaca Handicraft Associa-	Brgy. Tuburan, Janiuay,	abaca bag, placemat, cellular phone bag, poly-
Oton Woven Products	Brgy. Cagbang, Oton, Iloilo	shawl, barong, gown, "patadyong", refrigerator towel
Arevalo Handwoven Center	Brgy. 22 Sta. Cruz, Arevalo, Iloilo City	shawl, barong, gown, "patadyong", refrigerator towel, and "sablay"

* shifted to non-hablon products due to unavailability of materials

Production and Marketing of Hablon Products

Production. Data in Table 1 showed the information on hablon production in the different hablon industries in Iloilo, Philippines. As gleaned in the data, the common hablon products produced by the different hablon industries were shawls, barong, gown, "patadyong", ref towels, table runners, and handkerchiefs made up of polyester thread, jusi, and cotton. However, there were other products like "bestida", blankets, and "sablay" that were produced only by some industries. The number of days to finish weaving a hablon ranged from 1 to 2 days depending on the type of the products being weaved. The unit cost per product was calculated to be at P15 to P900 and were sold at a price ranging from P50 to P1,800.

Table 2. Information on Hablon Production

Hablon Industry	Product	Materials Used	Time to Finish One Product	Finished Product	Unit Cost	Selling Price
Indag-an						
Primary	school uniform	polyester	1 pc/day	6 pcs/wk	P300.00	P450.00
Multipurpose	shawl	polyester	3-4 pcs/day	9-12 pcs/wk	P246.00	P280.00
Cooperative	barong	polyester	1 pc/1 ½ days	4 pcs/wk	P550.00	P900.00
	gown	polyester	1 pc/2 days	3 pcs/wk	P400.00	P750 /900
	patadyong	polyester	2-4 pcs/day	12-24pc/wk	P275.00	P350.00
	ref towel	polyester	5 pcs/day	30 pcs/wk	P 15.00	P 50.00
	table runner	polyester	4 pcs/day	24 pcs/wk	P 50.00	P100.00

Valencia Hablon Center

shawl	polyester	2 pcs/day	4 pcs/wk	P175.00	P330.00
barong	polyester	1 pc/1 ½ days	4 pcs/wk	P550.00	P900.00
gown	polyester	1 pc/2 days	3 pcs/wk	P775.00	P1,000.00
patadyong	polyester	2-4 pcs/day	12-24 pcs/wk	P350.00	P 450.00
ref towel	polyester	5 pcs/day	30 pcs/wk	P 15.00	P 50.00
table runner	polyester	4 pcs/day	24 pcs/wk	P 25.00	P 150.00

Susan Laboriante de Amor

shawl	polyester	2 pcs/day	4 pcs/wk	P250.00	P600-1,000
barong	polyester	1 pc/1 ½ days	4 pcs/wk	P700.00	P1,500.00
gown	polyester	1 pc/2 days	3 pcs/wk	P900.00	P1,800.00
patadyong	polyester	2-4 pcs/day	12-24 pcs/wk	P400.00	P 500.00
ref towel	polyester	5 pcs/day	30 pcs/wk	P 35.00	P 60.00
bestida	polyester	1 pc/day	6 pcs/wk	P700.00	P1,200.00
blanket	polyester	2 days	4-5pcs/wk	P300.00	P600.00

Oton Woven Products

shawl	polyester	2 pcs/day	4 pcs/wk	P300.00	P600-P850
barong	polyester	1 pc/1 ½ days	4 pcs/wk	P700.00	P1,200.00
gown	polyester	1 pc/2 days	3 pcs/wk	P800.00	P1,500.00
patadyong	polyester	2-4 pcs/day	12-24 pcs/wk	P300.00	P 450.00
ref towel	polyester	5 pcs/day	30 pcs/wk	P 35.00	P 60.00

Arevalo Handwoven Center

shawl	polyester	2 pcs/day	4 pcs/wk	P200.00	P650 – 950
barong	jusi	1 pc/1 ½ days	4 pcs/wk	P600.00	P1,200.00
gown	polyester	1 pc/2 days	3 pcs/wk	P900.00	P1,500.00
patadyong	polyester	2-4 pcs/day	12-24 pcs/wk	P400.00	P 550.00
ref towel	polyester	5 pcs/day	30 pcs/wk	P 30.00	P 75.00
sablay	cotton	8 pcs/day	48 pcs/wk	P450.00	P 650.00

Marketing. The hablon products were marketed through (1) direct selling for the local customers; (2) middleman (was practiced if the customers are away from the market place); (3) personal marketing (was used to acquire orders from the customers wherein the products are delivered to them); (4) display of finished products in showrooms, product outlets, department stores, fashion boutiques and flea markets or “tiangges”; (5) trade fairs and festivals that were organized by the local government units (LGUs) and the national government agencies like the DTI to promote the hablon products; (6) made-to-order (preferred by most corporate buyers such as airline companies, schools and government offices for their office uniforms); and (7) the use of product brochures to reach a wider range market base.

Indigenous Technology Used for Hablon Production

The identified technologies used for hablon production were “*sab-ongan*”, “*pangalinyasan*” and “*tiral*”. (1) *Sab-ongan* (warp) was used during the warping stage. In the warping stage, a warping frame was used to group and roll the threads along the bamboo pegs.

Figure 1. The sab-ongan



- (2) *Pangalinyasan (spool)* was used during the spooling stage. It is in this stage when the weft threads needed for the shuttle are spooled using the traditional spooling wheel.



Figure 2. The pangalinyasan

- (3) The loom or locally called *tiral* was used during the beaming, hedding, reeding, tie-in and weaving stages. According to Casio (2013), the basic purpose of loom is to hold the warp threads under tension to facilitate the interweaving of the weft threads. It helps to improve the process of weaving since it is essential to reduce breakage and the hairiness of yarn will decrease.

The ordinary handlooms have several parts: a bamboo cylinder at the upper back of the loom, heddle, metal reed, a wooden cane at the base of the loom, traditional spooling wheel, and the bamboo pedal (Miag-ao Hablon Flyers, 2015).



Figure 3. The “tiral”

CONCLUSIONS

Based on the findings of the study, the following conclusions were drawn:

1. The continued existence of the traditional weaving industry in Iloilo was due to the love of the people (owner/cooperative members/weavers) of the community in hablon weaving and in preserving its cultural aspect. Hablon weaving was passed on through generations. Skilled female labor in hablon who were residents in the barangay comprised the weavers of the hablon industry.

2. Among the sought-after products which were produced by the hablon industries were shawl, barong, gown, “patadyong”, ref towel, table runner, handkerchief, “bestida”, blanket, and “sablay”. Most of the products were made up of polyester thread, jusi and cotton. These products were multi-colored which were attractive to the customers.
3. The number of days to finish a certain hablon product ranged from 1 day to 2 days. However, there were hablon products that the weavers can finish weaving several pieces in a day such as ref towel, table runner, and handkerchief. The least in number that can be produced were barongs and gowns which usually takes the weaver to finish weaving one piece only in 1 ½ to 2 days
4. The unit cost per product ranged from P15.00 to P900.00. The cheapest in terms of unit cost was the ref towel followed by the table runner, and handkerchief. However, the most expensive were gowns, barongs, bestida, sablay and patadyong.
5. In terms of selling price, the cheapest among the products were ref towels, handkerchiefs, and table runners, while the gowns, barongs, bestida and sablay were sold at a higher price.
6. The hablon products were marketed through direct selling; middle man; personal marketing; display of finished products in showrooms, product outlets, department stores, fashion boutiques and “tiangges”; trade fairs and festivals; made-to-order; and the use product brochures.
7. The technologies used for hablon production were “*sab-ongan*”, “*pangalinyasan*” and “*tiral*”. The *sab-ongan* was used during the warping stage, the *pangalinyasan* was used during the spooling stage while the *tiral* was used during the beaming, hedding, reeding, tie-in and weaving stages.
8. Hablon weaving helped enhance the tourism of the community. Tourism is an important source of employment for non-metropolitan communities, especially those that are economically underdeveloped.
9. Employment was considered the biggest impact of hablon weaving. Many unemployed women in the locality, especially those who were not able to finish schooling due to poverty, were able to work as weavers in the production center.

RECOMMENDATIONS

For the next generation to see and appreciate the cultural value of hablon industry, it is very essential for the government to provide initiatives in order to sustain the industry. One of which is including hablon weaving as one of the courses included in the tech-voch strand in the Grades 11 and 12 of the K–12 Basic Education Curriculum so that high school students will be able to learn the process of hablon weaving most especially that almost of the weavers in the different hablon centers nowadays are already aging.

To attract the weavers to stay in weaving industry, LGUs should implement programs and provide services for the weavers such as development skills trainings on marketing, appropriation of LGU budget and support to Philhealth and SSS enrolment of women micro-entrepreneurs.

The Local Government Unit (LGU) of the Municipality of Janiuay, Iloilo should make an initiative to revive the production of hablon in Tuburan Abaca Handicraft Association. A financial assistance may be provided to the industry to restart the hablon business.

The government should also support the industry by providing financial assistance for those who are starting hablon business, for those who wish to revive their hablon business and those who want to sustain their hablon business. If the industry becomes financially stronger, it means that weavers will be provided with a bigger compensation, thus, it will encourage many women and even men in the community to learn and start weaving. In this way, the industry will be sustained.

The government should encourage new investments and entrepreneurs in hablon industry by providing loans with low interests, training and information. The marketing and export promotion scheme of hablon industry may be considered to improve the awareness among the weavers and the general public.

The government should provide training to the weavers to enhance their skills in manufacturing and marketing according to the market needs. Support from the government is highly recommended for the promotion of the industry.

The indigenous technology plays a vital role in hablon weaving. Without this technology, weaving will not be possible. To honor the grandeur and fame of Hablon, the Municipality of Miag-ao, Iloilo should continue celebrating annually the Hablon Festival to highlight the culture and heritage of the fabric through exhibits, fashion shows, pageant competitions, trade fairs and parades.

REFERENCES

- Casio, Y. (2013). Technology in Sustaining Hablon Products in Miag-ao, Iloilo. Retrieved from November 23, 2015 <https://devcomconvergence.wordpress.com/2013/08/31/technology-in-sustaining-hablon-products-in-miag-ao-iloilo-2/>
- GREAT Women (2013). Gender Responsive Economic Actions for the Transformation of Women. A Case Study on Hablon Weaves in Miag-ao. [www. http://miagao.blogspot.com/2007/08/miagao-hablon-reviving-old-weaving.html](http://miagao.blogspot.com/2007/08/miagao-hablon-reviving-old-weaving.html).
Miag-ao's hablon: Reviving an old weaving heritage
- Lebrilla, J. (2015). Hablon: for love of the weave. Project Iloilo.
- Lumbo, M. (2013). Cottage and Textile Industries: Fulfillment of Every Ilonggo. <http://www.miagao.blogspot.com>
- Miag-ao Hablon Flyer (2016). [www.miag-ao, gov.ph](http://www.miag-ao.gov.ph).
- Piccio, B. (2015). Iloilo's Hablon. A Colorful Product in the Textile Capital of the Pilippines. <http://www.choosephilippines.com/specials/products/3819/hablon-weaving-miagao/>
- Weaving Progress for the Miag-ao Hablon Industry: *Gender-Responsive Value Chain Analysis of Hablon Weaves in Miag-ao, Iloilo*. Retrieved November 23, 2015 from [http://pcw.gov. ph/ sites/default/ files/ documents/resources/ gwp_case_study_weaving_hablon_miag-ao.pdf](http://pcw.gov.ph/sites/default/files/documents/resources/gwp_case_study_weaving_hablon_miag-ao.pdf)

CURRENT RESEARCH TRENDS IN ENGLISH LANGUAGE EDUCATION IN UNIVERSITIES AND CONTINUING EDUCATION PROGRAMS IN JAPAN

JIMENA BENOSA HOMMA
Lecturer/Assistant Professor
Chiba University of Commerce, Chiba, Japan

ABSTRACT

Japan is at the crossroads of internalization and globalization, aiming not only advancement in trade and commerce but also foreign student population. But lagging behind other Asian nations in English language education, it desperately tries to reform its English program to conform to the needs of the new global world. In 2003 when Japan announced a new policy "Regarding the Establishment of an Action Plan to Cultivate 'Japanese with English Abilities" (MEXT, 2003a), committing to an "intensive training program aiming at improving teaching abilities to cultivate students' practical communication abilities in English" (MEXT, 200) several activities and events followed and gave rise to new research interests in English learning in Japan. Among these changes were efforts to prepare teachers through various training programs offered by academic associations and circles, and the improvement of the quality of teaching at the tertiary level and practicum. As English is mostly taught by the Japanese Teachers of English (JTE), Japan English Teachers (JET) and Assistant Language Teachers (ALT) from the elementary (grade five to six) to senior high school, the teachers' teaching methods were examined, eventually prompting pressures to shift from the traditional Grammar-translation and exam-focused language learning to more communicative and practical approaches. University teachers also raised concerns on students' attitudes towards English, thus investigated whether motivation, authenticity and autonomy greatly affect learning, or whether learner-centered classrooms achieved better than teacher-centered environment or not. Science and commerce-oriented institutions suggested to adopt CBI, Content-based Instruction, CLIL, Content and Language Integrated Learning, among other methods, while some institutions found out that communicative approach, extensive reading, collocation-vocabulary and active learning as the most effective strategies to speed up language acquisition. Current learner needs and difficulties as well as societal expectations requiring dramatic transformations are the strongest drivers for research and studies in Japan.

INTRODUCTION

There is a great relationship between global trends and changes in the English language education in Japan. Local and global events shape how learners of English view the language as a part of their life. Over the past thirty years, foreign language skills are seen not only as a tool in communicating ideas and knowledge, but also as an enduring power needed to compete in the international marketplace. Nations realized that globalization means world interdependence and a movement towards communications, financial, technology, and trade integration and collaboration.

The English communication ability of most Japanese is lower than one would expect for the population of a highly developed and educated country (Lancaster and Otani, 2015). In the past two decades, Japanese TOEFL (Test of English as a Foreign Language) takers often receive the lowest grades among examinees in Asia. In 2015 alone, Japan ranked fifth from the bottom out of 30 Asian countries with TOEFL examinees (ETS 2015 in Aoki, 2016) Investigating the reasons behind this would yield more complex and multifaceted factors that would rationalize the English learning of the Japanese (Homma, 2015).

In this paper, I will discuss some studies and attempts at understanding the various situations surrounding Japanese learners of English, at the same time draw connections to suspected links to the stages of economic growth and transformations in Japan. This should provide a better understanding of the English language education in Japan, and a brighter teaching-learning outlook for instructors and students.

We could recall how the global challengers for scientific advancement as well as education have risen up like the waves of a tsunami...The tsunami of the challengers had its origins in some of the world's largest and most important countries and was created not just with a single, shuddering bump, but by whole series of societal shocks and economic eruptions over a period of several decades. Then, big changes emerged intensified by environmental factors of change such as the unprecedented availability of global resources,

and the remarkable state of becoming the challengers developed over time...exhibiting an intellectual hunger to learn, and an emotional hunger to achieve (Alvarez, in Sirkin, L., Hemerling, J. , et.al.2008). Japan was gearing towards world recovery as a new economic stimulus took center stage during many discussions in the Diet assembly.

Purpose of the Study

The widening gap between the expectations of the education bureau and workplace sectors and the actual abilities of students in the English language and communication in many higher educational institutions in Japan motivates this writer to investigate. Many researchers attempt to address these gaps and remedy the overarching need to fully prepare university students to become more active and useful in their future employment and society, as the academe responds to the recent demands of industrial institutions. It is thus, the primary goal of this paper to gain a deeper understanding of the relationship between government's expectations and goals for university students describing how they would function in their socio-economic as well as cultural responsibilities in nation-building, and their current performance and abilities. The secondary goal is to find patterns and trends in the current researches in the academe, hoping such investigations would reveal specific concerns, factors and limitations that need closer attention. The third goal is to trace some historical background and events that led to the current methods and approaches in pedagogy, factors that are seen as major drivers for change in the socio-economic-educational environments in Japan. Furthermore, this paper aims to intervene in a deliberate way in challenging English language pedagogical issues to bring about changes, and even better, improvement in practice.

METHODOLOGY

The most effective way to achieve these objectives is to conduct a qualitative method of analysis examining the current context and literature, as well as the general purposes of each. This will include a close understanding, reflection, and a view to a practical application of the concepts gained in the writer's own teaching in the future. A random quantitative study through a classroom performance survey will substantiate initial assumptions.

Specifically, the writer will employ a close observation of her 10 freshmen university classes, present an analysis and interpretation of available literature from the two main academic journals, summarize active discussion groups in teachers' social networks, explore what participants know, study the patterns and reflect on their experiences, and consolidate issues to create a full understanding of the research context.

DISCUSSION OF FINDINGS

THE BUBBLE ECONOMY IN THE MID 1980's

Japan's Bubble Economy from 1985 to 1990 was a time of unparalleled prosperity in Japan. But it was also a gilded age defined by opulence, corruption, extravagance and waste (Johnston, 2009). When the bubble economy years ended, Japan entered a prolonged slump from which it has yet to fully recover.

The country made changes towards opening a broader outlook with more companies connecting to the outer world intensifying travels to the Western countries, and the ability to speak in English became a coveted status. Trips were often made after dropping millions of yen at English conversation schools in posh buildings. The bubble economy attracted Westerners by the planeload, who made fortunes at foreign banks and brokerages, or at least good money teaching English (Johnston, 2009). Since then, not only was English taught in schools from junior high to senior high school as a foreign language subject where Grammar-translation was used a method for instruction, and at the university level as a required English subject, it was also a major course in many language schools and community programs dubbed as Eikaiwa or English Conversation class.

The growth and spread of these conversation classes nationwide ushered to an economic boom in the English language enterprise. Issues in learning the language became topics for regular yearly conferences for some teaching associations, namely, Japan Association for Language Teaching (JALT), Japan Association of College English Teachers (JACET), and English Teachers in Japan (ETJ) to name a few, and monthly meetings for their local chapters to share expertise in pedagogical techniques, approaches and methods.

As university curriculums included Study Abroad and Home Stay Programs, efforts to assess the effectivity

of these learner experiences to the speedy acquisition of the target language or how they foster autonomous learning at natural settings were made. Language schools competed against each other using banners on Direct Method or all-English instruction, or taught by the native speakers of English to lure more private students or group classes. Eventually, studies on these areas increased including Native Speech Versus Non-Native Speech topics, raising controversies on Japanese teachers of English often having very little experience speaking English so their pronunciation can sometimes be quite poor (Arntsen,2017). Native speaker (NS) pronunciation was favored by the Department of Education in the elementary years with many foreign workers employed to model native pronunciation to children in school.

This went on until the Bubble burst beginning early 1990's when the country saw a steady decline in interest in English studies, big language school chains suffered towards the start of the new millennium, and the tide of economic downturn associated with the Lehman Brothers in 2008 almost crippled the whole country. The nation had just to protect not only the material assets of the country, but also its most important wealth, education and its young people. It saw the importance of improving collaboration with other countries and monitoring signs and problems to avoid future dilemmas.

PREPARATION BEGINNING FROM ELEMENTARY GRADES

The introduction of compulsory foreign language classes for Japanese fifth and sixth grade pupils in April 2011 is a further example of change (Green, 2012) for innovation. The recent designation of Tokyo as the Olympics 2020 venue strengthened the pressure to equip the nation with this new world lingua franca.

Japan is indeed at the crossroads of internalization and globalization, but with education lagging behind other Asian nations in English ability, desperately initiated reforms in its English programs to conform to the needs of the new global world. In 2003 when Japan announced a new policy "Regarding the Establishment of an Action Plan to Cultivate 'Japanese with English Abilities'" (Japanese Ministry of Education, Culture, Sports, Science and Technology-MEXT, 2003a), committing to an "intensive training program aiming at improving teaching abilities to cultivate students' practical communication abilities in English" (MEXT, 2003a) several activities and events followed and gave rise to new research interests in English learning in Japan.

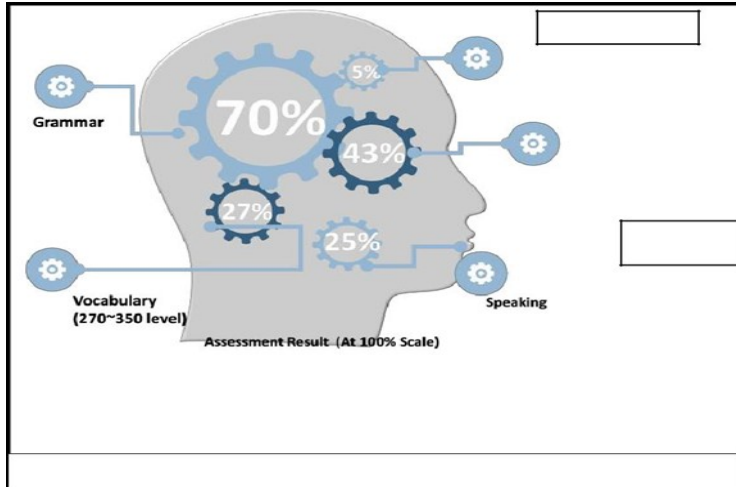
In this regard, Teaching English to Young Learners (TEYL) in primary schools and in language school chains emerged to become a new lucrative business, reviving the popularity of NOVA and GEOS, language school chains that dominated the so-called Eikaiwa Conversation business in the Bubble Years when most of the English courses were taught by speakers of English from the Inner Circle: USA, UK, Canada and Australia. Other speakers of English were also hired to assist primary school teachers and the Japanese Teachers of English (JTE) in junior and senior high schools. Assistant Language Teachers (ALT) or Assistant English Teachers (AET) helped classroom teachers in reading stories (Reading), in the pronunciation of target words (Phonics), as well the over-all practical activities and fun games inside the classroom. The introduction of compulsory foreign language classes for Japanese fifth and sixth grade pupils in April 2011 is a further example of this transformation (Green, 2012). Dispatch companies provided ALTs to public and private schools nationwide hiring not only native speakers of English, but also other English speakers like Filipinos, Europeans and other Asian nationalities who have a good command of English to assist Japanese classroom teachers. This trend created a more balanced exposure of the learners to speakers of English as a second language eventually establishing a more relaxed atmosphere and reducing anxiety in classrooms.

Recalling the years before the new millennium, foreign speakers of English, through the Japan Exchange and Teaching (JET) Program were brought to Japan mainly from four countries. From the original 848 participants in 1987, to 4,952 from 40 countries at present, more young people from around the globe come to Japan with the purpose of increasing mutual understanding between the people of Japan and the people of others nations (JET Program).

The convergence of various teaching-learning orientations in Japanese classrooms now participated in by foreign English speakers opened the way for analysis, comparison, criticism and numerous evaluations placing the Japanese educational system at close examination, especially in the teaching of English. Conferences and seminars introduced engaging fun games in elementary schools, teaching circles and associations led by language schools and small conversation schools made a gradual shift to Communicative Language Teaching (CLT) from Grammar-Translation Method in the teaching of several junior and senior high school and college preparatory English courses and requiring English to be used in at least 60% of the les-

son.

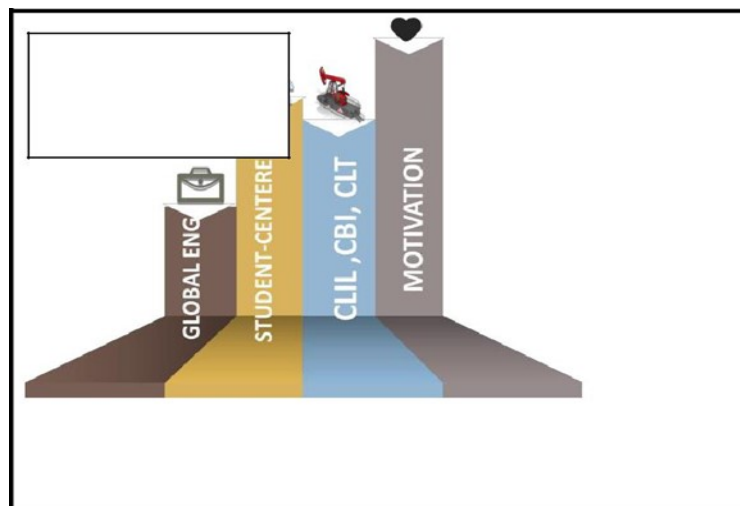
Classroom tasks were at stricter scrutiny at the university level with more qualitative and empirical studies carried out by applied linguists focusing on language use processes and language learning outcomes within the Japanese context. Learner performance at national exams and their oral language competence were not impressive, and when students were tasked to interact with foreign visitors, they could hardly carry out a simple conversation.



MOTIVATING THE DEMOTIVATED

University teachers also raised concerns on students’ attitudes towards English and investigated whether motivation, demotivation, authenticity and autonomy greatly affect learning, or whether learner-centered classrooms achieved better than teacher-centered environment or not. Several researchers aimed at understanding the changes in motivation among Japanese learners of English in the high school level. Motivators and demotivators vary in different contexts and that learner motivation fluctuates (Hayashi, 2005; Miura, 2010; Sawyer, 2007; Shoab & Dornyei, 2005 in Kikuchi and Sakai, 2016).

On a similar vein, several studies pose that identity, L2 motivation, attitudes, environment and learning methodology greatly affect students’ learning of a second language (Yashima, 2002 in Dornyei and Ushioda, 2009). Remedies to solve demotivation and utilizing digital vocabulary games (Homma, 2013) and picture books in English to improve their reading ability as more and more Japanese high school graduates with lower English abilities are entering universities (Hayashi, 2013) adding more frustrations in the university English classrooms. Universities now offer two ways to get admitted into college: either through exams or through interviews. Teachers need to cope with the changes and be able to understand basic Japanese to accommodate learner questions and difficulties.



Referring to motivation as a unitary concept is insufficient to explain and fully understand its dynamics in the classroom because individual motivation exists at different levels of generality (Tanaka, 2014) but if we understand how students regard the posture they have gained out of their new skills, and how they value English competence, it would be a step closer to more teaching-learning success. It is also important to remember that there are external and internal factors that affect their demotivation towards English that would include their lack of self-confidence and poor skills. Uncertainty in their future and confused perceptions of globalization also contribute to negative motivation. A recent interview conducted by the researcher on 100 non-English major sophomore university students revealed numerous reasons for not liking the English language, while several positive reasons were given by professional students taking business English courses in language schools.

As the learners start learning English in school only from age 10 or 11- Grade Five (MEXT, 2012), their beliefs are formulated with much influence of their parents and then teachers. Changing their attitude towards learning English the moment they reach junior high school where they begin learning English as a main subject, pose a tremendous task for teachers as learners' beliefs have been formulated even though they have had very little experience in actually using the language (Oda, 2013). More surprisingly, in Oda's survey, it was revealed that learners are not usually aware of the fact that a large part of their beliefs is a reflection of the so-called "common knowledge" which has been consistently accumulated without being noticed by the learners themselves. Sadly, after these studies conclude and get published, only a few learners get informed of the significance and implications to their learning.

On the other hand, while most studies used students merely as agentless subjects in research providing data blind to the purpose of research, some believe that critical participatory looping (CPL) could enable both teachers and science and engineering students, who are seen as more susceptible to demotivation toward studying English, could actually collaborate with researchers in examining the metacognitive basis of their own motivation (Apple, Hill, Shimo and Falout, 2013). This researcher has adopted this idea of informing learners of the recent research findings to allow students to gain more learning autonomy and responsibility for their improvement.

INTERNATIONALIZATION OF PILOT UNIVERSITIES

Studies in Science and commerce-oriented institutions suggested to employ CBI, Content-based Instruction, Content and Language Integrated Learning (CLIL), while some institutions saw extensive reading, collocation-vocabulary and active learning as the most effective strategy to speed up language acquisition. CLIL started in Europe in the 1990's and in the past decade has been getting importance in many universities in Tokyo. Considered as content-driven, using authentic materials, drawing cooperation and using rubrics of evaluation (MacGregor, 2016). It is understood that its success is dependent on its student level and choice of materials. Top universities find their foreign student population growing, as recently, more than 50 university courses are mainly taught in English (JASSO) giving Japan a big share of international students especially those originating from Asia, learners whose English competence play around 500 to 700 level in a 900 level native fluency scale. Sometimes, 50% of a class of 30 are non-Japanese adding more to interesting collaboration and discussions.

The internalization of classrooms in many of the top universities helped improve the application of CLIL as more and more universities now prefer teachers to use the method in most of their classes. Coyle believes that in order for CLIL to work well, there is a need for careful selection of the 4Cs: content, communication, cognition, and culture as they are interconnected having culture as the center feature that includes cultural understanding and cross-cultural communication in communities, in nations, and cross nations (Coyle, in MacGregor, 2016).

CLIL is an educational method that helps learners to acquire subject matter efficiently and at a deep level using methods of language education. Furthermore, CLIL is a method that helps to enhance practical skills by using the English language as a means of learning, and it aims to improve learners' study skills. It is a sophisticated educational method that realizes high-quality lessons by organically integrating various educational principles and methods (Ikeda, 2011: 2012). But researchers argued that it is difficult to be convinced whether students have acquired knowledge of a particular field in depth through CLIL lessons. As in one medical school, though topics related to health and medicine were attempted to be incorporated into lessons, class practices were such as teaching knowledge and terms related to health and medicine, so tasks tend to focus on teaching terms and activities to enhance language skills instead of teaching content

(Sasajima, 2011). This was mainly because the instructors knew the concept of CLIL, but putting them into action to create a successful content-discussion was another thing.

Continuing education at language school chains use a more-relaxed and modified CLIL-the Content-based Instruction (CBI) which is incorporated in Academic English, and more categorized into Academic Writing with Lessons in Understanding Copyrights, Presentation Techniques and Business English conducted using Direct Method and Communicative Language Teaching (Homma, 2015). As a supplementary experience, short immersion and homestay programs make follow-up experiences on natural communication or application of classroom skills in the wider world while enjoying sightseeing abroad.

PERCEPTIONS OF ENGLISH AND ANXIETY IN THE CLASSROOM

Other studies focused on the psychology aspects analyzing students' perceptions of their use of English (Hawkins, 2015), (Homma, 2015) and attempts to reduce the feelings of anxiety of learners in foreign language.

On the teaching factor, coordination, teacher autonomy and collaboration in EFL programs are seen as having potential benefits to the general teaching autonomy related to pedagogy and classroom management (Prichard and Moore, 2016). Teacher autonomy can enhance student learning as instruction can be easily modified to adapt to the specific needs of the class.

While there is now more focus on practical applications of the language, grammar teachers increased students' writing and grammatical competence through computer-assisted language learning (CALL) programs. At CALL, learners are encouraged to use these traditional or online resources primarily outside the classroom as they could enjoy the interactive and more realistic features of the language, compared to accomplishing exercises in less-interactive grammar books and paper-printed exercises. It is important to notice that direct interactions can more actively involve language learners in the process of working with the target language (Narita, 2012). CALL activities also allow students practice autonomy and tackle the tasks at their most convenient and conducive time and environment, thereby lessening learning anxiety (Homma, 2015). The digital age has occupied so much of the English classrooms in Japan that students use textbooks with internet access, or accomplish digitally prepared homework for easy access to students in their most convenient time.

GLOBAL ENGLISHES IN A GLOBAL SOCIETY

In the recent economic trends in Asia, teachers especially those involved in teaching scientific writing, Business English, English for Academic Purposes (EAP) and English for Specific Purposes (ESP) investigated on World Englishes (WE), English as International Language (EIL) and English as a Lingua Franca (ELF) and their interrelationships. Notions of accommodation and code-switching were observed are often performed by ELF speakers in order not only to compensate for gaps in knowledge but also to signify group membership and solidarity (Jenkins, 2009, in Essex, 2012). Jenkins claimed that in the future, people occupying the top of the English language hierarchy will not be native speakers (NS) but bilingual speakers who have the skills to function comfortably in multilingual situations. Not only teachers but also parents find numerous benefits in helping learners to be bi-literate and multilingual (Homma, 2009). Expatriate parents, see the upside of exposing children to their host country's dominant language while keeping their language mastered by their own children no matter where they are relocated and posted for work away from their home country. Global English grew as fluidity and complexity of context across in which English is now learned and used making it more and more difficult to explain people's motivation in learning English.

In matters concerning World Englishes, English varieties and "glocalized" English, English issues also sparked debates. Debates on whether it is better to teach the students standard English only as spoken by the Zone 1 native speakers, or expose them as well to other English varieties. Learners are divided on the answer, but in Japan, there is a big demand for other Englishes as more businesses expand operations to in Asia in the wake of the Nuclear disaster in Fukushima, Daichi Plant in March, 2011. Several business operations were affected paralyzing numerous operations in and outside the country. Some companies considered relocating affected branches abroad pushing for more intensive courses in English.

There's a sudden change in the direction of continuing education related to English. Business people sought

for abilities to understand Korean English, Singaporean English, Indian English and Philippine English variety courses in the country. Non-native speakers of English specifically from Asia get hired to teach these courses that incorporate culture and business into their lessons. Filipinos, for instance, now serve as Assistant Language Teachers (ALT) in elementary, junior and senior high schools in public and private schools, English Conversation instructors in language schools, and a few in the university level in Japan. The view that only one variety of English is superior to others has been severely criticized by several researchers (Fukuda, 2009). The notion that non-native English speakers learn English in order to communicate to native speakers of English and learn about their culture does not reflect the reality of English language these days (Matsuda, 2003).

The growing presence of Japan in Asia relocating factories and workforce intensified the demand for corporate Conversation and Business English classes, encouraging even big hospital and administration staff providers to modify their line of services to include an English school to their projects catering to the latest needs of the society (Homma, 2015). Courses offered are made flexible to provide the specific communication skills appropriate for the student to succeed in the South-East Asian context.

But the past decade oversaw the steady decline of industry and commerce in Japan prompting companies to administer cost-cutting measures and drastic decisions by relocating their factories to other countries for better security. Language schools sought for more foreign teachers who could teach negotiating skills and business strategies in various contexts as demand for business skills increased and many graduating students reviewed for the TOEIC (Test of English for International Communication) while professionals sought for tools for motivating new employees abroad, for overcoming resistance in worker unions, for preparing people for the plus and minuses of change, as what occurred in the aftermath of the 2008 economic downturn, and for gaining strength in negotiations and discussions.

YEAR 2020 AND BEYOND

Current learner needs and difficulties as well as societal expectations requiring dramatic transformations are the strongest drivers for research and studies in Japan. In 2020, when Japan is to host the Olympics, English will become a mandatory subject for fifth and sixth graders, instead of a “foreign language activity” class where children are only expected to experiment with English by speaking and listening, but instead of assistant language teachers preparing for the lessons and managing the activities, Japanese classroom teachers will be tasked to Along with this change, English will be mandatory as a foreign language activity for the third and fourth graders instead (Aoki, 2016). Expecting the already overwhelmed elementary teachers for retraining and gaining sufficient skills to teach English would be a big hurdle without a full scale support from the government. In the 2013 Course of Study for senior high schools, the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) mandated that English should be taught wherever possible through the medium of English. This encourages Japanese teachers of English adopt a broader view of their role as teachers of a global language in the 21st century. This does not mean ignoring the realities of examinations that are beyond their control, but rather seeing themselves as role models bilingual speaker who are able to use two languages adroitly to accomplish different classroom goals (Suzuki and Roger, 2014). Will these transformations usher the country in upgrading students’ English skills fluent enough to debate or negotiate in English?

If Japan is really serious with achieving its goals in English to make the Japanese become a better player in the global world, it must make its objectives as a nation adjust with teacher limitations and individual learner motivation, while taking into consideration the factors that challenge the teaching-learning situations. Japan should also study how other Asian nations that are more successful in its English language education like the Philippines enjoy collaboration with the media and the whole society in preparing their citizens to become effective bilingual communicators in today’s world.

REFERENCES

Alvarez, R. (2008) in Harold, L. Sirkin, J. et.al.(2008) *Globality:Competing with everyone from everywhere for everything*. Boston: Hatchet Book: Boston Consulting Group

Aoki, M. (2016).English heads for elementary school in 2020 but hurdles abound. *The Japan Times*, Sept. 5, 2016, Tokyo, Japan

- Apple, M., Hill, G. et.al. (2013). Collaborating with students to understand their motivations. Conference Proceedings, 52nd. Tokyo: JACET
- Arntsen, T. (2017) ESL Controversy: Native Speaker VS. non-native speaker. Retrieved at <http://busyteacher.org/4570-esl-controversy-native-speaker-vs-non-native.html>
- Benson, P. (2011). Teaching and Researching Autonomy. 2nd ed. Harlow, UK: Pearson Longman
- Coyle, D., Hood, P., & Marsh, D. (2010). CLIL: Content and language integrated learning. Cambridge, UK: Cambridge University Press
- Dornyei, Z. & Ushioda, E. (2013). Motivation, Language Identity and the L2 Self. Bristol, UK: Multilingual Matters
- Fukuda, T. (2010). Japanese students' perception of American English. In A. M. Stoke (Ed.), JALT2009 Conference Proceedings, pages 224-230.
- Green, W. (2012) Review of Young learner English language policy and implementation: International perspectives, edited by Janet Enever, Jayne Moon, and Uma Raman. JALT Journal, 34.1, May, 2012. page 106-108.
- Hawkins, S. (2015). Guilt, missed opportunities, and false role models: A look at perceptions and use of the first language in English Teaching in Japan. JALT Journal, Vol. 37, No.1, page 29.
- Homma, J. (2015). Learner autonomy and practice in a flipped EFL classroom: perception and perspectives in new digital environments, page 253-260, Chiba Shodai Kiyō (The Journal of Chiba University of Commerce) Vol. 52 No.2, March 2015
- Homma, E. and Block, D. (2004) Teaching the Very Young, Snakes and Ladders, Volume pages 1-7,
- Homma, J. (2010). Raising children to become bilingual and biliterate, Japan Association for Language Teaching, Bilingualism SIG, Monograph 2009, pages 62-70.
- Ikeda, Makoto. (2011). CLIL no kihon genri [Basic principles of CLIL]. In Watanabe, Yoshinori, Makoto Ikeda, and Shinichi Izumi. (Eds.). (2011). CLIL (Content and Language Integrated Learning) New Challenges in Foreign Language Education at Sophia University – Volume 1: Principles and Methodologies, pp 1-13
- Ikeda, Makoto. (2012). CLIL no genri to shidouhou [Principles and methodologies of CLIL]. In Izumi, Shinichi, Makoto Ikeda, and Yoshinori Watanabe. (Eds.). (2012). CLIL (Content and Language Integrated Learning) – New Challenges in Foreign Language Education at Sophia University – Volume 2: Practices and Applications, pp 1-15
- Izumi, Shinichi, Makoto Ikeda, and Yoshinori Watanabe. (Eds.). (2012). CLIL (Content and Language Integrated Learning) – New Challenges in Foreign Language Education at 51 – Sophia University – Volume 2: Practices and Applications, Tokyo: Sophia, University Press
- Jenkins, J. (2009). Exploring Attitudes towards English as a Lingua Franca in the East Asian Context, in Murata, K., Jenkins J. (Eds) Global Englishes in Asian contexts: Current and future debates, pages 40-56,
- JET Program. [Online Version]. Retrieved from <http://jetprogramme.org/en/history/>
- Kikuchi, K. and Sakai, H. (2016). Factors on changes of English language learning motivation: A content

analysis of motivating and demotivating experiences. *JALT Journal*. Vol. 38, No.2, November 2016. pp. 119-147

Lancaster, J. ,Otani, T. (2015) Problems with English education in Japan and solutions. Chiba Shodai Kiyō (The Journal of Chiba University of Commerce) Vol. 52 No.2, March 2015

Matsuda, A. (2003). The ownership of English in Japanese secondary schools. *World Englishes*, 22(4), 483-496.

MacGregor, L. (2016). CLIL in Japan: University teachers' viewpoints, pages 426-430. In P.

Clements, A. Krause, & H. Brown (Eds.), *Focus on the learner*. Tokyo: JALT

MEXT. (2013). Support for internationalization of universities, 2013. Retrieved from <http://www.mext.go.jp/english/highered/1326670.htm>

Prichard, C., and Moore, J.(2016). Coordination, autonomy, and collaboration in EFL Programs in Japanese higher education. *JALT Journal*, Vol. 38, No.2 November 2016. Tokyo:JALT

Sasajima, Shigeru. (Eds.). (2011). *CLIL: Content and Language Integrated Learning – Atarashii*

Hassou no Jyugyou: Rika ya Rekishi wo Gaikokugo de Oshieru!? [CLIL: Content and

Language Integrated Learning – Classrooms with New Ideas: Teaching Science and

History Using a Foreign Language].Tokyo: Sanshusha.

Sirkin, H., Hemerling, J. , et.al.(2008) *Globality: Competing with everyone from everywhere for everything*, New York: The Boston Consulting Group, Inc.

Smith, L. (1976). English as an international auxiliary language. *RELC*

Suzuki, H. and Roger, P. (2014). Foreign language anxiety in teachers, *JALT Journal*, Vol. 36, No.2, November 2014. Tokyo: JALT

INTEGRATION OF ESSENTIAL INTRAPARTAL AND NEWBORN CARE OF THE BACHELOR OF SCIENCE IN NURSING CURRICULUM OF PAMANTASAN NG CABUYAO: A BASIS FOR OUTCOME –BASED EDUCATION

SHALINI S. BARROSO, FELIZA V. DE GUZMAN, ISABELITA N. ISIP,
DR. EMELITA S. PESIGAN & HERMAN F. ZOLETA
Nurse Educators College of Nursing:
Pamantasan ng Cabuyao, Banaybanay,
Cabuyao City, Laguna

ABSTRACT

In nursing profession, patient's safety is one of the main properties. Choosing this field was not a simple thing because we handle the lives of the patient and rendering care for the patient was gained through different factors which have been a problem for nursing students. To solve this conflict, simulation of different nursing procedures were introduced. The BSN level II and IV students had already taken NCM 101 and 102 as pre-requisite to simulation program. The BSN students experienced anxiety in simulation practices or assess incapable for the experimentation. The descriptive method was employed in this study. The main instrument used in the study in gathering data was the 30-item knowledge test in complication of delivering, Self-efficacy assessment checklist and skill performance in immediate care of newborn and intrapartal care. This was designed to measure the level of knowledge, self-efficacy assessment of the students and skill performance in actual clinical area; to gather data which consist of 35 respondents from level III and IV students of Pamantasan ng Cabuyao. Random sampling of the total enumeration of the Level III and IV BSN students was used as a sampling method. The responses were tabulated, analyzed and interpreted using appropriate statistical tools. The researchers sought answers on (a) the demographic profile of nursing students according to age, gender, and year level, (b) assessment in self-efficacy in experiencing simulation, (c) the level of knowledge in complication of delivery, (d) the level of performance in evaluating intrapartal and newborn care competency assessed by their clinical instructor, (e) significant relationship between the respondent's demographic profile and to the knowledge, skill performance and assessment in self-efficacy, (f) significant relationship between knowledge and skill performance in Intrapartal, (g) significant relationship between assessment in self-efficacy and skill performance, and (h) significant relationship between assessment in self-efficacy and knowledge of level III and IV students of Pamantasan ng Cabuyao. The finding shows that there were 39 BSN students where majority are female and third year level, ages 20 to 25 years old. The overall MPS of the performance of the BSN students in the research test for knowledge was 40.34% or poor, in intrapartal skill was 72.28% or Fair, and in Newborn Care was 72.98% or Fair. In the assessment of students self-efficacy of the third year level was 4.35 and 4.32 for fourth year that gives the over mean with 4.33 or interpreted as Agree. (3.50-4.49). the Care of Newborn with χ^2 computed 13.860 has significant relationship of the age, the self-efficacy, knowledge in Intrapartal and Newborn Care skills has significant relationship to the gender and year level. From the findings and conclusions of the study, the researchers recommended to the students, dean, level coordinators and clinical instructors, future researchers and people in the field of Nursing, that they must improve skills in performing intrapartal care and newborn care that can be attainable through simulation. The researcher proposed an action plan for the enhancement of simulation through knowledge development, uplift self-efficacy, and application of skills in intrapartal and newborn care programs.

INTRODUCTION

According to Ms. Barcelo, President of Philippine Nurses Association, because of the collaborated quality education, there were lots of improvements that prepared by the students to practice not just in the Philippines but also in the world. Nursing curriculum must be constantly updated and reviewed cited by Dr. Tan, Former Secretary of the Department of Health to meet the fundamental change in nursing education to meet the challenges of health care (World Health Organization). Content and Curriculum changes that will help create the critical reflective practitioner (Professor Laurente of University of the Philippines, 2010).

In nursing profession, patient's safety is one of the main priorities. This field is not a simple decision to make because handling the lives of the patient with tender loving care is not that easy.

Rendering care for the patient is gain through different factors which could have been a problem among nursing students.

To solve this conflict, simulation of different nursing procedure was introduced.

According to Gaba (2014), simulation is a technique, not a technology, to replace or amplify real situation with guided experiences, often immersive in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion.

As the science of simulation grows, there is ongoing work towards a common guiding taxonomy and set of practices; however, there is not currently one universally accepted framework or theory in use. One common framework used in nursing education is The Nursing Education Simulation Framework (Pamela Jeffries, 2005).

In the nursing field, return demonstration is an effective strategy by which the learner attempts to perform a psychomotor skill. This strategy is effective when combined with a demonstration, the learner should perform return demonstration as close to demonstration as possible. It gives the learner an opportunity to show what they have learned in a comfortable non-intimidating environment. As a replacement, instead of using conventional demonstrations, having the clinical instructors with their funny gestures and weird body movements just to explain the procedures and using chalk to draw the scenarios on the boards, with the use of modern technology simulation starts (Lewis First, 2014).

The clinical instructors viewed simulation as means of helping students to learn to be a good nurse, which suggests that simulation helped nurses to determine nursing potential. Thus, clinical instructors facilitated clinical simulation sessions in the university. Simulation is a teaching and learning strategy that complements learning in real life situations with real patients. It helps to prepare students for their roles and offers opportunities for conceptual knowledge and skill development and boosting their self-efficacy.

The BSN level III and IV students had already taken NCM 101 and NCM 102 as pre-requisite to simulation program. The BSN students experienced anxiety in simulation practices or assessed incapable for the experimentation. Knowledge in the complication of delivery competency of clinical practice in affiliated hospitals. The intrapartal and new born care skills help to develop the knowledge or said to be that experiences explain the real situation. In the simulation, students relate the knowledge and exhibit the skills in the artificial way to practice the profession, in intrapartal and immediate care of new born. Simulation helps to uplift to competent and proficient nurses. Repeated practices fulfill students to develop self-efficacy in performing in actual clinical setting. The researchers sought the origin of the poor performance in the actual clinical setting- the prior knowledge, skills and self-efficacy as assessed for the enhanced simulation program. The researchers sought the origin of the poor performance in the actual clinical setting- the prior knowledge, skills and self-efficacy; that is assessed for the enhanced simulation program.

This study assessed the knowledge, skill and self-efficacy of the respondents as a baseline data and seek for aspects that could be modifying for a better learning process by using simulation as a teaching strategy. The researchers chose the topic not just because it is a nursing related issue, but also to help the department of nursing as a whole in enhancing facilities and strategies that will nurture the present and incoming nursing students of this Institution.

STATEMENT OF THE PROBLEM & OBJECTIVES:

The researchers aimed to seek answers to the following questions:

1. What is the demographic profile of nursing students in terms of:
 - 1.1 Age
 - 1.2 Gender; and
 - 1.3 Year Level
2. What is the level of knowledge in Intrapartal care and immediate care of newborn of the students/ respondents with the conducted Simulation according to Benner's theory?
3. How do level III and IV BSN students assess their Self-efficacy in experiencing simulation based on Bandura's theory?
4. What is the level of performance in evaluating intrapartal and newborn care competency among BSN level III and IV in clinical setting as evaluated by their Clinical Instructors?
5. Is there any significant relationship between the respondents' demographic profile and to the knowledge, skill performance and assessment in self- efficacy of BSN level III and level IV students of Pamantasan

ng Cabuyao?

6. What action plan can be proposed after the findings of the study?

OBJECTIVES OF THE STUDY

This study aimed to determine the factors which were knowledge, skill and self-efficacy of BSN level III and IV students to have the basis for enhanced simulation program. Specifically, this research study aimed to:

1. Determine the demographic profile of nursing students in terms of:
 - 1.1 Age
 - 1.2 Gender; and
 - 1.3 Year Level
2. Determine the level of knowledge in intrapartal care and immediate care of newborn of the students/ respondents with the conducted simulation according to Benner's theory.
3. Assess the level III and IV BSN students their self-efficacy in experiencing simulation based on Bandura's theory.
4. Determine the level of performance in evaluating intrapartal and newborn care competency among BSN level III and IV in clinical setting as evaluated by their clinical instructors.
5. Analyze the significant relationship between the respondents' demographic profile and to the knowledge, skill performance and assessment in self- efficacy of BSN level III and level IV students of Pamantasan ng Cabuyao.
6. Determine the impact of the integration of simulation in intrapartal and newborn care in the nursing curriculum.

METHODOLOGY

This study used a descriptive type of research design also called as Statistical Research which is mainly done when the researcher wanted to gain a better understanding of a topic. It is quantitative and uses surveys and panels and also the use of probability sampling. Descriptive research is the exploration of the existing certain phenomena.

Performance checklist adopted from College of Nursing for the skill performance of the respondents in intrapartal and immediate newborn care in actual clinical setting evaluated by their clinical instructor, checklist for the assessment of self-efficacy evaluated by themselves adopted from another study entitled "Nursing Simulation Experience: Self efficacy, State anxiety, Locus of control and Simulation Effectiveness by Ashley M. Gosselin and questionnaire adopted from NCLEX was used for data collection purposes. The researchers established a descriptive type of research because it describes and interprets results on the main concern of the study which is the Knowledge, Skill and Self-efficacy of BSN Level III and IV students of Pamantasan ng Cabuyao as a basis for enhance simulation program.

The respondents who participated in this study were combination of third year and fourth year enrolled nursing students in Pamantasan ng Cabuyao. They are consisting of 23 level III and 16 level IV nursing students respectively.

FINDINGS

The following are deemed as the summary that was drawn from the results of data gathering and analysis:

1. Generally, the respondents are mostly level III female students of Pamantasan ng Cabuyao.
2. The level of knowledge of BSN level III and IV students of Pamantasan ng Cabuyao was below 60% or equivalent to poor, which means that simulation, is less effective on the knowledge of students.

3. The overall mean assessment of BSN level III and IV of Pamantasan ng Cabuyao in self-efficacy questionnaire was 3.50-4.49 or equivalent to agree. It implies that BSN students agreed that simulation helped them gain more confidence in performing the procedures.
4. The level of performance of BSN level III and IV of Pamantasan ng Cabuyao in intrapartal care was 75-84% or equivalent to good, which means that they performed well in clinical delivery setting while in performing Immediate care of a newborn, most of the student got 60-74% or equivalent to fair which means it had a significant effect in the simulation.
5. In terms of age, there was a significant relationship in performing the Immediate care of the newborn. While the gender and the year level has a significant relationship with the knowledge and self-efficacy of the students in performing intrapartal care and immediate newborn care.
6. There is an impact of using simulation program in the intrapartal and newborn care between self-efficacy, skills performance and knowledge as an outcomes-based teaching and learning process.

CONCLUSIONS

These are the conclusions in viewed of the findings:

1. The respondents are mostly level III female students of Pamantasan ng Cabuyao.
2. The level of knowledge of BSN level III and IV students was below 60% which means simulation is less effective.
3. The self-efficacy assessment of BSN level III and IV of Pamantasan ng Cabuyao implies that BSN students agreed that simulation helped them gain more confidence in performing the procedures.
4. The level of performance of BSN level III and IV of Pamantasan ng Cabuyao in intrapartal care was performed well in clinical delivery setting while in performing Immediate care of a newborn, most of the students had a significant effect in the simulation.
5. The age has a significant relationship in performing the Immediate care of the newborn, while the gender and the year level has a significant relationship with the knowledge and self-efficacy of the students in performing intrapartal care and immediate newborn care.
6. Simulation program has a vital significance in the intrapartal and newborn care between self-efficacy, skills performance and knowledge as an outcomes-based teaching and learning process.

RECOMMENDATIONS

In light with the findings and conclusions of the study, the researchers recommend the following:

1. The Institution should promote the Bachelor of Science in Nursing because of its innovative strategies in enhancing the self-efficacy of students in reference to their skill performance and knowledge.
2. The students should focus on improving their skills in performing Intrapartal and newborn care through simulation program.
3. Enhance further the student's performance by conducting a meticulously revisiting questionnaire to better assess possible differences in student performance.
4. The clinical instructors should motivate the students to boost their self-efficacy by focusing on the students' level of competencies in the practice of intrapartal and newborn care so that they can gain more self confidence in performing such courageous act.
5. The administrators of Pamantasan ng Cabuyao should give emphasis on the improvement of the Nursing Arts laboratory facilities to expand the student's knowledge and uplift their self-efficacy in performing nursing procedures.
6. The administration should allocate budget for the implementation of the simulation program as a teaching learning process set forth by the College of Nursing.

ACKNOWLEDGMENT

The researchers would like to acknowledge and express their profound gratitude and indebtedness to the following prominent expert, mentors, and educators for their genuine and selfless assistance extended during the pursuit of this study;

Dr. Isabel F. Inlayo, for her holistic assistance in many ways, spiritually and morally, with the shared time and support that gave the researchers the strength to pursue this study during their trying times;

Dr. Niño J. Viñas, Director for Research and Extension, for his encouragement and providing valuable inputs to enhance the manuscript and leading the research committee in bringing out the best potentials;

The Panel of Examiners **Dr. Juan C. Birion, Dr. Junithesmir D. Rosales, Dr. Floriño Ibañez** for their valuable constructive comments and suggestions for the improvement of the study;

Prof. Necitas Alegros, English faculty member, a friend, a sister, for all the support, concern and encouragement, whose benevolent expertise for research is beyond question, the researchers will deeply treasure for life;

Mr. Ronel Aligam for his untiring support and assistance bestowed upon him in encoding, and helping the researchers to finish this manuscript.

The respondents, for their cooperation and collaboration for the success of this study;

Friends, colleagues in the profession, researchers wish to extend the words, *“Thank you”*. For the great challenge which had made them stronger, persistent and more persevering to succeed.

Respective families of the researchers, for their unconditional love, understanding and support during the most challenging time, the love and unity they have explicitly expressed, which inspired them to pursue this study;

Finally, **to God, thank you LORD**, for all the wisdom and good health extended for without it, this masterpiece will not be possible. **“That In All Things, God May Be Glorified.”**.

REFERENCES

Bandura (1986) *“Self – Efficacy Theory”* cited February 2012; http://nursingplanet.com/theory/self_efficacy_theory.html

Barcelo, T.(2001) *“Internalization of Nursing Education”* Philippine Journal of Nursing Vol. 71; cited November 2010; <https://www.yumpu.com/en/document/view/24748056/the-nursing-profession-in-the-philippines-is-in-a-strategic-position-/23>

Laurente(1998) *“Future Directions of Nursing Education in the 21st century”* Phillippine Journal of Nursing;cited November 2010; <https://www.yumpu.com/en/document/view/24748056/the-nursing-profession-in-the-philippines-is-in-a-strategic-position-/23>

Lewis First (2014) *“Two simulation studies that improve clinical skills”*

David M. Gaba(2004)*“The future vision of simulation in health care”* cited http://www.csahq.org/pdf/cme/2014hod_simulation_gaba.pdf

Pamela R. Jeffries(2005) *“A Framework for Designing, Implementing, and Evaluating Simulations Used as Teaching Strategies in Nursing”* The Weekly Qualitative Report Volume 3 Number 14, April 5; cited; <http://www.nova.edu/ssss/QR/WQR/sanford.pdf>

Pamela G. Sandord ; Ward Smith ;et. al (2008) *“Simulation in Nursing Education: A Review of the Research”*

Kathie Lasater (2007) *“Clinical Judgment Development: Using Simulation to Create an Assessment Rubric”* cited March 2009; <http://www.nlnjournal.org/doi/abs/10.1043/1536-5026-030.002.0105?journalCode=nhcp>

PROFILING OF PHILIPPINE MERCHANT MARINE ACADEMY ACADEMIC ACHIEVERS AND THEIR ORIGINS

VICTORIA Q. PARAGGUA, CAROLYN S. SOLAS,
RACHELLE C. DIVIVA & VANESSA ANNE M. NACA
Department of Research and Development
Philippine Merchant Marine Academy
San Narciso, Zambales, Philippines

ABSTRACT

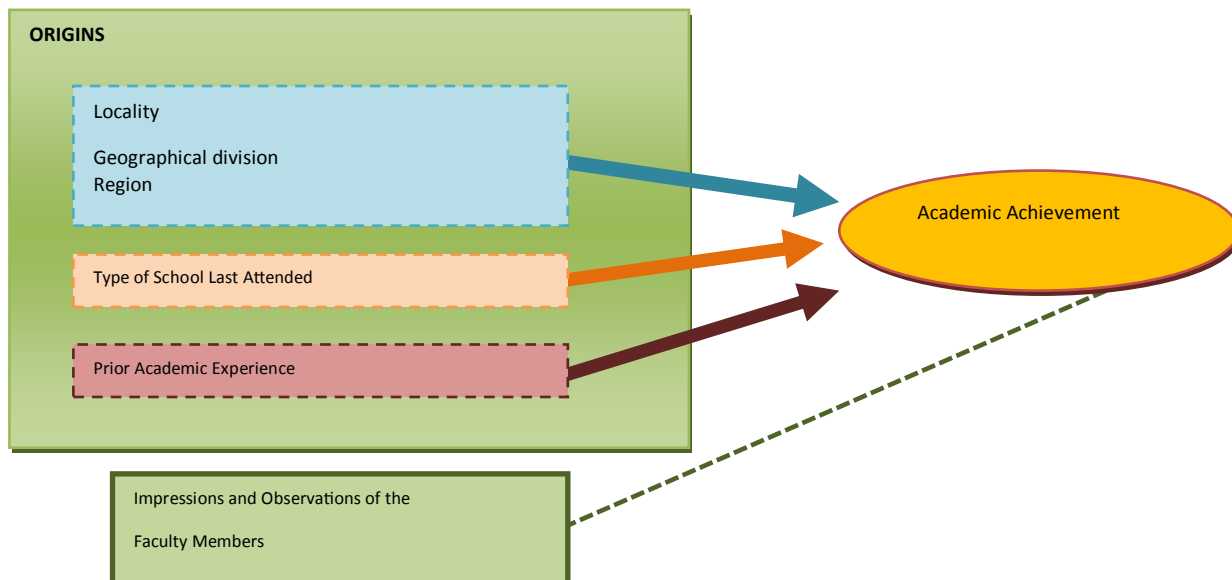
This study determined whether the origins of the PMMA top 10 Achievers were significant determinants of their achievement. Findings proved that majority of the PMMA academic achievers are from Luzon and mostly coming from the National Capital Region. Most of them were educated in public or state-owned schools such as regional, national or science high school and a significant percentage of the achievers had a college background. When grouped according to course, both the BSMT and BSMarE achievers are mostly from Manila and already had a college background. However, in terms of type of school attended, majority of the BSMT achievers were educated in private schools which in contrast with the BSMarE achievers who were educated in public or state-owned schools. Based on the findings, no relationship was established between the academic performance and their province, type of secondary school last attended or prior academic experience. The interviewees negated that those who came from Manila are more intelligent. According to them, those who are from far-off provinces are more dedicated and excelled better in class, with them considered as less financially fortunate. It is recommended that a follow-up study be conducted to include other variables that may have significant relationship with achievement among the PMMA.

Keywords—achievers; correlation; origin; performance; significant

INTRODUCTION

The Philippine Merchant Marine Academy (PMMA) has consistently produced globally competitive graduates that excel in the maritime field. This is ensured by getting the cream of the crop through a rigid selection process – from entrance examination, medical/physical/ neuro tests and probationary period. To continuously capture the best among the applicants, the researchers considered the underlying factors that would contribute to the performance of the top 10 academic achievers of the PMMA.

This study focused on determining the relationship between the top 10 academic achievers and their origins in terms of locality and school last attended and prior academic experience, as represented by its conceptual paradigm (Fig. 1), and results were validated through interviews among faculty who rendered at least 10 years of service to academy.



This study has been anchored to the Social Learning Theory developed by Lev Vygostky [1]. This explains how social environment can influence learning. Learning is also achieved through our interactions and communications with others. Moreover, Vygotsky (1962) argues that culture is the primary determining factor for knowledge construction. One learns through this cultural lens by interacting with others and following the rules, skills, and abilities shaped by his culture. For example, a locality or community where a person hails from practices a specific culture. It must be noted that initial learning occurs within the family and within the community where a person belongs to. So, while being exposed to a culture for a certain period of time, a person can be nurtured which will develop a unique set of behavior and habits manifested in that certain community. Hence, it is possible that the perception is affected, as well as the level of motivation. This explains why locals from each unique community may perceive education uniquely as well. Some cultures see education as a vital role in improving standard of living while others see it as a burden since it entails a lot of financial demands. In turn, this might also affect the students on how they perform in school.

With this, the researchers of this study have felt the importance of knowing the relationship between the academic achievement of the students and their origins. Proving a positive relationship can lead to another in-depth study that will thoroughly define how can origins affect the academic achievement of the students. This can serve as a basis for improving the strategies in academic instruction. Moreover, the Board of Admission may use the results in their marketing campaigns.

STATEMENT OF THE PROBLEM

This study primarily aimed to study the co-relation of the origins of top 10 academic achievers and their academic achievements. Specifically it probed on the following:

1. Where do most of the academic achievers come from based on the following: geographical division; region; province; type of school last attended; and prior academic experience?
2. When grouped according to academic program (BSMT and BSMarE) where do most academic achievers come from based on: province; type of secondary school last attended; and previous academic experience?
3. Is there a significant relationship between the academic achievement of the top 10 academic achievers and the following: province; type of school last attended; and previous academic experience?
4. What are the general impressions and observations gathered among the faculty who handled top 10 academic achievers?

Null hypothesis

There is no significant relationship between: (1) the origin of the top 10 academic achievers and their academic achievement; (2) the province of the top 10 academic achievers and their academic achievement; (3) the type of school last attended of the top 10 academic achievers and their academic achievement; and (4) the prior academic experience of the top 10 academic achievers and their academic achievement.

METHODOLOGY

The descriptive correlational research design was used to describe the relationship of the origins, particularly their province, type of school attended and academic experience, of the academic achievers to their exemplary performance exhibited during the academic instruction and training at the PMMA. In this particular study, the researchers used documentary analysis of existing records acquired from the Office of the Registrar, such as Transcript of Records where the General Weighted Average, provincial origin and last school attended were noted. Moreover, unstructured interviews were conducted among the faculty members who have rendered service to the academy for at least 10 years.

The subjects of the study are the PMMA graduates from Bachelor of Science in Marine Transportation (BSMT) and Bachelor of Science in Marine Engineering (BSMarE) who made it to the top 10 list in class upon graduation since 1998 up to 2014 based on the list provided by the Office of the Registrar.

Frequency, ranking and factorial ANOVA were used to identify the relationship and answer the problems.

REVIEW OF LITERATURE

Performing well in academics is a challenge especially if one aims to achieve a high distinction. It requires a lot of effort and talent. One has to perform extraordinarily to excel more than others. In the Philippine Merchant Marine Academy, getting a high grade in academics is not easy. The institution embraced a quasi-military training which complements the academic foundation of the midshipmen. However, maintaining a balance between academics and the regimental system would mean working under pressure at all times. Maddox et al attest that pressure may strongly affect the performance of the person and may decrease the accuracy of outputs [2]. Therefore, a student can only excel if he possesses extraordinary capabilities or has been exposed to certain factors that may have honed their capabilities. Studies suggest that factors such as locality, ethnicity, prior academic experience, economic status and others may have a significant influence on the academic performance of the students.

According to the Social Learning Theory developed by Lev Vygotsky, social environment can influence learning. This is achieved through interactions and communications with others. He suggested that learning takes place through the interactions students have with their peers, teachers, and other experts. He also added that culture has a big role in knowledge construction. We learn through this cultural lens by interacting with others and following the rules, skills, and abilities shaped by our culture [1].

It must be noted that the first steps of learning start within the family and within the community where a person belongs to. So if a family and or certain community practice a certain culture, then their constituents have the tendency to also imbibe it. So, while being exposed to a culture for a certain period of time, a person can be nurtured which will develop a unique set of behavior and habits manifested in that certain community. Moreover, it is also possible that the perception towards things is affected as well as their level of motivation. This explains why in some communities, locals may perceive education differently compared to other communities. Some cultures see education as a vital component in improving the standard of living while others see it as a burden since it entails a lot of financial demands. It can be concluded that communities which see education as important might have a higher level of motivation for learning.

On local origins

This study probes deeper into the relationship of the locality of the top ten students with their academic achievement. Many studies have actually proved that the place where a person comes from has something to do with the study habits and motivation. This may be related to how their culture perceives education. Villela also closely examined the relationship of ethnicity and academic achievement. It was explained how ethnicity and culture can affect successes and losses. Her study suggested the implementation of intervention strategies that can provide “a safe and structured learning environment” that nurtures ways to acquire knowledge. These strategies are recommended to be implemented in classroom practices to enable the students and faculty to be culturally aware of different groups. At the same time, it can be used to combat barriers in attaining academic achievement [3]. Kaighobadi and Allen also attempted to determine the academic success factors of business students, focusing on factors such as gender, age, ethnicity and other demographic and academic variables. It was confirmed in their study that the student’s performance is correlated with demographics such as age, ethnicity, and gender. However, there were still some who argued that ethnicity was just incidentally related to poverty [4].

On the other hand, there are other studies that showed a significant positive relationship between nationality/locality/ethnicity of the students and their academic achievements. The study of Sue and Okazaki proved that the country of origin has a positive relationship with the performance of the students. It was found out that the Asian students’ performance in the USA and why they have a higher performance [5]. Jayanthi et al also proved a relationship between nationality and the academic performance. It was found out that international students had higher GPAs than Singaporeans. This was because most of the international students are funded therefore they strive harder to retain the funding. Moreover, the author also stressed that “international students who may have a weak social support system may encounter acculturative stress and the best way to cope is to focus more on achieving in academics” [6].

On Previous Academic Experience

Many have claimed that the academic institutions play a vital role in developing the knowledge and learning skills of the students. The majority of the knowledge and skills are acquired in school. These include study habits, motivation, cognitive development and so on. If the students were taught a unique set of study habits, they tend to practice these as they go along with the academic training.

Some claim that training of private schools is more superior than in public schools. They believed that student population is controlled and given ample attention. Hahn, Kim, and Seo conducted a study on the effects of public and private schools on the academic achievement of the students in the Republic of Korea. They randomly assigned middle school graduates to private and public high schools and the tuition was the same for both. This is to ensure that the difference between the academic performances of the graduates was a result of the “difference in the schools” efforts towards the students’ academic achievement”. It appeared in the results that students in the private schools had better academic performance than those who were from public schools. It was also concluded that the student’s income level also had an influence on the academic performance [7].

On the contrary, some also claimed that public schools can outperform private schools. In a mathematics achievement test assessed by Lubienski and Lubienski, it was proven that public schools perform remarkably well and outscore private schools even though private schools cater to a more advantage population [8].

Alasfour and Alhajraf focused on how demographic and academic characteristics influence academic performance. The study explained that demographic and academic characteristic are related to the performance of the students when they were still taking their undergraduate studies. Age, gender, nationality, high school major, GPA were suggested as the potential determinants of academic performance. The results of the study revealed that the age, gender, high school major and high school GPA were significantly related to the student’s performance. Also, it highlighted that science background has a positive and significant influence on the academic performance of students, especially on business. However, nationality did not have any significance at all [9].

Although, there are no present studies or limited researches were done in the Philippines. Therefore in this study, the Academy has decided to conduct the said study to know whether the place origin or the school last attended has a significant relationship with their academic performance of the top ten PMMA academic achievers.

FINDINGS

A. Demographic presentation of the origins of the top 10 academic achievers as an entire group

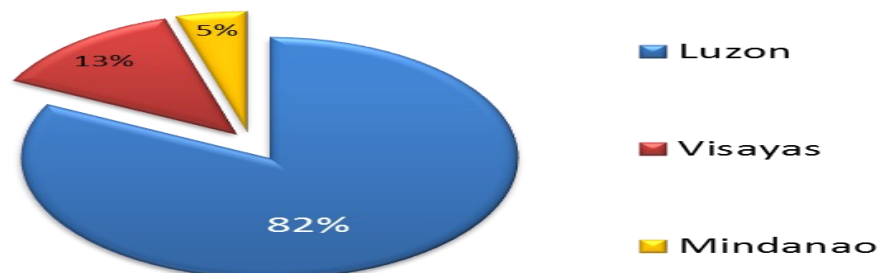


Figure 2. Division of the Top 10 academic achievers in terms of Geographical division

Geographical Division. Fig. 2 shows that the majority of the academic achievers came from Luzon comprising 82% of the population while 13% came from the Visayas and 5% from Mindanao.

Region. Fig. 3 shows the distribution of the academic achievers according to regions. In Luzon, a majority of the academic achievers came from the National Capital Region (NCR) comprising at least 16.10% of the population. Next in rank are regions such as: Region 4A that covers 14.18%; Region 5 which covers at least 13.43%; Regions 1 and 2 that comprise at least 13.06% each; Cordillera Administrative Region (CAR) which constitutes 12.69%; Region 3 at 12.31%; and Region 4B which only shares 1.12% of the total population. In the Visayas, Region 6 dominates the list comprising 64.29% followed by Region 8 (21.43%) and the rest of Region 7 covering 14.29% of the population.

In Mindanao, most achievers came from Region 12 which comprise 26.67% followed by Regions 10 and 11 with 20% each; Regions 9 and 13 covering 13.33% each; and lastly the ARMM covering the rest of the share.

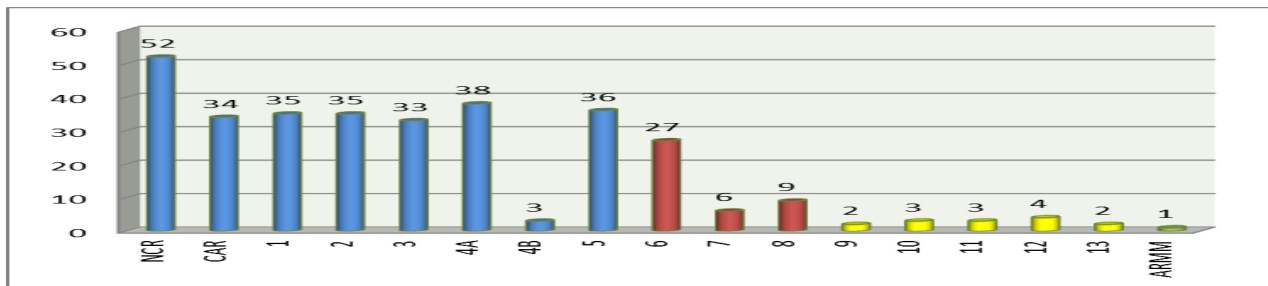


Figure 3. Division of the Top 10 academic achievers in terms of Region

Table 1 Demographic Distribution of the Top 10 Academic Achievers in terms of Province			
Provinces	N	%	Rank
Manila (NCR)	52	16.10	1
Cagayan	18	5.57	2
Iloilo	17	5.26	3
Camarines Sur	17	5.26	4
Pangasinan	13	4.02	5
Zambales	12	3.72	6.5
Quezon	12	3.72	6.5
Nueva Vizcaya	11	3.41	9
Bulacan	11	3.41	9
Batangas	11	3.41	9
Benguet	10	3.10	10
Ifugao	9	2.79	12.5
Cavite	9	2.79	12.5
Ilocos Norte	8	2.48	14.5
Ilocos Sur	8	2.48	14.5
Mountain Province	7	2.17	16.5
Albay	7	2.17	16.5
La Union	6	1.86	18.5
Isabela	6	1.86	18.5
Negros Occidental	5	1.55	19
Abra, Antique, Kalinga-Apayao, Laguna, Camarines Norte	4*	1.24*	22.5
Antique, Davao, Aurora, Catanduanes, Masbate, Cebu, Leyte	3*	0.93*	27.5
Lanao del Norte, North Cotabato, Nueva Ecija, Pampanga, Tarlac, Rizal, Sorsogon, Negros Oriental, Eastern Samar, Southern Leyte	2*	0.62*	35.5
Basilan, Bukidnon, South Cotabato, Sultan Kudarat, Agusan, Surigao del Sur, Bataan, Occidental Mindoro, Oriental Mindoro, Palawan, Aklan, Bohol, Samar, Western Samar, Zamboanga del Norte, Zamboanga del Sur	1*	0.31*	48.5
Total	323		

*Number/percentage of graduates from each province listed

Province. Majority of the achievers came from the National Capital Region covering 16.10%; Iloilo came next on the list with 6.5%. Another 9 other provinces that were included in the top 10 provinces with the most number of achievers are also located in Luzon namely: Cagayan with (5.57%); Camarines Sur (5.26%); Pangasinan (4.02%); Zambales and Quezon (3.72% each); and Nueva Vizcaya, Bulacan, Batangas and Benguet covering 3.41% from each province

Table 2		Frequency of the top 10 achievers in terms of type of school last attended	
Type of School	N	%	
Public School	167	51.70	
Private School	155	47.99	
Missing Data	1	0.31	
Total	323	100	

Type of Secondary School Last Attended. Most of the achievers came from the public or state-owned schools (regional, national or science high schools) comprising 51.70% of the population. However, it was almost leveled by the percentage of those who came from private schools (sectarian or non-sectarian) covering 47.99% of the population. Results are shown in Table 2.

Table 3		Frequency of the top 10 achievers in terms of type of Prior Academic Experience	
Prior Academic Experience	N	%	
High School Graduate	122	37.77	
College Background	201	62.23	
Total	323	100	

Prior Academic Experience. A significant percentage of the achievers had a college background prior to joining the academy covering 62.23% of the population while the remaining 37.77% were only high school graduates. Results are shown in Table 3.

Demographic presentation of the origins of the top 10 academic achievers when grouped according to their program.

1. Bachelor of Science in Marine Transportation

Table 4		Demographic Distribution of the Top 10 Academic Achievers in terms of Province when grouped accord-		
Province	Frequency	Percent	Rank	
Manila	29	18.13	1	
Iloilo	11	6.88	2	
Camarines Sur	10	6.25	3	
Benguet	7	4.38	4	
Batangas	6	3.75	7.5	
Bulacan	6	3.75	7.5	
Cagayan	6	3.75	7.5	
Cavite	6	3.75	7.5	
Ilocos Norte	6	3.75	7.5	
Zambales	6	3.75	7.5	
Albay, Ifugao, Antique, La Union & NuevaVizcaya	4*	2.5*	12.5*	
Ilocos Sur	3	1.88	15	
Abra, Agusan, Camarines Norte, Davao, Eastern Samar, Isabela, Lanao Del Norte, Masbate, Negros Occidental, North Cotabato, Pangasinan, Quezon & Tarlac	2*	1.25*	22*	
Aurora, Bataan, Bohol, Bukidnon, Catanduanes, Cebu, Kalinga, Apayao, Laguna, Mountain Province, Negros Oriental, Nueva Ecija, Occidental Mindoro, Oriental, Mindoro, Rizal, South Cotabato, Southern Leyte & Sultan Kudarat	1*	0.63*	37*	
Total	160			

*Number/percentage of graduates from each province listed

There is a total of 160 listed academic achievers from the Bachelor of Science in Marine Transportation program. When categorized according to their province, type of school last attended, and prior academic experience, the following findings were revealed:

Province. As shown in Table 4, 18.13% of the BSMT achievers are from Manila; 6.88% are from Iloilo; 6.25% from Camarines Sur; 4.38% from Benguet. Also, six (6) provinces have at least a population share of 3.75% each. These provinces are Batangas, Bulacan, Cagayan, Cavite, Ilocos Norte and Zambales. The remaining 41.87% of the population is comprised of provinces which have at least 1-4 achievers each.

Table 5		Frequency of the top 10 achievers in terms of type of school last attended when grouped according to BSMT program	
Type of School	N	%	
Public School	75	46.88	
Private School	85	53.12	
Total	160	100	

Type of Secondary School Last Attended. Table 5 shows that most of the achievers from BSMT went to a private school comprising 53.12% of the population while those who went to public or state-owned schools only cover 46.88%.

Table 6		
Frequency of the top 10 achievers in terms of type of Prior Academic Experience when grouped according to BSMT program		
Prior Academic Experience	N	%
High School	70	43.75
College Background	90	56.25
Total	160	100

Prior Academic Experience. Table 6 shows that most of the achievers (56.25%) from the BSMT program have finished or already had a college background prior to admission to the academy while the remaining share of 43.75% are high school graduates.

2. Bachelor of Science in Marine Engineering

There is a total of 163 listed academic achievers from the Bachelor of Science in Marine Engineering program. When categorized according to their province, type of school last attended, and prior academic experience, the following findings were revealed:

Table 7			
Demographic Distribution of the Top 10 Academic Achievers in terms of Province when grouped according to BSMarE program			
Province	Frequency	Percent	Rank
Manila	23	14.11	1
Cagayan	12	7.36	2
Pangasinan	10	6.13	3
Camarines Sur	8	4.91	4.5
Quezon	8	4.91	4.5
Albay	6	3.68	8
Iloilo	6	3.68	8
Mountain Province	6	3.68	8
Nueva Vizcaya	6	3.68	8
Zambales	6	3.68	8
Batangas, Bulacan, Ifugao & Ilocos Sur	5*	3.07*	12.5*
Isabela & Laguna	4*	2.45*	15.5*
Benguet, Cavite & Kalinga Apayao	3*	1.84*	18*
Abra, Aurora, Catanduanes, Cebu, La Union, Negros Occidental, Occidental Mindoro, Pampanga, & Sorsogon	2*	1.23*	24*
Agusan, Aklan, Basilan, Camarines Norte, Davao, Leyte, Masbate, Negros Oriental, Nueva Ecija, Palawan, Rizal, Samar, Southern Leyte, Surigao Del Sur, Western Samar, Zamboanga del Norte, & Zamboanga Del Sur	1*	0.61*	37*
Total	163		

*Number/percentage of graduates from each province listed

Province. As shown in Table 7, 14.11% of the BSMarE achievers are from Manila; 7.36% are from Cagayan; 6.13% from Pangasinan; 4.91% each from Camarines Sur and Quezon. Also, five (5) provinces have at least a population share of 3.68% each. These provinces are Albay, Iloilo, Mountain Province, Nueva Vizcaya and Zambales. The remaining 44.17% of the population is comprised of provinces which have at least 1-5 achievers each.

Table 8			
Frequency of the top 10 achievers in terms of type of school last attended when grouped according to BSMarE program			
<i>Type of School</i>		<i>N</i>	<i>%</i>
Public School		93	57.06
Private School		70	42.94
Total		163	100

Type of Secondary School Last Attended. Table 8 shows that most of the achievers from BSMarE went to a public school comprising 57.06% of the population while those who went to private schools only comprise 42.94%.

Table 9		
Frequency of the top 10 achievers in terms of type of Prior Academic Experience when grouped according to BSMarE program		
	N	%
High School	52	31.90
College Background	111	68.10
Total	163	100

Table 10						
Factorial Analysis of Variance between the Academic Performance of the top 10 achievers and their Origins						
Tests of Between-Subjects Effects						
Dependent Variable: Academic Achievement						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Corrected Model	2087.122 ^a	122	17.108	.533	1.000	
Intercept	1116756.206	1	1116756.206	34819.157	.000	
Province	791.971	55	14.399	.449	1.000	
Type of School	6.770	1	6.770	.211	.646	
Prior Educational Experience	.068	1	.068	.002	.963	
Province * Type of School	781.267	23	33.968	1.059	.395	
Province * Prior Educational Experience	57.717	30	1.924	.060	1.000	
Type of School * Prior Educational Experience	.477	1	.477	.015	.903	
Province * Type of School * Prior Educational Experience	14.239	8	1.780	.055	1.000	
Error	6382.535	199	32.073			
Total	2497304.802	322				
Corrected Total	8469.657	321				

a. R Squared = .246 (Adjusted R Squared = -.216)

Prior Academic Experience. As shown in Table 9, a big majority of the achievers from the BSMarE program have finished or already had a college background prior to admission to the academy comprising of at least 68.10% of the population. The remaining share of 31.90% comprises high school graduates.

C. Relationship of the academic performance of the top 10 academic achievers and their origins

There is **No Relationship** between academic performance and the province with $F = 0.449$; $p = 1.00$. The null hypothesis that there is no significant relationship between the province of origin of the top 10 academic achievers and their academic achievement was accepted.

There is **No Relationship** was also established between the academic performance and the type of secondary school last attended with $F = 0.211$; $p = 0.646$. The null hypothesis that there is no significant relationship between the type of secondary school attended by the top 10 academic achievers and their academic achievement was accepted.

There is **No Relationship** between academic performance and the prior academic experience with $F = 0.002$; $p = 0.963$. The null hypothesis that there is no significant relationship between the prior academic experience of the top 10 academic achievers and their academic achievement was accepted.

There is No Relationship among the provincial origin, type of school last attended, and prior educational experience with $F = 0.055$; $p = 1.00$.

Results are shown in Table 10.

D. General impressions gathered from the members of the faculty

The majority of the faculty members expressed that they did not notice an obvious difference in the academic performance among students at PMMA. They strongly negated that their province of origin had something to do with their academic performance in school. According to them, regionalism was never encouraged inside the academy. The mission of the institution is to create equality among its students.

However, some faculty members shared that students who came from far-off provinces outside Metro Manila had more dedication towards their studies. They also added that despite their limited proficiency in the English language, they were pregnant with ideas.

All of the faculty members who were interviewed agreed that most of the students came from public or state-owned schools. They perceive that majority of those who came from public schools are not financially capable. Hence, they also see this as a reason why most of the students from public schools have decided to join PMMA. The Academy is a state-owned institution and the students are government scholars. In addition to that, PMMA is affiliated with various shipping companies who also provide additional assistance to those who qualify for their scholarships. The faculty members believed that these had strongly encouraged especially those who are less fortunate yet talented students. They also noticed that those whom they perceived as financially incapable had more motivation to strive hard in order to excel. They concluded that economic status might have an impact on the academic performance of the students.

Finally, with regards to the data, some interviewees have suggested checking the proportion of the students admitted every year. They claimed that if a certain province has a substantial portion of enrollees, then their chances of dominating the roster of academic achievers is also high.

CONCLUSIONS

Based on the data gathered, the following conclusions were drawn:

1. The majority of the academic achievers came from Luzon. When segregated into different regions, the National Capital Region topped the list in Luzon; Region 6 in the Visayas and Region 12 in Mindanao. Metro Manila has the highest number of academic achievers. Most of the achievers came from public or state-owned schools and a big percentage of them already had a college background prior to admission to the Academy.

2. The majority of the BSMT and BSMarE achievers were from Manila and already had a college background prior to joining the academy. However, in terms of the type of secondary school last attended, most of the BSMT achievers went to private high school while the BSMarE went to public or state-owned institutions.

3. No relationship was established between the academic performance of the students and in either their province, their last secondary school attended, or their prior academic performance.
4. The faculty members negated the relationship between the academic performance of the students and their province of origin. However, they concluded that economic status might have contributed. They mentioned that those who were less fortunate strived more than those who are financially capable.

RECOMMENDATIONS

Although the study was not able to prove a significant relationship between the academic performance and their origins, the study still recommends the following:

1. Maintain the number of applicants in areas which have a high population share.
2. The institution, specifically the Board of Admissions (BOA), should utilize the data of this study for their marketing campaigns. There are provinces who have students who excel in class even if they do not comprise the majority. The BOA should focus more on encouraging applicants from distant areas.
3. Other pertinent factors such economic status and ethnicity should also be considered as areas for further investigation.
4. Conduct another study which will focus not only on the achievers but of the entire student population of the Philippine Merchant Marine Academy.

ACKNOWLEDGMENT

The researchers wish to extend their heartfelt gratitude to the people who rendered their selfless assistance for the completion of this study. Special mention is dedicated to the Philippine Merchant Marine Academy for believing in the capabilities of the researchers, hence, the unending support.

REFERENCES

- [1] Vygotsky, L.S. (1962). *Thought and Language*. Cambridge, MA: MIT Press. (Original work published in 1934).
- [2] Worthy, D. A., Markman, A. B., & Maddox, W. T. (2009). Choking and excelling under pressure in experienced classifiers. *Attention, Perception, & Psychophysics*, 71(4), 924-935. doi:10.3758/app.71.4.924
- [3] Villela, A. (2014). The relationship between ethnicity and academic achievement. Retrieved from <http://www.ccsj.edu/news/ncate/standard4/4exhibits/diversityreflec.pdf>.
- [4] Kaighobadi, M., & Allen, M. (2008). Investigating academic success factors for undergraduate business students. *Decisions Sciences Journal of Innovative Education*, 6(2), 427-436. DOI:doi.org/10.1111/j.1540-4609.2008.00184
- [5] Sue, S., & Okazaki, S. (1990). Asian-American educational achievements: A phenomenon in search of an explanation. *AmSue, Stanley, and Sumie Okazaki. "Asian-American Educational Achievements: A Phenomenon in Search of an Explanation" American Psychologist 45.8 (1990): 913-920. Web.Erican Psychologist, 45(8), 913-920. https://doi.org/10.1037/0003-066X.45.8.913*
- [6] Jayanthi, S. V., Balakrishnan, S., Lim, A. S. C., Latiff, A. A., Nasirudeen, A.M.A. (2014). Factors contributing to academic performance of students in a tertiary institution in Singapore. *American Journal of Educational Research* 2 (9) pp 752-758. <http://pubs.sciepub.com/education/2/9/8/>

- [7] Hahn, S., Kim, T.-H., & Seo, B. (2014). Effects of public and private schools on academic achievement. *Seoul Journal of Economics*, 27(2), 137–147. Retrieved from <http://proxy.lib.uiowa.edu/login?url=http://search.proquest.com/docview/1550823958?accountid=14663>
- [8] Lubienski, C., & Lubienski, S. (2006). Charter, Private, Public Schools and Academic Achievement: New evidence from NAEP Mathematics Data 1. *Public Choice*, 1–48. Retrieved from http://datacenter.spps.org/sites/2259653e-ffb3-45ba-8fd6-04a024ecf7a4/uploads/Public_Schools_Edge_in_Math_Lubienski.pdf
- [9] Alhajarf, N.M., & Alasfour, A. M. (2014). Impact of demographic and academic characteristics on academic performance. *International Business Research*, 7(4), 92–100. <https://doi.org/10.5539/ibr.v7n2p92>



GRACE, INC