An International Peer Reviewed Faculty Research Journal of the University of the Immaculate Conception

UIC Research Journal

INTERNATIONAL EDITION

Volume 21 Number 2 October 2015 Print ISSN 1656-0604 Online ISSN 2244-6532

Unlocking Ways to Keep Up with 21st Century Paradigm Shifts

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ISSN 1656-0604 / Online ISSN 2244-6532

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Publisher
University of the Immaculate Conception
Bonifacio St., 8000, Davao City
Philippines
Telefax (63) (82) 227-37-94
Website: http://uic.edu.ph

UIC RESEARCH JOURNAL
International Edition
Volume 21, Number 2, October 2015

UIC RESEARCH JOURNAL POLICY

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The UIC RESEARCH JOURNAL is a bi- annual refereed journal published by the Research, Publication, and Innovation Center of the University of the Immaculate Conception, which is wholly committed to empower researchers within the academic community to realize their full potential in intellectual inquiry through the publication of their research outputs and other scholarly articles.

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- The paper is recommended for publication but subject to minor revisions.

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Manuscripts in general should be organized according to the disciplinal requirements of the paper. However, the general required structure should follow the IMRAD structure. It is also suggested that the order of presentation outlined below be followed:

> **Title Page** – The title should be worded briefly and printed as Title Case. The first letters of each word should be capitalized except for articles (e.g. a, an, the), coordinate conjunctions (e.g. and, or, not, but) or preposition (e.g. of, in, on, between, after, before). However, the first and last words of the title should be capitalized regardless of part of speech. In titles with marked break in the form of punctuation, capitalize the word that immediately follows the break, regardless of part of speech.
>
> **Name (s) of Authors** – Authors should identify themselves only in the title page that should precede the article for ease in undertaking the review process and ensure anonymity. Write the complete name with middle initials. Indicate whether the research is the portion of a thesis or dissertation and the sources of fund of the research.

For the running title, include a shortened version of the title of the article, not more than 40 letters in length, on the upper left-hand corner of each page.

Abstract – After the title page, print a 150 to 200-word informative digest of the background, objectives, methods used and significant findings of the article. The title preceding the abstract should also be printed in Title Case.

Keywords – The keywords for the study must at least indicate the discipline of the study, concepts studied, research design/method, and setting of the study. The keywords are printed in sentence case. There is no period at the end of the last word.

Abbreviations – For easy reference, an alphabetically arranged sequence of abbreviations and acronyms and their meanings are printed after the keywords. Avoid abbreviations in the title and abstract, although they may be used in graphs, tables, figures and legends. Acronyms are to be spelled out first and then enclosed in parenthesis at first mention. Avoid using acronyms and abbreviations as the first word of a sentence or a heading. Rewrite the sentence or spell out the term. Use abbreviations only for terms used at least three times.

Text – The body must have the following main sections and headings: Introduction, Methods, Results, and Discussion. Conclusion is optional, and must be under the Discussion section (last part) when included and must be sub-headed "Conclusion". Recommendations and Acknowledgment may be added at the end of the Discussion only when appropriate and necessary. Results and Discussion may be combined as one section but should still clearly bear the elements of both. After the main body, these sections must follow: References (composed of sources from current content-covered or peer-reviewed journals within a 5-year time period) and Conflict of Interest Disclosure (if applicable).

Tables, graphs, photographs and illustrations should be submitted in separate files. Photographs, illustrations, and graphics should be of publishable quality (TIFF, or maximum quality in JPEG), and should be in 300 to 600 dpi with dimensions of at least 10 x 15 cm (4x6 in). Figures included in the article should be in black and white or grayscale only.

When placing legends on tables and graphs, they must be placed underneath using 10-point type, italicized and briefly stated. The captions for images and other illustrations must be encoded 2 spaces below; 12-point type, bold, and observes brevity.

Statistics - All statistical procedures, including methods of analysis, should be identified. Number of replications and sub-samples, transformations, and statistical tests should be stated. Tables of analysis of variance are not normally reported. Present the results of analyses in the appropriate tables or figures.

Following the format and the order of presentation, the article should be no more than 5000 words or 20 pages, inclusive of photos, graphs, tables and illustrations.

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1. In the text, works are cited as follows: author's last name and year of publication, with a comma, in parentheses.
2. For cited works that include more than one work by an author (or same co-authors) that is published the same year, the suffix a, b, etc., is to follow the date in the with-in text citation and in the "references" section.
3. When the author's name is is mentioned in the text, it may be not repeated in the citation.
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Every entry should contain all information necessary or unambiguous identification of published work. Writers then are strongly advised to use references which are traceable online, with Digital Object Identifier (DOI), indexed by international databases, written by authors or agencies and not links.

The URL must be written at the end of the bibliographic entry and provides the date of retrieval and the link. Sources must be at least three years old except sources of theories, historical documents or chronologic presentations of literature review. Writers must refrain from using unpublished thesis or dissertation because a research is never finished unless published.

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2. For manuscript dealing with field surveys or experiments: if the additional documentation (e.g. questionnaire, case, interview schedule) is sent as a separate file, then all information that might identify the author(s) must be deleted from the instruments.
3. The manuscript should be submitted via email as Microsoft Word of PDF file to the Managing Editor at email address: esagarino@uic.edu.ph. The author(s) should need to submit the following separately:
    a. The manuscript's title page which contains information to identify the author (not forwarded to the reviewers),
    b. The manuscript with the title page and all other indentifying information removed,
    c. Any necessary supplement files such as experiment instruction, and
    d. A copy of research questionnaire or tools for referral by the editors and reviewers.
4. Revisions must be submitted within the date provided by the managing editor.

About the Cover

The cover design depicts the human mind as a goldmine of creativities, undoubtedly launching paradigm shifts. Simultaneously, the same human ingeniousness through research, epitomized by the key, have unlocked ways for humanity to keep up with their creations and embrace the unknown, symbolized by the space. The wires hallmark the many possible connections individuals can have with each other. For research academes, these are through collaborations and networking, which make possible the ease of knowledge transfer and utilization in this 21st century paradigm shifts.

Mary Jane G. Barluado
Associate Editor

About the Monogram

The UIC Research Journal International Edition monogram depicts two feathers used in ancient quill pens. Intentionally juxtaposed to resemble the iconic Yin Yang symbol, this abstract form signifies the physicality and spirituality of the highest form of intellectual activity – research. Aside from capturing the dramatic glimpse of ancient writing, which is the essential aspect of any form of publication, this powerful image also depicts the interconnectivity and balance between the *multidisciplinary* and *international* characters of this research publication. In response to the UIC quest for quality research outputs that can pass international peer review process, this symbol was conceptualized to remind all researchers of UIC to commit to the truthfulness, credibility, and validity of information derived from the rigors of research writing. Created by Jo Caliph G. Rivera, this monogram is meant to become a unique emblem in every cover of UIC Research Journal International Edition.

Renan P. Limjuco
Editor in Chief

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Original Articles

PREFACE

Fast evolving technology, changing student habits, shifting academic standards, diversifying dimensions of student intelligence – these are just some of the signs that scream evidences of paradigm shifts. Either teachers can get stuck with the "it's different during our time" mindset, or innovate ways to engage students, and together prosper in the changing times. The latter requires research. This issue of the UIC Research Journal - International Edition features 10 original articles that help unravel the complexities of the 21st century paradigm shifts.

There are three sections in this issue. The first, *Administration and Human Resource,* highlights a pioneer research in the Mindanao region, on students' and endorsers' college choice. Co-authored by Dr. Eve Ecle of CHED-XI, its results provide basis for marketing, admission, or even expansion strategic plans for HEIs. Also in the first section is Prof. Karen Joy Catacutan's article on the faculty performance evaluation system of St. Louise University-Tuguegarao, boasting that the multi-level appraisal system is highly accepted by the faculty, thus has high extent of effect to their motivation.

The second section, *Math, Science and Technology*, comprises the scholarly contributions of Dr. Alwielland Bello, Dr. Rochelle Papasin, and Profs. Simbulas and Regidor. Dr. Bello applied physics and math concepts in predicting output power of a solar energy kit. Dr. Papasin tracked graduates of the Philippines Science High School- Southern Mindanao Campus, and found that some of these home-grown scientists now work abroad - contrary to what the government wishes for them. Profs. Simbulas and Regidor investigated the relationships between students' Math problem solving skills and reading comprehension.

The third section, *Humanities and Languages*, demystifies causes and/or effects of some relevant issues that have confronted this generation, to wit, dishonest national elections, negative lyrics in music, teenage pregnancy, student alcohol drinking, and on a lighter note, gay language evolution. First, Dr. Riceli Mendoza, using semiotic concepts to reveal meanings of May 2013 election– related editorial cartoons, describes the symbolisms as the nation's struggle for clean and honest elections. Second, Dr. Limjuco and team used mixed method design to understand how positive and negative music can change listeners' moods. On teenage pregnancy, Prof. Sagarino and team used phenomenology approach in delving into the lived experiences of teen parents. On alcohol drinking, Dr. Alderite led her team to profile selected alcohol drinkers from three universities in the city, and offered basis for intervention programs. Finally, Prof. Lilian Dupa investigated the influence of gay language on students' English proficiency.

Clearly, to take advantage of today's seemingly faster time, prompter and more daring actions may also be required of researchers. The articles included in this issue of the UIC Research Journal mirror Filipino researchers' responsive efforts at alleviating conditions that go with the changing times.

Mary Jane G. Barluado
Associate Editor

Print ISSN 1656-0604
Online ISSN 2244-6532

Administration and Human Resource

Factors for Students' and Endorsers' Choice of Higher Education Institution in Davao Region: Basis for Institutional Development

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ABSTRACT

Amidst mushrooming course offerings by competing higher education institutions (HEI), the process of choosing where to enroll is confusing for students. In this descriptive quantitative study, the factors pre-identified as important in choosing HEI were investigated. The respondents were graduating high school students (N = 600) and endorsers (N = 100) across Region XI. Researcher-made questionnaires were used to gather the data, which were then analyzed using ranking by Mann-Whitney test, percentage, t-test and ANOVA. The findings revealed that the topmost factors considered by both students and endorsers were cost and tuition fee, followed by school performance in licensure exams. When grouped according to demographic profile, male students with high socio-economic status enrolled in private schools ranked school performance first, while female students from low income families ranked cost and tuition fee first. In terms of place of residence, the topmost consideration of Davao City and Davao del Sur residents is school performance, Davao del Norte students chose school safety, while Comval and Davao Oriental students chose college cost. Overall, the differences in the students' rankings are significant with regard to their place of residence ($p < .05$), academic performance ($p = .041$), socio-economic status ($p < .05$), and school type ($p = .028$), but not significant in terms of sex ($p = .089$). The endorser considered most influential by most students in their college choice are their parents or guardians; the difference is understandably not significant across demographic profiles except when grouped by sex ($p = .001$), implying female students' closer relation or higher sense of submission to their parents. The results of this study form significant basis for HEIs' marketing and recruitment strategies.

KEYWORDS: College choice factors, higher education, endorsers, institutional development, marketing and recruitment strategies, Philippines

INTRODUCTION

Choosing a Higher Education Institution (HEI) after high school is a complex and often confusing process. The ultimate intention for choosing a college or university is to enroll in a desired course in the right or matching institution, so students are more likely to complete their courses, hence become more successful. The mushrooming of tertiary institutions offering different programs of specializations has made it more perplexing for students to decide which HEI to go, hence the role of endorsers to help them in the decision. Endorsers are the significant persons (parents or guardians, the teachers or guidance counselors, or it could be a friend or peers) in the life of the students and who are believed to influence their choosing of college education (Johnson, 2010 & Filter, 2010 as cited by Niez & Diaz, 2012). Pascual (2014) specified that wrong choice of courses may be due to unguided decision-making in choosing courses.

As competition between different colleges and universities become stiffer, school administrators need to understand what high school seniors are looking for in HEIs, to aid them in recruiting students as part of their marketing operations. HEIs have realized the need to renew their recruitment and marketing strategies in order to attract and serve their customers better than their competitors; hence the need for research- or evidence-based enhanced recruitment and marketing programs.

Likewise, understanding the factors for college choice is important from the point of view of the Department of Education (DepEd) and Department of Labor and Employment (DOLE) policy making bodies to understand how people make early choices that have impact on their careers, since problems of mismatch and misfit courses against the skills developed by students have been noted (Pascual, 2014). Misfit qualification of graduates to the needed workforce in the country and of international companies will be addressed if concerned government agencies make strategic policies that guide students and their endorsers early on during the course of college choice decision making.

In Western countries, many studies have been done in order to explore the various factors affecting the university or college choice decisions among students. Many variables were investigated and have been identified to impact students' choice of university or college. For instance, Mehboob, et al., (2012) identified personal aspiration, performance at school and external factors including marketing efforts by college and the influence of significant persons. Graff (2011) pointed how prospective students' view of HEIs can arm HEIs with knowledge of institutional strengths, weaknesses, and niches together with knowledge of the stages of the college choice process, for admissions offices to increase enrollments.

In the Philippines, limited research has shown that student enrollment behavior is connected to the school's ability to estimate the effects of student and institutional characteristics, and their interactions on the probability that a student will choose a particular college or non college option (Tan, 2009). However, the very few studies about college choice in the country limit HEIs' view of the situation, more so in the anticipation of enrollment declines during the transition phase of the implementation of the K-12 program starting school year 2016-2017 when there will be no college freshmen, etc. In Mindanao, particularly in Region XI, research about college choice is hardly conducted considering the wide array of different areas and the difficulty of reaching the schools in the regional outskirts.

The current study is anchored on two models of college choice, namely the Econometric Model of College Choice which highlights how students detail the pros and cons of each college considered and Litten's Five-Phased Model which describes the college selection process in five stages involving a diversity of variables recognized to influence the decision, which include background, personal attributes and performance, environment, media and endorser influences, college characteristics, and financial aid policies (Tan, 2009). Of these factors, the researcher considered 11 as the most prevailing ones in the predisposition, selection and choice of HEI; these are faculty qualification, program offerings, school performance (board exam result), accreditation status, financial grant or scholarship program, cost and tuition fee, facilities (library and laboratory), location of the school, school environment, school safety and security, and college marketing. As depicted in figure 1, these served as the study's independent variables seen to influence college choice as the dependent variable, while students and endorsers served as the moderator variables.

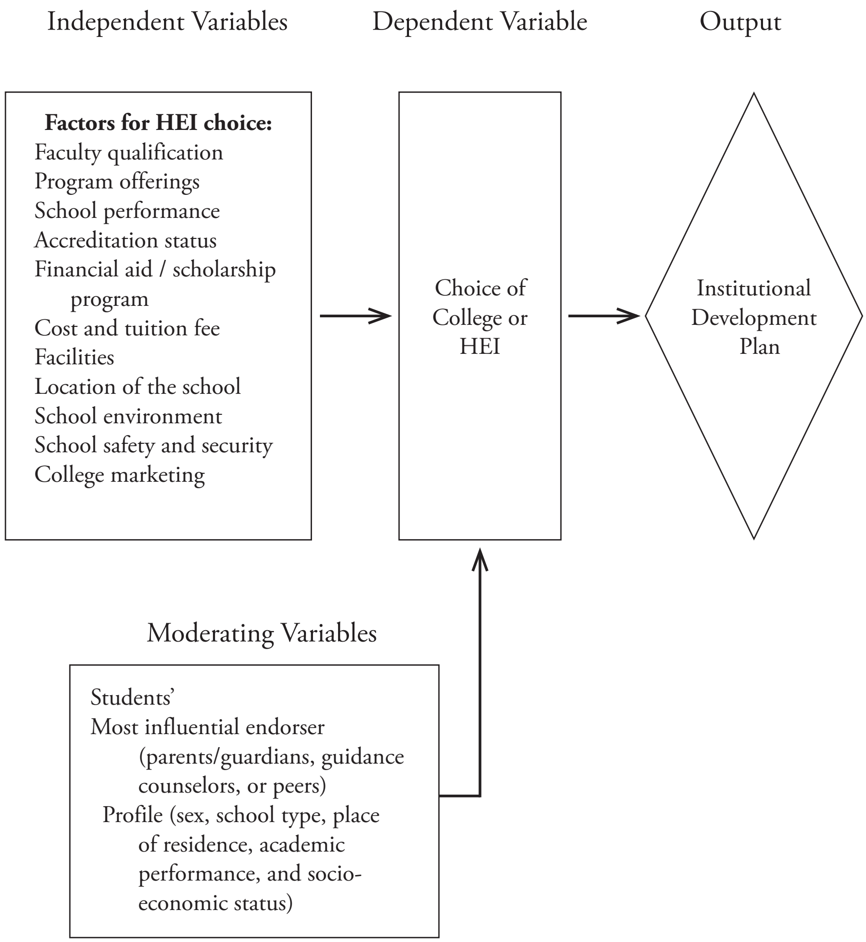

Figure 1. Conceptual framework of the study

Faculty Qualification encompasses the teachers' educational and professional background, expertise, and achievements that contribute to effective teaching and learning, as the quality of teaching is believed to be associated with faculty having good qualifications and the right expertise. *Program Offerings* refer to the availability of the desired degrees/courses by the students. Disturbingly, Zafar (2009) showed that the decision of course choice could be made under uncertainty about personal tastes, individual abilities, and realizations of outcomes including economic returns, lifestyle, and the successful completion of the course.

School Performance refers to the schools' passing rate in board or licensure exams conducted by the Professional Regulation Commission (PRC) which shapes the schools' reputation. *Accreditation Status* refers to the institution's accreditation level and number of accredited programs. Accreditation creates a positive learning environment and builds leadership within the school to support improvements. The school's capacity to make available *Financial Aid and Scholarship Programs* attracts endorsers and especially economically-challenged students. The importance of *Cost and Tuition Fee* has consistently been proven in studies showing college price to have a direct effect on enrollment rate, as enrollment decreases with higher tuition costs (Dhakal, et al., 2012; Hansen, 2013; Hu & Hossler, 2000; Lee & Chatfield, 2013).

Facilities refers to the quality (condition, maintenance, temperature, lighting, noise, color, and air quality) of rooms, libraries and laboratories, and encompasses study materials and resources, online sources and computers, instructional gadgets, and laboratory equipment that are in appropriate ratio with the number of students. *Location of the school* has been shown to consistently influence the decision of potential student's choice of college (Sevier, 1986 as cited by Niez & Diaz, 2012). Most students establish geographical limits on location of the school because distance usually accompanies higher overhead expenses for the transportation and room/board expenses.

School Environment refers to the school mood in terms of set curricular and extracurricular activities and availability of clubs and organizations where students' leadership will be honed. *School safety and security* is the ability of the school to impose security regulations and promote comfortable and crime-free campus as seen in the school's physical security systems. Students and parents tend to eliminate from their college choices HEIs associated with crimes, violence, and disruptive behavior risks. Finally, *College Marketing* refers to such activities by the admissions office that promote the school directly to the stakeholders, such as visits to high schools, open campus programs, etc.

The moderating variables – students' most influential endorser and demographic profile, are regarded to ultimately affect the choice of HEI. The endorsers, including parents/guardians, guidance counselors, and peers, are ranked by the students based on their extent of influence to HEI choice. The students' demographic profile includes their *sex, school type, academic performance, place of residence, and socio-economic status.* The endorsers' profile is not considered in the study.

Study Objectives. This study gauged which of the pre-identified factors (i.e. faculty qualification, program offerings, school performance, accreditation status, financial grant or scholarship program, cost and tuition fee, facilities, location of the school, school environment, school safety and security, and college marketing) are considered most by Region XI graduating high school students who expectedly were in the search and choice phases of HEI selection process. It also investigated which endorsers (parent/guardians, guidance counselors/ teachers, or peers) are considered by students to influence them most in HEI choice decision, likewise the endorsers' most considered factors for HEI choice. Finally, it determined the existence of significant differences among the students' considerations of HEI choice factors and most influential endorser when they are grouped according to demographic profile. The findings are envisaged to aid HEIs in the region to develop an institutional development plan for the improvement of their recruitment or marketing strategies. Hence, it is hoped that as a pioneer research in the region, this study would plow a fertile ground for future researchers.

METHOD

This study employed descriptive comparative design to gauge the academic-related factors on the basis of how students and endorsers rate their importance in choosing a college or HEI and to compare and determine if there are significant differences in the rankings of predominant factor and endorser when the student raters are grouped according to profile. A total of 700 respondents, composed of 600 students and 100 endorsers, voluntarily consented to participate in the study. The students were chosen by purposive quota sampling (50 per school) from 12 selected public and private high schools in Region XI. Only senior high school students were chosen since they are the last batch of seniors who are not affected by the K-12 program, and are anticipated to graduate by March 2015 and proceed to college, hence are likely to be in the predisposed stage, leading to the selection stage of the college choice process for the next school year's college enrollment. The endorsers, composed of 50 teachers and 50 parents, were randomly selected from the different schools in the region.

The participating public schools were selected on the basis of being the flagship school that carries the name of the capital city of each province, while the private schools were selected based on various criteria including knowledge of the research issue, capacity of the schools, and willingness of the management to participate in the research. Ethical considerations were observed by appropriate informed consent, privacy and confidentiality, which were approved through institutional ethics review. DepEd-XI endorsement was secured and communicated to all Schools Division Superintendents in the Region XI provinces for the researcher to be accommodated in administering the questionnaire to public high schools in the region. Permission from school principals was also sought for formality.

The 12 participating schools are located in Davao City and the capital cities of each covered province including Davao del Sur, Davao del Norte, Davao Oriental and Compostela Valley (ComVal). In Davao City, being the largest, four schools, two public (Davao City High School and Sta. Ana National High School) and two private (University of the Immaculate Concepcion and Holy Cross of Davao College - Bajada), were chosen. In Davao del Sur, one public (Digos National High School) and one private (Cor Jesu College) schools located in Digos City were surveyed. In Davao del Norte, two schools in Tagum City were included, the public school Tagum City National Comprehensive High School and the private school St. Mary's College. In Davao Oriental, two schools in Mati City participated, the public school Mati City National Comprehensive High School and the private Immaculate Heart of Mary Academy. In ComVal, one public school in Mawab (Lorenzo Sarmiento National High School) and one private school in Nabunturan (Assumption College of Nabunturan) participated.

Researcher-made and expert-validated questionnaires were utilized which describe the 11 pre-identified factors for college choice, for the respondents to rank from 1 to 11 (1 being the most important and 11 the least). The questionnaire for student respondents has four parts. Part I asks for the respondent's profile including the place of residence, school type, sex, weighted percentage average (WPA) in the latest grading period, and the estimated monthly family income. Part II covers the institutional attributes like faculty qualifications, facilities, location of the school, school environment, school safety and security, program offerings, school performance (board exam result), accreditation status, financial aid/scholarship program, cost and tuition fee, and college marketing. Part III was designed to determine the endorser (e.g. parents or guardians, teachers or guidance counselors, friends or peers) considered by students to influence them most in their HEI selection. Part IV contains open-ended questions designed for the respondents to explain their rankings in Parts II and III. Conversely, the questionnaire for endorsers is composed only of three parts. Part 1 asks about the endorsers' profile; part II is the same with that for the students, while Part III contains the open-ended questions. A pilot testing with 25 students of Mintal Comprehensive National High School established the face validity of the questionnaire, while an interater coefficient test verified its reliability at .80, attesting to the questionnaire's content validity and reliability to generate consistent results from respondents, thus appropriateness for data collection.

To collect the data, the researcher either personally administered the questionnaires to the respondents, mailed the questionnaires, or through social media (i.e. Facebook and Twitter. After the retrieval of the survey questionnaires, the data were encoded for statistical analysis using the SPSS version 22. The Mann-Whitney Test was used to obtain the respondents' ranking of the factors for college choice from the most important to the least important factor. Mean overall rank was used to identify the topmost predominant factor, as evaluated by the students and the endorsers. Likewise, t-test and analysis of variance (ANOVA) were utilized to determine significant differences in the ranking of the predominant factor when the respondents were grouped according to their demographic profile. Finally, thematic analysis (Dabula & Makura, 2013) was employed to categorize the qualitative data gathered using open-ended questions into major themes.

RESULTS

Top factors for HEI choice of students and endorsers

Table 1 presents the rankings of the college choice factors by the students and the endorsers, 1st being the topmost considered factor while 11th being the last.

Table 1. Ranking of factors in HEI choice by students and endorsers

Factors	Overall Ranking		Composite Overall Rank
	By students	By endorsers	
Faculty Qualifications	9th	5th	5th
Program Offerings	8th	9th	6th
School Performance in Board Exams	**2nd**	**2nd**	**2nd**
Accreditation Status	10th	7th	6th
Financial Aid/ Scholarship Program	4th	3rd	3rd
Cost and Tuition Fee	**1st**	**1st**	**1st**
Facilities	5th	6th	4th
Location of the School	6th	8th	5th
School Environment	7th	10th	6th
School Safety and Security	**3rd**	**4th**	**3rd**
College Marketing (brochures, Ads, etc.)	11th	11th	7th

Based on ranking, the results reveal consistent topmost considerations by both students and endorsers in choosing HEIs. They both ranked *Cost and Tuition Fee* followed by *School Performance in Board Exams* as their first and second concerns, respectively. In their combined ranking, *School Safety and Security* (ranked 3rd by students and 4th by endorsers) and *Financial Aid or Scholarship Program* (ranked 3rd by endorsers and 4th by students) were tie in the third place. Interestingly, college marketing was ranked by both students and endorsers as the least among the factors, which could imply ineffective or insufficient efforts by the HEIs in getting across to the students and endorsers.

Differences in rankings of HEI choice factors based on students' demographic profile

The interplay of different attributes or profile of students contributes to their differences in prioritized factors for college choice. T-test was used to determine if the difference in the students' ranking of the factors for college choice when they were grouped according to school type and sex was significant (table 2A). For the multi-category variables such as place of residence, academic performance and socio-economic status, ANOVA was used to determine existence of significant differences among the respondents' rankings of the predominant college choice factors (table 2B).

School Category. Public school students *ranked financial aid and scholarship programs* as the topmost preference which was ranked 9th by private school students whose number one consideration was *school performance*, but public school students ranked it 4th. Equal number of students in private and public schools were surveyed (table 2A), and results show that there is a significant difference between private and public school students' consideration of factors for college choice (p = .028). This implies that the high school type where the students are from can significantly affect their choice of desired HEI.

Sex Category. Males ranked *school performance* as the most important factor being considered in choosing a college, while females' topmost consideration was *cost and tuition fees*. Statistical analysis by t-test show that males (36% of the respondents) and females (60.7%) do not significantly differ in their top consideration of college choice factors (t = 1.70, p = .089, table 2A). This points out that sex does not significantly affect students' choice of HEI.

Table 2A. T test on the difference between students' rankings of HEI choice factors based on sex and school type

Variable	Categories	N	$\bar{x}$	S	t (α=.05)	p-value	Decision
School Type	Private	300	4.70	3.26	2.197	.028	Significantly different
	Public	300	4.13	3.13			
Sex	Male	220	4.72	3.39	1.702	.089	Not significantly different
	Female	364	4.26	.07			

Table 2B. ANOVA on the difference in students' rankings of HEI choice factors based on place of residence, academic performance and socio-economic status

Variable	Categories	N	$\bar{x}$	S	t (α=.05)	p-value	Decision
Place of Residence	Davao City	200	4.64	3.19			
	Davao Del Sur	100	5.03	3.26			
	Davao Del Norte	100	4.97	3.34	5.23	.000	Significantly Different
	Comval	100	3.55	2.82			
	Davao Oriental	100	3.67	3.14			
Academic Performance	93-98	71	4.93	3.31			
	97-92	213	4.14	2.92			
	81-86	263	4.32	3.32	2.51	.041	Significantly Different
	75-80	50	5.22	3.43			
	Not reported	3	7.67	2.08			
Socio-economic Status	51T & above	77	6.06	3.28			
	41T to 50T	43	4.37	3.40			
	31T to 40T	50	5.16	3.31	5.44	.000	Significantly Different
	21T to 30T	86	4.06	3.00			
	11T to 20T	135	4.26	3.11			
	10T & below	197	3.95	3.11			

Place of Residence. Students who reside in Davao City ranked *school performance, school safety and security*, and *cost and tuition fee* as their first, second, and third most important factors in choosing HEI, respectively. Davao del Sur residents chose school performance as first, followed by *cost and tuition fee then school safety and security*. Davao Del Norte students considered *school safety and security* first then *cost and tuition fee*, while ComVal and Davao Oriental residents ranked cost and tuition fee first, followed by *financial aid* then *school safety and security*. The difference in the students' choices based on their place of residence is significant ($p < .05$, table 2B).

Academic Performance. Based on students' WPA (categorized into interval ranges of 93-98, 87-92, 81-86, and 75-80), the prioritized factors for college choice are school performance for students with the higher WPA brackets of 93-98 and 87-92, and school safety and security for those who belong to the lower WPA brackets of 75-80 and 81-86. By ANOVA, a significant difference (p =

.041) in the ranking of predominant factors was determined (table 2B).

Socio-economic Status. The topmost preference of students whose family income is 51T and above is school performance, the same with those whose family income are 41T-50T, 31T-40T and 21T-30T. This entails that the focus of students with high income is on the reputation of the school in terms of performance rating in the national licensure examinations that made the school well known for it. While those students with family income below 21,000 prefer cost and tuition Fee as well as financial grant or scholarship program which is justifiable since college education can be expensive for low income earners. Expectedly, those with 10T and below chose financial aid. Only 13% of the respondents belong to families with the highest income bracket of 51T and above, while most of the respondents (32.8%) belong to families with the lowest income bracket of 10T and below. The second lowest income bracket of 11T to 20T has the second highest number of respondents (22.5%), while the second highest income bracket of 41T to 50T has the least respondents (7.2%). The result show that the lowest earners are the most concerned of college expenses while the highest earners expectedly are the least concerned about it. This difference was revealed significant ($p < .05$) by ANOVA.

Predominant endorser influencing students' decision in choosing HEI

Frequency counts and percentage was used to determine the predominant endorser who influences most the college choice decision of students. Of the 600 students, 542 or 90% ranked their parents or guardians as the number one most influential in their decision which HEI to enroll at, while only 36 (6%) considered their teachers or school guidance counselors and 24 (4%) their peers or friends, as their top most influential endorser (figure 2).

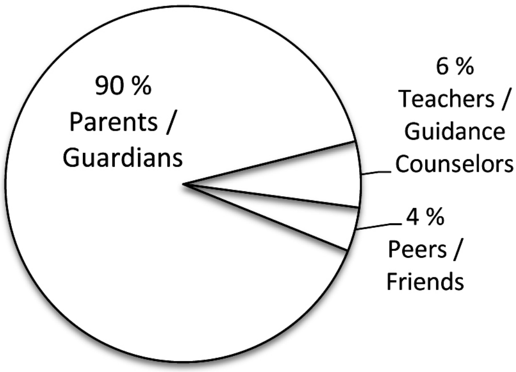

Figure 2. Most influential endorser to students' HEI choice.

Difference in the choice of most influential endorser based on students' demographic profile

When students are grouped according to their demographic profile, significant differences in their choice of most influential endorser exist. This was determined by t-test for variables school category and sex (table 3A) and by ANOVA for place of residence, academic performance and socio-economic status (table 3B).

School and Sex Categories. There is no significant difference between public and private school students' choice of endorser ($p > .05$, table 3A). This shows that both private and public school students rely on their parents or guardians and regard them as the most influential significant person in choosing a college or university for them. When grouped according to sex, distinctions between female and male choices become apparent, reflecting a significant difference ($p = .001$) in their choice of endorser, indicating that female students are more submissive to their parents choice of college for them than male students.

Table 3A. T- test on the difference between students' choice of most influential endorser based on sex and school type

Variable	Categories	N	$\bar{x}$	S	t (α=.05)	p-value	Decision
School Type	Private	300	1.12	.408	0.00	1.00	Not significantly different
	Public	300	1.12	.373			
Sex	Male	220	1.19	.506	3.34	.001	Significantly different
	Female	364	1.08	.300			

Table 3B. ANOVA on the difference in students' choice of most influential endorser based on place of residence, academic performance and socio-economic status

Variable	Categories	N	$\bar{x}$	S	t (α=.05)	p-value	Decision
Place of Residence	Davao City	200	1.13	.39			
	Davao Del Sur	100	1.03	.17			
	Davao Del Norte	100	1.18	.50	2.11	.079	Not Significantly Different
	Comval	100	1.15	.46			
	Davao Oriental	100	1.11	.35			
Academic Performance	93-98	71	1.08	.36			
	97-92	213	1.08	.31			
	81-86	263	1.16	.45	1.34	.254	Not Significantly Different
	75-80	50	1.12	.38			
	Not reported	3	1.00	.00			
Socio-economic Status	51T & above	77	1.17	.49			
	41T to 50T	43	1.09	.36			
	31T to 40T	50	1.14	.45			
	21T to 30T	86	1.07	.29	.92	.480	Not Significantly Different
	11T to 20T	135	1.09	.33			
	10T & below	197	1.14	.40			
	Not reported	12	1.25	.45			

Place of Residence, Academic Performance, and Socio-economic Status. There are no significant differences in the students' choice of endorser when they are grouped according to place of residence (p = 0.79), academic performance (p = .254), and socio-economic status (p = .480). Almost unanimously, parents or guardians are voted by students as most influential in their selection of college or university. These indicate that students across all provinces, regardless of their mental capacities or academic performance and family incomes, would likely depend on their parents' or guardians' decision which institution to enroll at for their higher education.

When asked why they chose their parents/guardians as the most influential person in their college choice decision, the students' answer was unanimous, that "parents know what is best for us and wants the best for us… land a good job …" "They also hold the financial power to send us to college."

Views of students and endorsers about the pre-identified factors for HEI choice

To understand the respondents' opinion about the survey, they were asked if the "pre-identified factors can be influential to their HEI choice, and how so?" Tables 4A and 4B, respectively, present the students' and endorsers' views on the pre-identified factors.

Table 4A. Themes on views of students on the pre-identified factors for HEI choice

Themes	Core ideas from students' views
Student efforts vs. quality of education of school	The identified factors help them think of college, develop their mindset, and encourage them to deliver well in terms of academic performance, to lead them to better college education
	College will allow them to attain their goals to learn more, and a school that has all the positive attributes will give them good and quality education
	The factors encouraged them to consider their choices & help them evaluate certain schools in their options, to aim landing in the school of their first choice which will boost them since the school itself is an inspiration to them
Preparation for future & future employment	Knowing the factors aids them to improve their performance and efforts to make them successful in going to the right college, they believe it's a major preparation for their future
	A school that has a good reputation will help them get a good job in the future; the school name has impact to employers
	Graduating from a known school gives an edge for employment, rather than from a school seen to have mediocre quality or board performance.

Table 4B. Themes on views of endorsers on the pre-identified factors for HEI choice

Themes	Core Ideas from students' views
Students' college success, employment, and future	All the factors complement each other to help students excel more
	All factors identified in this study serve as a pathway for students' brighter future; the school equipped with good facilities and high performance challenge the parents to help their children attain their full potential
	The factors will help schools attain total performance for their children for them to be prepared in their respective fields someday.
School responsibility	It is easy to determine the success a student - studying in a school that advances and mold them to be well-rounded is a big factor.
	Actual knowledge and learning is acquired in a school with holistic programs and if these are not provided, it will result to students' poor education.
	The better the academic accuracy, the more parents are encouraged to choose that school because instruction, delivery and interactions together serve as a bridge for their students to successfully reach the end of their academic journey.

When asked about their reasons for the topmost factors they consider for HEI choice, both students and endorsers expressed concerns that justify their choices. Table 5 summarizes their reasons for their top three considerations for college choice.

Table 5. Synthesized reasons of students and endorsers for their rankings of HEI choice factors

Students' reasons	Endorsers' reasons
Rank 1 – Cost & tuition fees	Rank 1 – Cost & tuition fees
They want to be in a school that is not expensive yet serve quality education, since their family's finances are limited; they don't want to be more of a burden to their parents.	With the number of siblings enrolled and the low family income, they may find it hard to sustain the college education of their children amidst expenses for other necessities.
They are aware that in the 21st century, education must be global, hence they consider an institution that produces good board exam performance as it mirrors the quality of instruction and facilities in the school.	They can entrust the future of their students/children to an institution with a consistent reputation of producing high board exam ratings, as this means that the school provides quality education
They fear news about terrorisms, so they consider an HEI that implement "safety first" measures in the campus in order for them to enjoy college life fully; they don't want their parents to worry about them while being away in school.	Students that exhibit other non-academic skills or abilities must not be hampered to continue college education just because they cannot afford financially, hence varied scholarship programs must be enforced.

Proposed Institutional Development Plan. The findings were used as basis to develop an institutional development plan that may be applicable for all HEIs. It suggests several implementing strategies for HEIs to benchmark and consider, in revising or enhancing their respective development plans in the area of marketing the college. It incorporates key concerns being all the academic-related factors considered in the study by detailing the objectives per factor with corresponding action strategies for implementation, expected outcomes, and point persons for the tasks, all for the ultimate goal of increasing enrolment.

DISCUSSION

This investigation of the academic-related factors for college choice obtains two major findings: both students' and endorsers' topmost considerations in choosing a college is price followed by school performance, and the most influential endorser to influence students' college choice is their parents/guardians. This means that HEIs where parents incur lower expenses but where their children get quality education enough for them to pass future government exams are where students will most likely enroll; and that a school becomes less attractive when its costs increase and performance ratings decrease.

This result replicates related studies' findings that cost and tuition fee are among the top ten school attributes students looked at a college/university where they enrolled (Hansen, 2013; Paulsen, 1990 as cited by Tan, 2009); that costs associated with college enrollment have a direct effect on the college enrollment rates (Dhakal et al., 2007); and that college costs and job opportunities as affected by family background have strongest effects to choice of college (Tan, 2009). This explains why state colleges' and universities' enrollees may consistently outnumber those of private HEIs. Stratton, et al. (2001) further showed that tuition as well as financial aid have such an overriding importance and impact on enrollment decisions.

On the other hand, school performance seen in board examinations as likewise considered by students and endorsers in this study is consistent with the findings of Lee and Chatfield (2012), who specified that institutional reputations and recognitions, field study preferences, course entry scores, and other institutional characteristics significantly influence applicants' choice of institution. The study of Mehboob et al. (2012) also demonstrated that college reputation has a strong influence and persuasiveness power on student's preference in college selection and choice decisions, and thus was a very strong predictor of college choice. Reasonably in the Philippines, while students may regard passing the board exam following college completion as of utmost importance, many HEIs take being board exam top performing school as a major goal year after year.

On the other extreme, the bottom two or least considered factors are Accreditation (rank 10) and College marketing (rank 11) for the students, while school environment (rank 10) and again College marketing (rank 11) for the endorsers. This may indicate that students do not mind much the educational recognition status of the college or university; or that they may not realize how accreditation status mirrors all other aspects of the institution (like laboratory and library facilities); or simply that they may not have appreciated the effect of accreditation status to their overall school experience so far. On the other hand, endorsers are not so concerned of the school environment or the extracurricular activities set by the school.

The factor of safety and security was jointly ranked third by the students and endorsers. Trump (2014) emphasized that the aim of institutions to impose safety is to make schools safer - to reduce crime, violence, and disruptive behavior risks, to reduce potential liability risks, and to improve school-community relations on school safety issues. However, school security measures must be balanced so as not to the point of hindering learning. Bethesda (2013) found that restrictive school security measures potentially harm school learning environments, and that the adoption of rigid and intrusive security measures in schools diminishes the rights of students and increases the likelihood of trivial forms of student misconduct. Nevertheless, in the Philippine setting and culture, students recognize and abide more to school authorities and disciplinary sacntions.

Interestingly, college marketing is both considered by students and endorsers as the bottom or least factor for college choice. This indicates that HEIs efforts on marketing may not be that focused on what students and endorsers might buy – helpful payment schemes, scholarships, or anything that would minimize pressure from cost, and consistency in board exam performance. This may also show that various news about schools' achievements, etc. carried by different multimedia platforms (television, radio, print, and especially social media like facebook etc.) may be the best marketing strategy as today's news automatically reach anyone through these platforms.

When students are grouped according to demographic profile, male students ranked School Performance first, while females ranked Cost and Tuition Fees first. Understandably, private school students and those who belonged to higher family income brackets highly considered school performance first while public school students and those who belonged to lower family income brackets ranked cost and tuition fees first. These results conform with the findings of Tan (2009) that students of different sex and different backgrounds exhibit somewhat different college choice behavior, but the differences are not dramatic. Zafar (2009) further posited that male and female have distinct choices founded on the differences in their innate abilities and preferences, and that this gender gap is what makes male different from female.

Additionally, regardless of socio-economic status, McDonough as cited by Tan (2009) has shown that students enrolled in private high schools are selective but are more likely to enter college than students in public high schools. Schoenhher (2009) demonstrated the disparity between low and middle income students with high income students, stating that students having high income have high likelihood to attend to institutions which are more costly and more selective. Obviously, students with low income were also likely to avail of any grant or scholarships to answer college cost. These are actually also the researcher's expectation and the achieved results in terms of socio-economic status.

When grouped according to academic performance, students belonging to the higher average grade brackets ranked school performance first, which is consistent with the findings of Schoenherr (2009) that for high achieving students, academic reputation is consistently the primary factor in their college choice decision. Also, according to Paulsen (1990) as cited by Tan (2009), the higher the academic ability of a student, the greater is the concern for academic standards. Hossler, et al. (1990) likewise concurred that high-ability students are more likely to be interested in institutions with higher levels of prestige and greater selectivity. Stratton, et al. (2001) further showed that students with high academic ability have much higher probability of graduating from a high quality university than students with low academic ability.

According to place of residence, students have diverse considerations for college choice: school performance for Davao City and Davao Del Sur residents, safety and security for Davao Del Norte residents, and cost and tuition fee for ComVal and Davao Oriental students. These results are understandable and reasonably mirror the places' socio-economic and geographic status. First, Davao City and Davao del Sur as the closest to it, are highly urbanized is; Davao Del Norte has unstable peace and order situation hence the number consideration for safety and security; and ComVal and Davao Oriental had been typhoon stricken which probably still had sources of living and livelihoods still unrecovered, hence the student residents' choice of cost and tuition fee as topmost consideration for college choice.

The differences in the respondents' rankings of the college choice factors when they are grouped into their demographic profile were not significant, except according to sex. This result were contrary to the study of Zafar (2009) since he identified males and females having significance because they have markedly different in their choice of college in the area of choosing a major course, due to their differences in innate abilities and in preferences. In addition, Chenowith& Gallagher (2004) as cited by Tan (2009), found out that male students in the past have higher college aspiration than females but in the latest study, the contrary is apparent with females have stronger academic goals than males. This contradicts the findings of Brown, et al. (1999) who identified that gender differences has nothing to do with choice process, but ethnicity, socio-economic status has been shown to have a strong correlation with the decisions in the choice stage particularly in selecting higher education institution.

Overall, these have implication to tertiary students' enrolment. As argued by Baird (2006), the rapid tuition increases in most private schools over the last few decades have made public institutions much affordable than they once were. This can cause more influx of students from public high schools in state colleges and universities.

The predominant endorser who influences most the decision of college choice is the Parents / Guardians. This result is consistent with several scholars' findings that parental influence has a direct and positive relationship with the formation and maintenance of students' college aspirations (Brown, et al., 1999; Pascual, 2014; Schoenhher 2009; Stelmack, 2012; and Tan, 2009). Pascual (2009), also stressed that most study conducted by Asian countries show parents' impact in decision making of students when it comes to students' course preference. The much lower percentage who picked their teachers/guidance counselors is backed by the findings of MacAllum, et al. (2007) as cited by Schoenhher (2009) that high school counselors' advice is more influential to students whose parents had little formal education and who came from lower socio-economic background. Bradshaw, et al. (2001) and Gonzales, et al. (2003) as cited by Schoenhher (2009) also demonstrated that many students consider high school counselors to be an important source of information in selecting college, despite the strong influence from parents.

All students across the region regardless of their income, considered Parents or Guardians as the most influential in choosing a college for them. Reviewing from the study of Pascual (2014), specified that unemployment nowadays is caused by taking the wrong choice of course for some college students brought about by unguided decision making in choosing courses. Hence, this is where the significant persons particularly the parents must come in. Tierney &Venegas (2006) as cited by Schoenhher (2009) found parental influence to be a significant predictor of student matriculation. Also, students who attended prestigious universities were more likely to receive motivational messages from parents than from counselors, peers and other educational role models. Schoenhher (2009) also found out that regardless of socioeconomic status (SES) or ethnic and racial category, parents play the strongest role in the college choice and decision-making processes for traditional-aged students. This result is contrary to the US college choice research which found high school guidance counselor being identified among the factors as "consistently influential" in the search and choice phases of students' college choice (Tan, 2009).

Conclusions. Students already have a preference in mind (predisposition) about an institution to choose for their college – a school that entails low cost but has impressive board exam performances, and offers financial aid or scholarships to economically challenged students. These could possibly lead to the doubling in number in terms of student population in the next years of state colleges and universities as well as of private HEIs with known consistent high performances in board exams even with high cost in tuition fees. Furthermore, high achieving students with low income status who cannot seek scholarships may choose to enroll in a college within the area that is not far from home to lessen expenses. Lastly, parents or guardians play very important role in the decision-making of college choice for students.

Recommendations. Private HEIs that are tuition fee sustaining may study school fees and budgetary expenses to lessen the possibility of increasing miscellaneous and tuition fees every year in order to draw more students both from public and private high schools. They may create or enhance their scholarship programs to cater to the educational needs of poor but deserving students. In addition, CHED must review the policy on tuition fee increase so as to monitor, regulate, and possibly also subsidize private HEIs to this effect. Administrators must strategize actions to enhance board exam performance ratings. Admission offices should target the parents/guardians in marketing endeavors and possibly tap the Parents'-Teachers' Association (PTA) in conducting appropriate promotions that make the college stand out among others in meaningful ways. The paucity of studies about college choice it a fertile ground, and future researchers can use this current study as basis to include employability and availability of job in the chosen course of the certain college.

This study was supported by the Davao Doctors College research fund.

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UIC Research Journal
Vol. 21 No. 2 October 2015

Print ISSN 1656-0604
Online ISSN 2244-6532

Effects of Performance Evaluation System on College Faculty Motivation

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ABSTRACT

Performance Evaluation System (PES) is a very important tool in human resource management. One of the purposes of PES is to motivate employees in order to perform better in their respective jobs. However, perception on PES varies from one employee to another and the results draw a significant factor in the motivation of some employees while some are not even moved by it. The main objective of this study is to discern the perception of the University of St. Louis College faculty on the PES used by the University in measuring performance and how PES results affect their motivation. Descriptive survey method was employed using a researcher-designed and validated questionnaire to gather needed information. The data were analyzed using descriptive statistics such as frequency count, percent and mean, as well as T-test, ANOVA and Pearson-coefficient correlation. It was found that there is a high acceptance on the current PES used in the University and PES affects the motivation of the college faculty to a high extent. Profile variables do not impose significant difference on the perception of PES except when grouped according to the Department they belong. Finally, there is a significant relationship between the perception of college faculty on the PES and their motivation.

KEYWORDS: Human resource management, Performance Evaluation System (PES), descriptive survey method, faculty motivation, St. Louise University, Philippines

INTRODUCTION

Performance appraisal is a mandated process in which, for a specified period of time, all or a group of an employee's work behaviours or traits are individually rated, judged, or described by a rater and the results are kept by the organization (Coens and Jenkins, 2000). Formal performance appraisal has become a widespread instrument of human resource management. The importance of appraisal in an organization cannot be overemphasized (Monyatsi, et al., 2006). It may not be required to be done but it plays a vital role in human resource management. In addition, such performance appraisal must be conducted with clear intent and purpose to both appraiser and appraisee; otherwise, it will be a meaningless procedure. The major aim of a teacher appraisal is to develop teachers in order to improve their delivery in schools (Monyatsi, et al., 2006). Performance appraisal systems need to be effective in improving or sustaining employee performance, otherwise they are a tremendous waste of time and money spent on development and implementation (Elverfeldt, 2005).

At the University of Saint Louis - Tuguegarao (USL Tuguegarao), performance evaluation is conducted through the Academic Dean, Department Head and Students. The rating system used in the evaluation of full-time college faculty is a 40-30-30 point ratio for Dean-Department Head-Students as raters (SLU College Faculty Handbook, 2008). The Dean of the School collates, evaluates, summarizes and submits a report of the evaluation of the faculty members to the Vice President for Academic Affairs. The areas measured by the Dean of the School in the University include teacher's commitment, competence and professional growth, and Christian spirit and over-all attitude, which all make up 40%. The 30% of the over-all performance evaluation come from the Department Head who measures the full time faculty's substantiality of his subject matter, teaching procedures, grading system and cooperation in academic requirements. Also, the Department Head conducts a routine classroom observation and evaluation where the faculty is rated in his manner of managing the class rapport and creating human climate. Lastly, the Students Evaluation, which is 30%, completes the assessment of the teacher's efficiency.

On the students' evaluation, they answer a set of prepared questions designed to rate their teachers based on their professional and personal characteristics. Professional characteristics include the teacher's knowledge and competence, ability to introduce and present lessons, teaching strategies, techniques and practices; while personal characteristics include the teacher's attitudes, mannerisms, rhetorical skills and relationship with the students. Then all scores from the Dean, Department Head and Students' evaluations are totaled and submitted to the Committee on Promotion and Retention. The Vice President for Academics chairs the Committee with the Vice President for Administration and Academic Deans as members. After Committee deliberation, the results are forwarded to the President for approval. The result of the Faculty Evaluation is given to the teacher after he is cleared in his Academic Dean's requirements at the end of the given semester with a short post-conference with the Academic Dean. In the post-conference, the Academic Dean discusses the content and the summary of his evaluation or his efficiency rating and advices the teacher for any room of improvement or congratulates him for a work well done in that particular semester.

Study Objectives. This study was aimed at discerning the perception of the USL college faculty about the Performance Evaluation System (PES) used by the university in measuring their performance and its effects on their motivation as university employees. It also determined the profile of the college faculty in terms of gender, rank, length of service, educational attainment, department, status of employment, efficiency ratings for three years and seminars/trainings attended for the last five years. Finally, it tested the null hypotheses that 1) there is no significant difference in the perception on the PES of the college faculty when they are grouped according to their profile, and 2) there is no significant relationship between their perception of PES and their motivation

METHOD

The study used the descriptive survey method. It described the perceptions of the college faculty about the PES used by the university and the effects of this evaluation to their motivation. The respondents of the study are the full-time, tenured and non-tenured college faculty of USL Tuguegarao. Total enumeration was employed to have a good picture of the PES perception. The study utilized a researcher-made questionnaire composed of three parts. Part 1 was designed to gather the profile of the respondent while parts 2 and 3 were intended to determine their perception of the PES used by the University and their perceived effects of the PES on their motivation, respectively. Table 1 presents the qualitative descriptions used in interpreting the respondents' perception of the PES and its effect on their motivation.

Table 1. Interpretation matrix for faculty perception of PES and PES effect on faculty motivation

Level	PES perception	PES effect on motivation
1.00 - 1.80	Very Low Acceptance	Affects motivation to a very low extent
1.81 - 2.60	Low Acceptance	Affects motivation to a low extent
2.61 - 3.40	Moderate Acceptance	Affects motivation to a moderate extent
3.41 - 4.20	High Acceptance	Affects motivation to a high extent
4.21 - 5.00	Very High Acceptance	Affects motivation to a very high extent

The data gathered were analyzed using descriptive statistics such as frequency count, percent and mean to describe the profile of the respondents, their perception of the PES, and its perceived effects on college faculty motivation. T-test and ANOVA were employed to determine the significant difference in the perception of faculty of PES when grouped according to profile variables. Pearson-coefficient correlation was also utilized to determine if there is a significant relationship between the perception of college faculty on the PES and their motivation.

RESULTS

Ninety-three college faculty members of the University participated in the survey, majority of whom are male (51.61%) and have earned their master's degree (49.46%), five have doctoral degrees. Greater percentage of the respondents came from the School of Education Arts and Sciences (44.09%) followed by the School of Engineering and Fine Arts (20.43%). Most of the respondents ranked as Assistant Instructor (76.34%) followed by Instructor (9.68%) and the remaining less than 15% are Assistant Professor, Senior Instructor and Associate Professor. Almost half (47.31%) have been in service for less than three years, majority are tenured (52.69%). Majority (39.78%) had attended 2.50-3.00 average numbers of local, regional, national and international seminars, followed by 20.43% who had participated 2-2.49 seminars in the past 5 years. Of the total respondents, there were 46 instructors (49.46%) who got average efficiency ratings of 83% to 89.99% for the last three years, and 33.33% got above average ratings of 90% to 94.99%.

Perception of college faculty on PES and its effect on their motivation

Table 2 shows that the respondents' acceptance of their university's performance evaluation system is high (M = 3.70), and that their motivation is affected by the system to a high extent (M = 3.74). This implies general acknowledgment of the PES fairness by the faculty, which thus trickle effect on their motivations in their job.

Table 2. Faculty perception of PES and its effect on their motivation

Variable	SD	SD	Qualitative Description
Perception of faculty on PES	3.6992	.6480	High Acceptance
Effects of the PES in motivating the college faculty	3.7419	.6988	Affects motivation to a high extent

Significant difference in PES perception according to profile variables

To test the null hypothesis (H0) that there is no significant difference in the perception on the PES of the college faculty when they are grouped according to their profile, t test and ANOVA were performed. The results exhibit no significant differences in the faculty PES perception when they are grouped according to gender (p = .109), rank (p = .272), length of service (p = .496), educational attainment (p = .675), status of employment (p = .963), average efficiency ratings (p = .159), and seminars attended (p = .165), thus H0 is accepted for these variables (table 3). This means that differences in their age, gender, tenureship, and even attendanceships in seminars are not factors for how they perceive PES. Importantly, even differences in their past PES efficiency ratings did not render significant difference in their PES perception, supporting their high acceptability of the PES.

On the other hand, when the faculty are grouped according to their department, a significant difference (p = .001) in their PES perception is revealed. This result may imply an innate departmental matter.

Table 3. Significant difference in the perception of college faculty on the PES when grouped according to profile variables

Variable	t-value	p-value	Decision
Gender	-1.620	.109	Accept Ho
Rank	1.311	.272	Accept Ho
Length of Service	0.904	.496	Accept Ho
Educational Attainment	0.395	.675	Accept Ho
Department	4.613	.001	Reject Ho
Employment Status	0.047	.963	Accept Ho
Average Efficiency Ratings	1.769	.159	Accept Ho
Average Seminars Attended	1.665	.165	Accept Ho

Significant relationship between PES perception and motivation

The Pearson r test of correlation revealed significant relationship ($p < 0.05$) between the respondents' PES perception and their motivation (table 4), which implies that the more they perceive PES as acceptable, the more it affects their motivation towards their job.

Table 4. Significant relationship between the perception of college faculty on the PES and their motivation

	Pearson Correlation	Sig. (2-tailed)	Decision
Perception Motivation	.790	.000	Reject Ho

DISCUSSION

The results show that the college faculty's acceptance of the performance evaluation system used in the SLU is high. From literature analyses, it became clear that the most significant factor in determining the effectiveness of performance appraisal system is the acceptance of its users (Elverfeldt, 2005). This is in support to a previous study's conclusion that performance appraisal systems become useless if it does not elicit positive reactions among raters and ratees (Tziner and Kopelman, 2002). Generally, when a performance appraisal system is accepted, it is perceived to be fair and a valid measure for the position at hand. If employees are confident in the fairness of performance appraisal process, they are more likely to accept their performance ratings, even adverse ones (Roberts, 2003). Moreover, the perceptions of employees about the targets, outcomes and uses of performance appraisal results would be beneficial depending on a number of factors. For example, employees are more likely to be receptive and supportive of a given performance appraisal program if they perceive the process as a useful source of feedback which helps to improve their performance (Mullins, 2007).

The SLU performance evaluation system affects the motivation of the college faculty to a high extent. This is expected since as pointed out by Roberts (2003), employees participate and function most effectively in an atmosphere of trust, open communication and equal employee treatment. He therefore stressed the need to execute regular employee attitude surveys and focus groups to systematically evaluate performance system participation effectiveness. He concluded that, given the appropriate atmosphere and culture in an organisation, employee participation will enhance motivation, feelings of fairness and overall acceptance of the performance appraisal process. Thus, to attain these positive effects, it must be determined if employees in a certain organisation would actually perceive participation as an enriching factor. Many authors concur with this by averring that the main objective of teacher appraisal is to improve individual performance and motivation (Bartlett, 2000; Danielson, 2001; Donaldson & Stobbe, 2000; Lam, 2001; Wilson & Western, 2001; Furlong, 2000). Teacher appraisal should be viewed as interventions, including professional development, in-service training and career planning, which aim at developing the teacher's knowledge, skills and confidence for the sake of improved performance (Bartlett, 2000; Campbell, et al., 2003; Danielson, 2001; Gunter, 2002). It is one of those processes in organisations that aim to enhance productivity through mutual interaction between the supervisor and the subordinate (Gunter, 2002; Wanzare, 2002). The feedback provided during the appraisal process is vital to informing all those involved in the organisation about what ought to be done in order to map the way forward. This will improve the effectiveness of teaching and students' learning and, ultimately, the quality of education (Abraham, et al., 2001; Donaldson & Stobbe, 2000; Lam, 2001).

As revealed by t-test, the differences in the respondents' perception of the existing PES in terms of profile variables were not significant, except when they are grouped according to the department to which they belong. Gurbuz and

Dikmenli (2007) suggest many factors, including organizational leadership and culture, influence the attitude of most employees towards performance appraisal; but regardless of educational or professional standing, highly educated and professionally competent appraisees are generally more co-operative and supportive of performance appraisal than those of relatively lower educational and professional competence. They posit that the less experienced and youthful employees are relatively more anxious during appraisal than the more experienced and older ones. However, employees who undergo performance appraisal several times, regardless of their age, accumulate valuable information, knowledge and experience about its process and purpose through the feedback system. This eventually helps reduce their anxiety during subsequent appraisals. In general, both youthful and older employees' perception of Performance Appraisal System does not vary significantly according to their ages (Gurbuz and Dikmenli, 2007).

In the current study, there is a significant relationship between the respondents' perception of PES and their motivation. According to Armstrong (2003), employees are likely to embrace and contribute meaningfully to a given performance appraisal scheme if they perceive it as an opportunity for promotion, an avenue for personal development opportunities, a chance to be visible and demonstrate skills and abilities, and an opportunity to network with others in the organization. Conversely, he stated that if employees perceive performance appraisal as an unreasonable attempt by management to exercise closer supervision and control over tasks they (employees) perform, various reactions may result and without adequate explanation or consultation, performance appraisal could turn counterproductive. In addition, staff motivation, attitude and behavior development, communicating and aligning individual and organizational aims, and fostering positive relationships between management and staff are essential for successful appraisal.

Thus, in consideration of the large amount of time and money that need to be invested to develop and implement an appraisal system, an ineffective appraisal system would be a severe threat and loss of resources to an organisation. On basis of these facts it seems important for each organisation to regularly check if their performance appraisal is perceived as intended and if users still support system and process (Elverfeldt, 2005). As such, appraisal is used as a technique to influence and control employee behaviour in order to increase productivity and effectiveness. Nurse (2005) viewed provision of information for the development of managerial strategies for training and development as an outcome of appraisal process. Teratanavat, Raitano and Kleiner (2006) found outcomes from appraisal like reduced employee stress, review of overall progress, linkage between current performance and employee's goals, and development of specific action plans for future.

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Print ISSN 1656-0604
Online ISSN 2244-6532

Math, Science and Technology

Output Power Prediction of Solar Energy Kit using Multiple Linear Regression Analysis

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ABSTRACT

Solar Energy is widely taught in most science subjects especially in physics. A Solar Energy Kit (SEK) had been introduced to demonstrate basic solar energy concepts in the classroom setting. Participating Grade 8 students were engaged to hands-on activites utilizing the SEK at Bukidnon National High School – Annex Aglayan, Malaybalay City, Bukidnon. Their actual data sets were treated with Pearson correlation and Multiple Linear Regression Analysis (MLRA) to determine the output power equation of SEK in terms of variables like voltage, current, illumination, surface temperature and time duration. Results revealed that the strongest predictors are illumination, voltage and current variables.

KEYWORDS: Solar energy, output power, solar energy kit (SEK), multiple linear regression analysis, Philippines

INTRODUCTION

The concept of improvisation has become increasingly popular in the discourse of scientific experiments. This paper explores the aspects of improvisation and validation of a solar energy system, in teaching concepts in Physics, in order to address some of the philosophical and practical issues relevant to this emerging interest which is making use of renewable energy source in teaching Ohm's Law in particular.

One of the activities in science is experimentation. It provides a forum for utilizing the theoretical knowledge gained in the classroom and for demonstrating the psychomotor skills of a teacher and learner. However, many students see science as abstract and irrelevant to their lives due to lack of engaging classroom laboratory equipment (Kolawole and Oginni, 2009).

Laboratory and field work aids the understanding of difficult concepts in the curriculum; creates opportunity for the testing of facts and theories in science. It is believed that learners can achieve more if given the opportunity to improvise materials on what they have been taught in the classroom. Experimentation thus gives room for better attainment of lesson objectives, since it depends on the availability of science equipment for proper understanding, development and application (Ugwu, 2008).

Wuozor (2000) observed that the teaching and learning of science can never be improvised if the teaching materials that are not available but could be improvised are not properly used. It is no excuse for any science teachers to hide under non-availability of funds as a basis for not conducting practical for his students if he knows his onus. Isaac Newton, Pythagoras of Simos, Galilee Galileo and the rest of pioneers in sciences started building themselves from objects around them to explain concepts that were still relevant till these days. (Adeyemi, 1990; 2007).

Improvisation serves the following purposes in the education system: (a) Ensures the realization of lesson objectives; (b) Helps in solving the problem of lack of equipment in educational institutions; (c) Gives room for a teacher to demonstrate his creative skills; (d) Encourages students towards the development of creative abilities; (e) Strengthen inquiry, discovery and investigative method in sciences (f) It provides a frame of reference on which students can key their attention during classroom activities. (g) Enables teacher to think of better and faster methods of making teaching-learning process easier for students; and affords students the opportunity of becoming familiar with resources in their environment such as maximizing the use of solar energy as a renewable energy source.

Experimental work in sciences always create a lasting picture in the memory of students, and discourage memorization of laws and theories. Concrete experiments help students see how the scientific concepts work in reality, particularly the kinaesthetic learners will benefit from performing the experiment themselves. Owolabi (2003) suggested that students should be given opportunity to discover and invent things; hence the teachers should allow the students to acquire skills that will make them learn on their own. It must be noted that learners achieved more when they are allowed to manipulate apparatus rather than mere listen or observe teachers' idea.

Theoretical Framework

The theory behind solar cells is based upon the "photovoltaic effect" discovered in 1839 by Edmund Becquerel, a French Physicist whose experiments reveals that certain material would produce small amounts of electric current when exposed to the sunlight. When the photons strike the semi-conductor layer (usually silicon) of a solar cell a portion of the photons are absorbed by the material rather than bouncing off of it or going through the material. When a photon is absorbed the energy of that photon is transferred to an electron in an atom of the cell causing the electron to escape from its normal position. This creates, in essence, a hole in the atom. This hole will attract another electron from a nearby atom now creating yet another whole, which in turn is again filled by an electron from another atom. This hole filling process is repeated a few zillion times and voila, an electric current is formed.

Another theory that serves as a basis for this study is Albert Einstein's (1905) photoelectric effect in which ultraviolet light forces a surface to release electrons when the light hits. He explained the reaction by defining light as a stream of photons, or energy packets. J.J. Thomson (1897) showed that an increased sensitivity was the result of light pushing on electrons.

Philipp Lenard (1862-1947) experimented using a photocell connected to a circuit with a variable power supply, voltmeter, and micro ammeter and illuminated the photoemissive surface with light of differing frequencies and intensities. The experiment uses the energy of light to push electrons that are already there around the circuit. The photoelectric current generated by this means was quite small, but could be measured with the microammeter. It also serves as a measure of the rate at which photoelectrons are leaving the surface of the photoemissive material.

Objectives of the Study

The study is aimed to assemble a solar energy system for charging cell phones and for lighting purposes, conduct an experimental activity using the kit and validate such instrument by science teachers and fourth year students of Bukidnon National High School-Annex Aglayan, Malaybalay Division during the second quarter for the school year 2013-2014.

Related Literature

Improvisation means the act of creating something or using something in the absence of the ideal tools. Various authors have defined the concept 'improvisation' in different ways. Ogunbiyi, Okebukola and Fafunwa (1990) defines it as the act of substituting for the real thing that is not available. Bajah (1991) takes it to be the use of substitute equipment where the real one is not available. Kamoru and Umeano (2006) further define it as the act of using materials obtainable from the local environment or designed by the teacher or with the help of local personnel to enhance instruction.

According to Ihiegbulem (2007), it is the act of substituting for the standard equipment or instructional materials not available, with locally made equipment or instructional materials from readily available natural resources. National Teacher Institute in Omachi (2000) defines improvisation as the act of using alternative materials and resources due to lack or insufficient hand teaching ads to facilitate instruction from these opinions, improvisation entails the production of equipment using available local and cheaper resources and the use of such equipment for effective teaching.

The solar cells that you see on calculators and satellites are called photovoltaic (PV) cells, which as the name implies (photo meaning "light" and voltaic meaning "electricity"), convert sunlight directly into electricity. A module is a group of cells connected electrically and packaged into a frame more commonly known as a solar panel (Erickson,2012).

Photovoltaic cells are made of special materials called semiconductors such as silicon, which is currently used most commonly. Basically, when light strikes the cell, a certain portion of it is absorbed within the semiconductor material. This means that the energy of the absorbed light is transferred to the semiconductor. The energy knocks electrons loose, allowing them to flow freely (Erickson, 2012).

Many factors make the call for improvisation of equipment in educational institutions in Nigeria expedient. One of these is the persistent poor funding of the education sector. Over the years, financial allocation to the education sector has been inadequate for the realization of educational objectives. There is therefore inadequate science equipment in educational institutions at all levels in the country. Consequently, there is poor performance of students in Biology in internal and external examinations (Iguisi, 2002; Iyekekpolor 2006), a situation that calls for urgent attention of all education stakeholders.

METHOD

This study used developmental research method (Richey & Klein, 2005), focusing on the development of a solar energy system by field experimentations and functionality analyses.

Research Locale

This study was conducted in Bukidnon National High School-Annex Aglayan, Malaybalay City Division. It is located in between Valencia City and Malaybalay City province of Bukidnon. The school is headed by Mr. Elson L. Dahilog with a population of 886 students with 21 faculty members, 6 of them are science teachers.

The Participants. Four Science teachers of the said institution and the whole class of section Molave consisting of 76 Fourth Year students served as the participants of the study.

Research Design

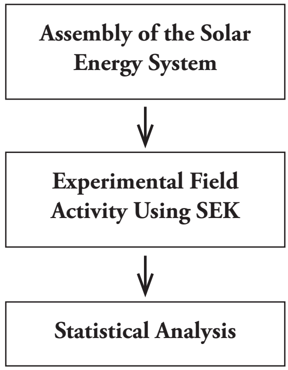

Figure 1. Research design of the study

Assembly of the Solar Energy System

In the assembly of the kit, a solar panel was connected to the solar influx located on one of the ports of the circuit box while the voltmeter and ammeter were both attached to the red and black wires of the photovoltaic (PV) cell after clipping the wires together using alligator clips. The 3 bulbs of the same size were also attached to the 3 other ports or outlets in the circuit box and the remaining one was for charging different types of cellular phones with the aid of 10 mobile connectors. Figure 2 shows the assembly diagram of Solar Energy Kit.

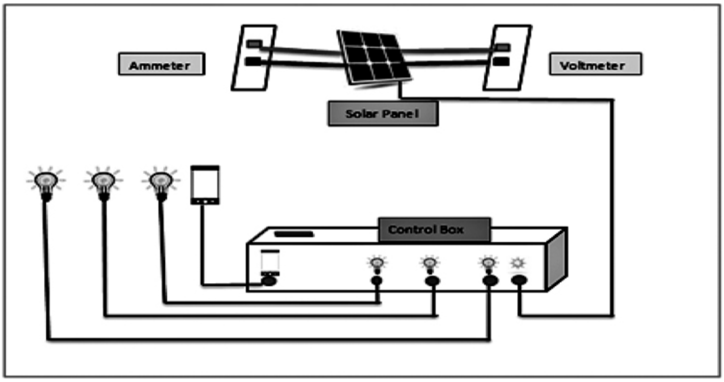

Figure 2. Assembly diagram of solar energy kit

Conduct of Field Experiment

The researcher conducted a simple demonstration on the proper use of the solar energy system with the students and teacher participants. The students themselves were grouped into five for an outdoor activity using the kit for charging cell phones and lighting the 3 bulbs. Moreover, they were also asked to determine the voltage and current readings generated by the solar panel while being exposed under direct sunlight. The ammeter and voltmeter were used as devices and were both attached to the solar panel to obtain such readings. The student participants were asked to fill in the activity sheet completely based from their actual observations. A separate activity was conducted by the researchers using the same solar energy system but with increasing number of variables involved other than voltage and current. Such additional variables investigated were light intensity (Lux), temperature, and power output.

Statistical Treatment

Measures of central tendencies such as the mean and standard deviation were obtained in validating the solar energy system by the student and teacher participants. Moreover, Multiple Linear Regression Analysis was employed to determine the output power equation in terms of the variables such as voltage, current, illumination, surface temperature and time duration.

RESULTS AND DISCUSSION

Table 1. Correlation coefficients among six variables

Variables	Correlation Value	Interpretation	P- Value
Illumination and Power	0.39	Low Correlation	0
Voltage and Current	0.97	Very High Correlation	0
Illumination and Temperature	0.12	Negligible	0.339
Temperature and Voltage	0.13	Negligible	0.239
Temperature and Current	0.10	Negligible	0.338
Power and Temperature	0.09	Negligible	0.404

Table 1 shows the correlation of the six variables included in the experimental activity involving the use of solar energy system. The six variables involved are lux and power, voltage and current, lux and temperature, temperature and voltage, temperature and current as well as power and temperature. The data reveals a very high correlation between voltage and current which suggests that voltage is directly proportional to current (with a constant resistance). However, there is a low correlation between light intensity and power than what has been expected to be obtained. This suggests that light intensity fluctuations may have been the result of device defects. Nonetheless, negligible correlations were obtained for lux and temperature, temperature and voltage, temperature and current, as well as for power and temperature. This tendency might have been the result of memory defects of the devices used for getting light intensity and temperature readings as compared to using voltmeter and ammeter which led to obtaining more accurate results in the fieldwork experiment using the solar energy system.

Multiple Linear Regression Analysis (MLRA) was carried out using Minitab version 16.0. The aim is to determine which among the other variables best predicts the output power. Thus, the output power is the dependent variable (DV) while time duration, illumination, surface temperature, voltage and current are the independent variables (IVs).

At first attempt, the regression equation for output power and corresponding summary of analysis are as follows:

power = 199 + 1.68 time - 0.0706 illumination - 39.0 temp + 4.62 voltage + 516 current

Predictor	Coef	SE Coef	T	P
Constant	199.4	989.2	0.20	0.841
time	1.6797	0.7755	2.17	0.033
illumination	-0.07064	0.01183	-5.97	0.000
temp	-38.99	32.23	-1.21	0.230
voltage	4.6186	0.8385	5.51	0.000
current	516.2	113.7	4.54	0.000

S = 503.525 R-Sq = 95.3% R-Sq(adj) = 95.1%

The predictor temp has a p-value of 0.230. The decision is to run another regression analysis without the temp variable. Thus the new regression equation for output power and corresponding summary of analysis are as follows:

power = - 978 + 1.47 time - 0.0715 illumination + 4.50 voltage + 534 current

Predictor	Coef	SE Coef	T	P
Constant	-977.9	177.0	-5.53	0.000
time	1.4652	0.7571	1.94	0.056
illumination	-0.07150	0.01184	-6.04	0.000
voltage	4.4956	0.8347	5.39	0.000
current	533.8	113.1	4.72	0.000

S = 503.525 R-Sq = 95.3% R-Sq(adj) = 95.1%

The predictor time has a p-value of 0.056. The decision is to run another regression analysis without the time variable. Thus the new regression equation for output power and corresponding summary of analysis are as follows:

power = -866 - 0.0728 illumination + 4.42 voltage + 567 current

Predictor	Coef	SE Coef	T	P
Constant	-866.0	170.0	-5.09	0.000
illumination	-0.07276	0.01202	-6.05	0.000
voltage	4.4151	0.8473	5.21	0.000
current	567.0	113.6	4.99	0.000

S = 511.786   R-Sq = 95.1%   R-Sq(adj) = 94.9%

The predictor illumination could be set aside and run another regression analysis without this variable. Thus the new regression equation for output power and corresponding summary of analysis are as follows:

power = -1505 + 4.33 voltage + 482 current

Predictor	Coef	SE Coef	T	P
Constant	-1504.7	159.0	-9.46	0.000
voltage	4.333	1.011	4.29	0.000
current	482.1	134.6	3.58	0.001

S = 610.797   R-Sq = 92.9%   R-Sq(adj) = 92.8%

The latest attempt resulted to the regression equation for output power in terms of predictors voltage and current only. Thus we can now apply the latest regression equation to predict the output power and verify its close proximity to the actual data using Microsoft Excel.

Proximity tests using Microsoft Excel revealed that the third regression equation provided better prediction to the actual output power data compared to the fourth regression equation. Thus it would be better to include illumination variable as a predictor. However both voltage and current remained to be the greatest predictors of output power of SEK.

Conclusion

Based on the results, we are able to properly utilize the Solar Energy Kit (SEK) as a useful tool in demonstrating solar energy concepts. Statistical tools such as Pearson correlation and Multiple Linear Regression Analysis was able to reveal the greatest predictors of output power such as illumination, voltage and current variables. We were able to obtain the output power equations as the product of modelling efforts. Thus the Solar Energy Kit could be an effective learning tool for understanding the mechanism of basic solar energy concepts.

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Print ISSN 1656-0604
Online ISSN 2244-6532

Preparing Young Filipinos for STEM Careers: The Philippine Science High School - Southern Mindanao Campus Experience

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ABSTRACT

The Philippine Science High School was established to build the science, technology, engineering and mathematics manpower of the nation. This study was conducted to track alumni of the first ten batches of PSHS Southern Mindanao Campus (Batch 1992-2001) to verify the attainment of this PSHS vision. Using Sloven's formula, a sample size of 260 alumni was determined. Data on courses completed, universities attended, and current whereabouts of the alumni were gathered through a questionnaire and verified from online sources and personal interviews. Data gathered show that PSHS SMC alumni complied with the requirement to complete a STEM course at the rate of 88.5%, much higher than national enrollment rate of 26%. The most preferred universities are the campuses of the University of the Philippines System and the Ateneo universities. Currently, the top sectors that engage the PSHS SMC alumni are technical jobs and IT-related jobs. Majority of the PSHS SMC alumni are currently engaged in STEM professions remain in the country and 77.1% have remained in the country.

KEYWORDS: Philippine Science High School, science, technology, engineering and math courses, STEM workforce

INTRODUCTION

The Philippine Science High School (PSHS) operates as a service institute of the Department of Science and Technology. Established under Republic Act 3661, the PSHS opened its first campus in Diliman, Quezon City in 1964. With its success in emphasizing science subjects at the secondary level, clamor for more PSHS campuses paved the way for the establishment of regional campuses. On February 5, 1986, Executive Order 1090 signed by then President Ferdinand E. Marcos, established PSHS Campuses in Visayas and Mindanao.

PSHS scholars undergo a rigorous screening procedure and must pass the National Competitive Examination (NCE). PSHS selects only a limited number of scholars annually 240 for the Main Campus in Diliman, Quezon City and 90 in each of the 13 regional campuses across the country. The regional campuses are located in San Ildefonso in Ilocos Sur, Bayombong in Nueva Vizcaya, Baguio City, Clark Freeport Zone, Batangas City, Goa in Camarines Sur, Iloilo City, Argao in Cebu, Palo in Leyte, Balo-i in Lanao del Norte, the SOCCSKSARGEN Campus in Koronadal, Caraga Campus in Butuan City and the Southern Mindanao Campus in Davao. In 2011, 1,114 qualifiers were selected from 20,233 applicants.

PSHS scholars enjoy the prestige of being recognized as the cream of the crop. Since its inception in 1964, PSHS scholars have continually brought honor to the country through their numerous achievements in national and international competitions. PSHS scholars enjoy free tuition, free loan of available textbooks and a monthly allowance commensurate to the socio-economic indicators of the scholar's family. Availment of a PSHS scholarship carries with it the provision that binds the scholar to pursue a science, engineering or related course at the college level (About PSHS, 2013).

PSHS-Mindanao Campus began its operations on July 8, 1988 with an initial enrollment of 50 scholars. As more campuses are being established nationwide, the Mindanao Campus officially changed its name to PSHS-Southern Mindanao Campus (PSHS-SMC) in 2011. PSHS-SMC operates under the mandate: "To offer on a free scholarship basis , secondary courses with special emphasis on subjects pertaining to the sciences with the end in view of preparing its students for a science career" (PSHS, 2013). The scholarship offered binds the scholars and their parents to an agreement that the scholar will pursue a university degree in science, technology, engineering or mathematics (STEM). The agreement is legally binding with a clause that non-compliance of the agreement will necessitate a payback of the cost of the scholarship enjoyed.

Study Objectives. This study was undertaken to track the whereabouts of the PSHS-SMC graduates from the first ten years of its operation (Batch 1992-2001). Specifically, it determined the 1) percentage of the PSHS alumni who completed STEM courses; 2) courses preferred by PSHS-SMC graduates; 3) universities/colleges preferred by PSHS-SMC graduates; and 4) the current whereabouts of the PSHS scholar graduates. This study considered data from graduates of PSHS-SMC from the first ten years (Batch 1992-2001).

Focus on STEM careers

The National Science Foundation (NSF) of the United States coined the term STEM to represent the disciplines of science, technology, engineering and mathematics. At the convergence of the STEM disciplines is the ability of practitioners to solve real world problems. These skills enable STEM professionals to meet the needs of the global economy. NSF classified STEM courses to various specialized disciplines in agricultural sciences, chemistry, computer science, engineering, environmental science, geosciences , life/biological sciences, mathematics, physics and astronomy (Howard-Brown & Martinez, 2012) .

Worldwide, employers recognize that STEM graduates have a better ability to solve real-world problems independently and creatively. In the United States, STEM careers are expected to be grow higher than non-STEM careers. By 2018, an increase of 1.2 M STEM careers is expected from the current 6.8 M jobs. America recognizes that the STEM workforce enables it to be competitive in the global economy (Carnevale, Smith and Melton, 2011). Henderson (2012) observed that during the current US recession, unemployment rate of non-STEM practitioners is almost double that of STEM majors indicating a high demand for the latter professions. With the demand for STEM careers continuously increasing, global economies are positioning to respond to the need. Henderson (2012) reported that more than 50% of college students in Japan and China are in enrolled in the STEM fields while in America, only 33% of college graduates earn a degree in STEM. It is widely believed that an adequate STEM workforce is crucial in America's leadership as a nation in terms of energy, environment, health and national security (Cannady, Greenwald, & Harris, 2014).

The concern for more STEM professionals is echoed by Australia as the rate of intake to STEM courses is observed to be declining. A STEM core is desirable as the trained professionals exhibit not only content proficiency in subject areas but also skills in numeracy, analysis, problem-solving, and information processing. These skills are useful in many employment sectors including the government, business, law, education, and health. The demand for STEM skills is increasing across Australia and the government is urging its universities to take an active role in addressing this need (West, 2012).

Today, a heavy reliance in technology affects our daily lives and STEM courses are behind all these. The landscape of science, technology and engineering is always changing making a STEM career exciting. The possibilities for change are endless and the STEM professional can enjoy the challenge, flexibility and tremendous opportunities available. Most of the satisfying careers are in STEM. Because the training brings a lot of problem-solving skills, STEM professionals enjoy versatility and a wide range of experiences can be had. The dictates of living more efficiently, utilizing less energy and resources and leaving less impact on the world open the door to endless possibilities for the STEM professional to explore. STEM knows no barriers and is an equitable career choice for women, minorities, all races and even for persons with disabilities. It is a fast growing field as employers recognize the value of the skills of STEM professional and the jobs are well paid (Iowa State University of Science and Technology, 2010). Without a STEM degree, many students will be unqualified for the technical jobs of the future (Hossain & Robinson, 2012). This fact has raised much apprehension and attention.

In 2011, US President Barack Obama undertook initiatives to get more people into STEM careers by allocating a higher budget for STEM education and targeting more women into the field to increase their current representation of less than 25%. Gonzalez & Kuenzi (2012) reported that the efforts of the US Federal Government to support STEM education include financial support for degree attainment, graduate research fellowships, and mathematics and science partnerships aimed at capacitating classroom teachers through interactions with scientists and engineers. A weak point in the US educational system is the lack of qualified STEM teachers at the K-12 levels. Identified strategies to recruit and retain STEM professionals include designing attractive college degree programs for K-12 teachers, subsidizing education costs and providing financial incentives to teachers such as differential pay. The US Ambassador to the Philippines Harry K. Thomas observed that basing on a USAID study, the Philippines does not have enough qualified science and technology manpower. He added that PhD's in science and technology are needed to enable the Philippines to move forward (Panela, 2012). In response to this felt need, the country's Commission on Higher Education Chairperson Patricia Licuanan identified engineering, information technology, sciences and mathematics among its priority courses (Pazzibugan, 2013). In the Philippines, of the nearly 4 M students enrolled in the tertiary level in 2015, only 26% were enrolled in STEM courses with nearly half of that number in information technology (CHED, 2015).

Between 2002 to 2009, the number of persons engaged in Research and Development in the Philippines increased by 78% from 9,325 to 16,673. Of these, 43% came from academe while 35% came from the industry. Most of these researchers are scientists and engineers engaged in key areas of research. The UNESCO recommends that there shall be 380 scientists and engineers per million population. In 2009, the Philippines only had 142 per million population (Compendium of Science and Technology Statistics, DOST 2012).

The Department of Science and Technology under Executive Order No. 128 is mandated to "provide central direction, leadership and coordination of scientific and technological efforts and ensure that the results there from are geared and utilized in areas of maximum economic and social benefits for the people". DOST acknowledged that science and technology is the most important factor for national economic growth. It recognizes that nations and firms allocate resources for research and development (R&D), technology development, education and training in science and technology (S&T), and in setting up S&T infrastructure (About DOST, 2008).

Among DOST's many functions is to increase the number of qualified scientists and engineers, to strengthen linkages in S&T in the international arena, to increase science literacy and to improve the welfare of science and technology practitioners. The Department accomplishes the training and education of S & T personnel largely through its two service institutes, the Science Education Institute (SEI) and the Philippine Science High School (PSHS). The SEI takes a very active role in S&T human resource development through the administration of undergraduate and graduate scholarships. In 2012, it offered more than 3,000 undergraduate scholarships to deserving senior high school students. Meanwhile, the PSHS is the premier science high school in the country offering scholarships at the secondary level to deserving Grade 6 pupils across the country (About DOST, 2008).

Ogena, Lana & Sasota (2010) reported that the curriculum of PSHS was designed by the Department of Science and Technology. When compared to students from other science high schools in the country, the students of PSHS performed better in the 2008 Trends in International Mathematics and Science Study (TIMSS Advanced). Moreover, PSHS students are internationally competitive with higher percentage of correct answers than other countries. In fact, in the international arena, at least 68% of the PSHS students reached the intermediate benchmark. This high performance was attributed to teacher quality and the highly selective process of enrolment at PSHS .

Scott (2012) reported that the United States allocated $2.8M in support of STEM education through around 200 programs with 25% specifically targeting high school education. The US is now creating more and more STEM-focused high schools designed to create student interest and build competencies in STEM. A key advantage of STEM-focused high schools is a more rigorous course requirement that allows students to engage in capstone projects that address real-life problems. Early success of STEM schools in Texas in terms of higher achievement scores in mathematics and sciences were reported by Young, House, Wang, Singleton & Klopfenstein (2014). This success is attributed to the curriculum, to the small school environment that promotes closer relationships between students and teachers and to the mechanisms that enable teachers to closely monitor student attendance and progress. These similar elements are present in a PSHS campus with an enhance science and mathematics curriculum and a limited and selective enrollment.

Franco, Patel & Lindsey (2012) provided evidence that STEM high schools in the United States successfully encouraged its graduates to pursue STEM-related careers at double the national rate. They attributed this to the early exposure of students that led to increased skills in STEM, awareness and preferences.

PSHS is the arm of the Department of Science and Technology (DOST) tasked to contribute to the manpower pool of scientists and engineers. Heavily funded by the government, during budget deliberation lawmakers are always asking the question, "Where are the PSHS scholars today?" The national government is interested to know the indicators of success of the PSHS mandate. While alumni tracking has been going on, the records are largely incomplete and no study has been made specifically for PSHS-SMC. Thus, this study will fill the gap in information and will serve the PSHS and the public the answer to the lawmakers' oft repeated question.

METHOD

The Philippine Science High School-Southern Mindanao Campus began producing graduates in 1992. A list of PSHS-SMC graduates for the years 1992-2001 (first ten years) was obtained from the Office of the Registrar. From this list, the population of graduates was determined to be 730 (N=730).

Applying Sloven's formula, the sample size was determined to be 258. This sample size was proportionally distributed to the different batches of graduates. Table 1 shows the plan for the distribution of the samples. The samples were thus, stratified then chosen randomly through lottery method.

Table 1. Sampling of PSHS-SMC alumni per batch

Batch	No. of graduates	Sample size
1992	52	18
1993	52	18
1994	73	26
1995	71	25
1996	53	19
1997	87	31
1998	85	30
1999	79	28
2000	88	31
2001	90	32
Total	730	258

The actual sample size of 260 consisted of 37% males and 63% females.

A questionnaire was sent to alumni e-groups. Information was also obtained through online communication and available online data from universities and LinkedIn. When no response or no data can be obtained, replacement samples were chosen through stratified and random procedures as earlier described.

After retrieval of the questionnaires, the percentage of scholars who have completed STEM courses was computed. The type of college courses completed by the PSHS SMC graduates and the type of universities and colleges attended were also categorized and the percentages were computed based on the numerical data gathered. Finally, the whereabouts of the scholars were determined based on the responses. When so desired, the request for anonymity was honored. When available, data were verified through online information from university websites, from published results of board exams by the Professional Regulation Commission, and by checking Facebook and LinkedIn accounts. Personal interviews of batchmates were also used as sources of information.

RESULTS AND DISCUSSION

The PSHS system was envisioned to be a major contributor to its STEM workforce. Data about college completion for the first ten batches of PSHS Southern Mindanao Campus was gathered to verify the attainment of this vision.

A list of courses taken by the PSHS SMC graduates and their classification as used in this study is shown in Table 1. The basis of classification is patterned after the NSF.

Table 1. Classification of STEM courses taken by PSHS-SMC alumni

Science Courses	Technology/ Applied Science	Engineering	Mathematics
BS Biology	BS Agriculture	BS Agricultural Engineering	BS Mathematics
BS Molecular Biology and Biotechnology	BS Clothing Technology	BS Ceramic Engineering	BS Applied Mathematics
BS Chemistry	BS Computer Science	BS Chemical Engineering	BS Statistics
BS Agricultural Chemistry	BS Environmental Science	BS Computer Engineering	
BS Physics	BS Human Ecology	BS Electrical Engineering	
BS Applied Physics	BS Food Technology	BS Electronics and Communications Engineering	
	BS Forest Technology	BS Geodetic Engineering	
	BS Geology	BS Industrial Engineering	
	BS Information Technology	BS Management Engineering	
	BS Management of Information Technology	BS Mechanical Engineering	
	BS Management of Applied Technology	BS Metallurgical Engineering	
	Doctor of Medicine		
	Doctor of Veterinary Medicine		

A frequency table was created based on courses taken and the data was summarized. Results from Table 2 show that 88.5% of the PSHS-SMC alumni completed STEM courses with Engineering as top choice (28.5%) closely followed by science and technology courses (26.9% and 26.2% respectively). Math courses were chosen by nearly 6.9% of the graduates. Meanwhile, only 8.5% of the PSHS-SMC alumni chose non-STEM courses. A small percentage, 2.7%, of the PSHS-SMC alumni failed to complete a four or five-year college course. These results indicate that the PSHS-SMC alumni are taking courses that are found in CHED's priority programs.

Table 2. Frequency table of PSHS-SMC alumni in STEM and non-STEM courses

Courses Compeleted	PSHS-SMC Batch											
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Sum	%
Science	6	4	3	7	6	7	9	8	12	8	70	26.9
Technology	6	3	10	6	3	7	8	9	9	7	68	26.2
Engineering	2	7	9	7	7	6	9	9	6	12	74	28.5
Math	1	2	1	2	0	6	3	1	2	0	18	6.9
non-STEM	2	2	2	3	1	3	1	2	2	4	22	8.5
Non-grad	1	0	1	0	1	2	0	1	0	1	7	2.7
Deceased	0	0	0	0	1	0	0	0	0	0	1	

The STEM courses completion rate of PSHS-SMC alumni of 88.5% is more than three times as much compared to the data from CHED with 26% total enrollment in STEM courses. These data agree with the findings of Llenares & Deocaris (2015) who reported that schools providing strong background in science and mathematics are likely to motivate Filipino students towards science courses in the tertiary level. Department of Science and Technology (DOST) researchers Ogena, Lana & Sasota (2010) recognized that a country's economic stability is correlated with the quality of the high school graduates especially the ones with a strong background in science, mathematics and engineering. If the high completion rate of STEM courses serves as an indicator, then PSHS SMC is contributing to nation building and economic growth. When extrapolated to the contributions of all PSHS campuses across the nation, the PSHS is indeed a major contributor to the pool of the nation's scientists, technologists, engineers, and mathematicians.

In terms of universities attended, the University of the Philippines (UP) has been consistently chosen as almost 50% attended UP with UP Diliman as the most preferred campus followed by UP Los Banos (Figure 1). A recent addition to the list is UP Mindanao which began producing BSApplied Math graduates from Batch 1997. The other state colleges of choice include the nearby University of Southeastern Philippines which attracts PSHS-SMC alumni to its BSECE program, the West Visayas State University which is attractive because of this College of Medicine and the Mindanao State University which has strong programs in Engineering and Sciences. MSU-IIT which was chosen by only a small percentage of PSHS-SMC alumni yet it has produced board topnotchers among the alumni particularly in the field of Engineering.

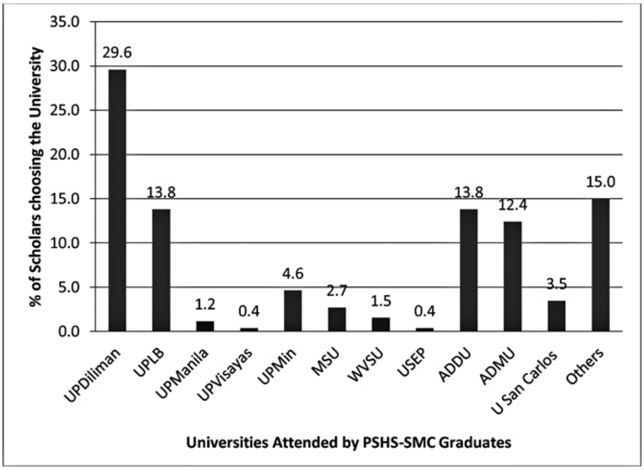

Fig. 1. Universities chosen by the PSHS-SMC scholars

Among the private universities, the Ateneo is most preferred by the PSHS-SMC alumni with the local university, Ateneo de Davao University (ADDU) as the top university of choice followed by the Ateneo de Manila University. ADDU has attracted the PSHS-SMC alumni with the BS Chemical Engineering program as the top choice while Ateneo de Manila University (ADMU) has been chosen for wider course offerings. ADDU has produced a good number of board topnotchers in its engineering programs from among the PSHS-SMC alumni. In the Visayas, the Cebu-based University of San Carlos is the top choice of the PSHS-SMC graduates.

Attendance to universities in Davao City is roughly at 20% with ADDU as the top choice and UP Mindanao a far second. The other universities and colleges attracting PSHS-SMC alumni in far smaller numbers are the University of Immaculate Conception and the University of Mindanao.

Data on Figure 2 show that a good percentage of PSHS-SMC alumni landed technical jobs (17.3%) and IT-related jobs (16.9%). Some have gone to the academe (12.7%) and some have become medical doctors (11.5%). The engineering profession has kept 8.1% of the alumni. Though trained in research, only 3.9% of the PSHS-SMC alumni have become researchers in their professional lives.

Comparing the percentage of non-STEM graduates and those in non-STEM professions, there are more alumni engaged in non-STEM professions

(22.0%) than there are non-STEM graduates (8.5%). This is because some of the STEM graduates have chosen to handle their family business. There are also STEM graduates who have shifted professions and became nurses and lawyers. Some have found satisfaction in other fields of work. Nonetheless, some of these alumni interviewed revealed that the strong foundation in science and mathematics have remained useful even in their present non-STEM related jobs.

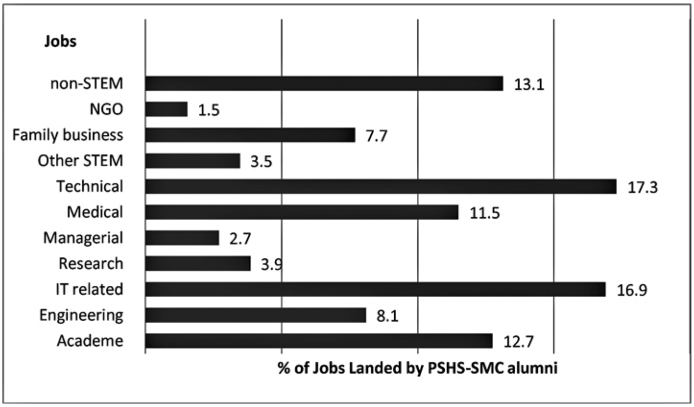

Fig. 2. Job landing PSHS-SMC alumni

As to the whereabouts of the PSHS-SMC graduates, Table 3 shows that majority (77.1%) remain in the country. This information is important as the PSHS is one of the government's strategic programs in increasing the country's S&T manpower program (About DOST, 2008). These data show that PHS-SMC is significantly contributing to the S&T manpower needs of the country. As more PSHS campuses are being established, its contributions to the roster of qualified S&T personnel will be more significant in the coming years.

The largest work sector of those remaining in the country are doing technical work. Examples of these kind of work are in manufacturing and in quality assurance. The next largest sector is in information technology where the alumni are engaged in software development and technology support services. Those who remain in the local academic community comprise 11.5%. This sector is aligned with the goals of DOST to increase science literacy, training and education of S and T personnel (About DOST, 2008).

The PSHS-SMC have also populated the United States, Australia, Europe, the Middle East, Africa, and other Asian countries. The sector that has the highest employment overseas is information technology. The IT professionals are mostly engaged in software development and technology-support. There are also alumni working for Microsoft and Facebook. This confirms the observations that STEM professionals are in demand globally and that STEM professions do not honor the barrier of race (Iowa State University of Science and Technology, 2010).

Table 3. Whereabouts of the PSHS-SMC graduates

Field	Local	Overseas
Academe	30	3
Engineering	15	6
Info Tech	31	13
Research	2	8
Technical	38	7
Medical	24	6
Managerial	7	0
Others	7	2
Family	18	1
NGO	4	0
Others	21	14
Unemployed	3	1
Total	199	61

Although PSHS-SMC has produced a very small sector of researchers, many of these researchers are based in the United States. It should also be noted that these are the graduates with PhD's particularly in the field of Chemistry. These means that the high-caliber people find more satisfying careers outside of the country – a clear case of missed opportunities for the Philippines where home-grown talents seek challenges elsewhere. It should be noted that the PSHS-SMC graduates are still young – in their late 30's yet there are already PhD graduates who are unfortunately working outside the country. This could indicate that the country does not have programs nor opportunities in place for its talented scientists. This also shows that more advanced countries attract high caliber people with STEM degrees for their economic advantage.

While PSHS appears to be successful in addressing its mandate by producing

S&T professionals, the government has to come up with concrete programs to harness these talents to its advantage in order to enable the Philippines to move towards technological competence. There should be programs and satisfying employment opportunities beyond PSHS. Aside from promoting the value of patriotism, the government should take concrete efforts to attract and keep its S and T human capital.

Conclusions

In summary, the findings of these study are:

1. Majority or 88.5% of PSHS-SMC graduates complete a STEM course.
2. Among the courses chosen, engineering courses are most preferred while mathematics courses are least preferred.
3. Public or state universities are most preferred with almost half of the scholars choosing the University of the Philippines System. Among private universities, the Ateneo de Davao is most preferred.
4. Technical jobs and IT-related jobs are two top sectors where PSHS-SMC graduates are most likely to be engaged in.
5. Majority (77.1%) of PSHS-graduates remain in the country, many of whom are engaged in STEM professions.

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 Print ISSN 1656-0604
Online ISSN 2244-6532

Reading Comprehension and Mathematical Problem Solving Skills of University of the Immaculate Conception Freshmen Students

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ABSTRACT

Students have difficulty solving mathematical problems. They have a hard time translating the problem into equation which resulted to their low grades. Thus, this study investigates the influence of the reading comprehension and problem solving skills of 115 first year students. The study made use of researcher-made questionnaires in reading comprehension and problem solving skills. Moreover, Pearson – Product Moment Correlation and Linear Regression were used as statistical tools. The results of the study revealed that the level of reading comprehension and problem solving of the students was average. And significance of relationship exists between reading comprehension and problem solving skills. This implies the importance of students needs to understand the problem before they can solve it. Furthermore, the best predictor to problem solving skills of the students was vocabulary.

KEYWORDS: Reading comprehension, problem solving skills, Davao City, Philippines

INTRODUCTION

Mathematics is fun and intriguing subject, yet students have treated the subject with complexities and confusion. Mathematics does not only involve numbers and symbols, it also involves natural thought and comprehension about the numbers and symbols laid out (Frensch & Funke, 2014). Reading Comprehension is the understanding of the words, context, and meaning and allows people to utilize the skills to read proficiently, learn effectively, solve problems, conceptualize, and also achieve success (learningrx, 2014). Moreover, strong comprehension skills rely heavily on cognitive foundation. On the other hand, it is believed that reading skills and computing go hand in hand in solving math problems and an edge in which students should possess (Murcia, 2010). Clearly, problem-solving is an important part in mathematics.

According to Morales (2006) mathematics word problems often pose a challenge since it requires understanding of the problem, identifying the question and creating and solving mathematical equation. Bautista, Mitchelmore and Mulligan (2009) also state that in learning mathematics, solving word problems poses challenges because many students are not proficient in the language. Students tend to solve problems quickly if presented with a numerical version rather than words; however, they may fail to solve word problems even though they can solve corresponding problems given in purely numerical format. Staple (2014) stated that the hardest thing in doing word problems is taking the English words and translating it into mathematics. Guerriero (2010) indicated three steps of problem - solving as comprehension, equation construction and computation, difficulties in one of these step had an effect on other steps. This was supported Vincent (2009) that word problem solving is being affected by a combination of comprehension, computation, and reasoning skills. Thus, deficiency in literacy skills could affect an individual's ability to solve problems (Murcia, 2012).

This study was based on George Polya's principles on problem solving. According to Polya there were four steps in solving the problem. First, understand the problem wherein there is a need to determine what information is given and restate the problem to make sure that facts are being understood. Second, devise a plan that means selecting the numbers and operations demanded by the problem or making a clear representation to the problem. Third, carry out the plan wherein there is a need to use the plan being constructed. Lastly, look back examine the result or solution to make sure the answer follows a logical step. It is observed by the teachers that the students know how to solve the problem if the given was given by the teacher, but the students fail to solve the problem if they were the ones to extract the given. Thus, this study will measure the level of reading comprehension skills of freshmen students and its influence on their problem solving skills.

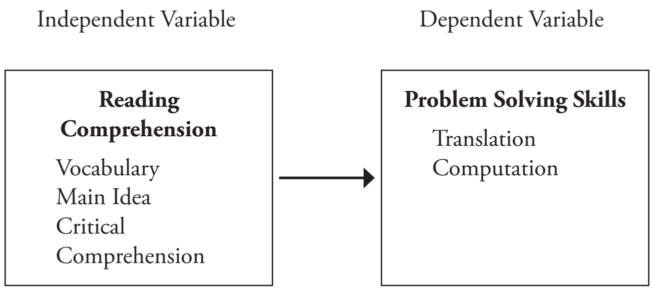

Figure 1. Conceptual framework

Reading Comprehension, as the independent variable, focuses on the level of understanding about words and context. It has three indicators: the vocabulary, which requires understanding of words using context clues; the main idea, which is the core concept in the context; and the critical comprehension, which is the identification of relationships between sentences. Problem-solving, as the dependent variable, is the ability of the individual in translating the problem into a mathematical model or equation as well as the ability of computing the exact value needed. According to Ara (2007) lack of adequate vocabulary was a barrier for children to attempt mathematical tasks, especially word problems.

Study Objectives. This study sought to identify the level of reading comprehension skills of freshmen students and its influence to the students' problem solving skills. Furthermore, determines which of the three categories of reading comprehension (vocabulary, main idea, and critical comprehension) significantly influence the problem solving skills (translation and computation) of the students.

METHOD

This is a quantitative study specifically, correlational design as it determined the relationship between reading comprehension and problem solving skills in mathematics. This was conducted in the University of the Immaculate Conception (Bonifacio St. Annex Campus) a private Roman Catholic university run by the Religious of the Virgin Mary (RVM) in Davao City. The University of the Immaculate Conception is one of the oldest universities in Davao City.

A total of 115 respondents from different programs were chosen as respondents of the study. Purposive sampling was used since only those students who enrolled in college algebra class were considered. On the other hand, random sampling since one class from the health's and allied courses, for Liberal Arts program, for Accountancy and Business Administration courses, and for Engineering and Information Technology courses were chosen as respondents.

The researcher used two types of questionnaire. The first questionnaire was composed of items related to reading comprehension compiled from Northshore Community College Learning Express 2010 and the Educational Testing Service book of the students. The second questionnaire was researcher-made which covers the prelim and midterm lessons of the students, these covered topics on Translation of Verbal Phrase into Algebraic Expression, Application to Ratio and Proportion, Application to Polynomials, and Application to Linear Equation in One Variable (Number Problems and Mixture Problem). Moreover, a table of specification was prepared to describe the topic to be covered and the number of items in each topic. Both questionnaires were validated by experts and have undergo item analysis and reliability test with a coefficient of 0.77 or 77%.

To interpret the data, the Pearson – product moment correlation Coefficient (r) was used to determine the degree of relationship between reading comprehension (independent variable) and the problem solving skills (dependent variable) and linear regression (r2) to determine which categories in reading comprehension (Vocabulary, Main Idea, and Critical Comprehension) significantly influences the problem solving skills. To describe the respondents' level of reading comprehension and problem solving skills, the given matrix was used.

Average Score	Description
81-100	Very High
61-80	High
41-60	Average
21-40	Low
00-20	Very Low

RESULTS AND DISCUSSION

Table 1. Level of reading comprehension of the respondents

Reading Comprehension	Average Score	Descriptive Interpretation
Vocabulary	58	Average
Main Idea	50	Average
Critical Comprehension	33	Low
Overall Mean	47	Average

Table 1 displays the average level of reading comprehension of the students. This means that the students have an average level in terms their skills in determining the meaning of the word (58) and in making inferences (50). The findings was similar to Redondo (2004) that majority of the students got average level in literal level where vocabulary belong. Critical comprehension got the lowest score (33), this means that the students were not into evaluating the relationship between sentences and the author's main purpose about the particular selection. Similarly, Tizon (2013) found that students' ability in making judgement and to give correct evaluation was poor.

Table 2. Level of problem solving skills of the respondents

Reading Comprehension	Average Score	Interpretation
Translation	69	Average
Computation	43	Average
Overall Mean	56	Average

Table 2 displays that the students have an average level of problem solving skills, this means that the students' problem solving skills is moderate. This implies that the students can translate the problem into an equation (69) and are somehow capable of solving it (43).

Table 3. Test for the significant relationship between reading comprehension and problem solving skills

Independent & Dependent Variables		r-value	p-value	Interpretation
Reading Comprehension (x)	Problem Solving Skills (y)			
Vocabulary	Translation	0.389	0.000	Significantly related
	Computation	0.340	0.000	Significantly related
Main Idea	Translation	0.316	0.001	Significantly related
	Computation	0.262	0.005	Significantly related
Critical Comprehension	Translation	0.234	0.012	Significantly related
	Computation	0.280	0.002	Significantly related
Overall Mean	Translation	0.402	0.000	Significantly related
	Computation	0.381	0.000	Significantly related
	Overall Mean	0.431	0.000	Significantly related

Table 3 shows that significance of relationship exist between reading comprehension and problem solving skills (0.000). This means that when the students are good in reading comprehension they can translate the problem into equation and can solve the problems. This was confirmed by Abedi and Lord (2010) that comprehension is a prerequisite step in solving word problems in mathematics. Imam (2010) also established that main idea was needed to solve math problems.

Table 4. Predictor of problem solving skills

Reading Comprehension	Problem Solving Skills	Standardized Coefficients	t-value	p-value	Decision on Ho @ 0.05
Vocabulary	Translation	0.293	2.977	0.00	Rejected
	Computation	0.236	2.354	0.02	Rejected
Main Idea	Translation	0.172	1.771	0.07	Accepted
	Computation	0.112	1.133	0.25	Accepted
Critical Comprehension	Translation	0.063	0.666	0.50	Accepted
	Computation	0.152	1.567	0.12	Accepted

Table 4 revealed that the significant predictor of problem solving skills is vocabulary both in the translation (0.00) and computation (0.00). This means that students needed to understand the problems so that they can solve the problem. However, main idea and critical comprehension is not a significant predictor of the students' problem solving skills. According to Ara (2007) lack of adequate vocabulary was a barrier for children to attempt mathematical tasks, especially word problems. Zepp revealed that vocabulary is one of the skills which significantly influence various problem solving abilities in mathematics.

Conclusion

The researcher concludes that the level of reading comprehension of the students is average. This means that the students' performance in reading comprehension is on the average level meaning they can understand the context but it is neither high nor low. However, the level of problem solving of the students is also average. This also means that the students can solve the problem correctly. Moreover, it was also revealed that the relationship between reading comprehension and problem solving skills is positive or has a positive correlation. Among the three categories of reading comprehension vocabulary significantly influence the student's skills in problem solving. This implies that when students can understand the words stated they can solve the problem.

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Print ISSN 1656-0604
Online ISSN 2244-6532

Humanities and Languages

Semiotic Concepts of Editorial Cartoons

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ABSTRACT

The study aimed to analyze the editorial cartoons of the broadsheet, Philippine Daily Inquirer, using semiotic concepts revealing the signs and the symbol/index/icon triad, reflected in the cartoons concerning the 2013 Presidential election. The editorial cartoons were obtained from the official website of Philippine Daily Inquirer (PDI). Editorial cartoons related to the May 2013 election were selected and were analyzed using Chandler's (2011) semiotic concepts on signs and symbol/index/icon triad. The semiotic concepts were utilized to reveal the meaning of the editorial cartoons. The analyses were checked and reviewed by experts.The editorial cartoons illustrate the Filipinos' perception of the election in relation to the concerns, anomalies and popular and the infamous personalities involved which have been the cartoonists' medium to freely mirror the views of the common folks. In light of the 2013 election, the signs that circulate within the society and which the society formed were in majority attacking the issue of the Philippines' struggle toward a clean and honest election.

KEYWORDS: Semiotic concepts, editorial cartoons, signs, symbol/index/icon triad, election

INTRODUCTION

A picture is worth a thousand words (Mesina & Recio, 2012). For this reason editorial cartoons play an important role in a newspaper. It is a social, political, and economic monitor of the occurrences in the country and the world reflecting the scene from the cartoonist's surroundings (Lawate, 2012). The currency and the conveyed message of an editorial cartoon is what differs them from the other caricatures in the newspaper. "A cartoon is a drawing, representational or symbolic, that makes a critical, witty or humorous point (Low, D. and W., 2000)." Further, it was indicated that cartoons trace back their history from the era of Reformation as a means of argument and ridicule.

The means by which editorial cartoons are expressed are signs. Signs in a linguistic point of view are anything that conveys a message: words, images, gestures, voices, and even thoughts. Signs do not only portray meaning, but they also offer ideologies, worldviews, and lifestyles. "Anything can be a sign as long as someone interprets it as signifying something – referring to or standing for something other than itself" (Chandler, 2011). The meanings of signs are socially constructed and likewise construct the society. The election period was a particularly influential and well-noticed event in the society. Such an event has great impact on how a society views various signs. This event was evidently a great influence on how signs are used and on howthey are given meaning in editorial cartoons. The study has revealed how elections affect the use and meaning of signs and the symbol/index/icon triad in editorial cartoons to depict the certain event. The main objective of the study was to analyze and reveal the meaning of editorial cartoons using semiotics.

METHOD

The qualitative research design was used to analyze the meaning of editorial cartoons through Chandler's (2011) semiotic concepts: signs and the symbol/index/icon triad. The materials utilized in this study were the editorial cartoons in the newspaper daily, the Philippine Daily Inquirer. The editorial cartoons gathered were related to the election period in the Philippines from January to June 2013 and were taken from the official website of the Philippine Daily Inquirer.In gathering the data, the availability of newspaper dailies was utilized from the official website of the newspaper, the Philippine Daily Inquirer. After the editorial cartoons were obtained, the data were analyzed through the semiotic concepts: signs and the symbol/index/icon triad of Chandler (2011) present in the cartoons. The analyses were peer reviewed by experts.

RESULTS AND DISCUSSION

Semiotic Concepts: Signs (signifier and signified)

The analyses conducted in this study concerning the signs were based on Ferdinand de Saussure's definition of a sign, composed of a signifier and a signified. This dyadic concept is made up of the form which the sign takes (signifier) and the concept it represents (signified). A sign is a distinct combination of a signifier with a particular signified. The signifier is the form whether a picture or a letter forming a word as long as it is the 'material' element that serves as the representation of a person's sensory. On the other hand, the signified is the concept in mind. It is referred to as the notion of the thing and not the thing itself (Chandler, 2011). De Saussure's concept of a sign means that the signifier is the representation and the signified is the meaning behind that representation.

The signifiers in these editorial cartoons were identified as primary, secondary and tertiary signifiers based on its level of importance or impact in the cartoon. This was based on the main characters of the editorial cartoon on which the theme was focused. These signifiers are considered primary because they are the main object of the editorial cartoon while the secondary signifiers support the primary signifiers. The tertiary signifiers, then, tie the primary and secondary signifiers, establishing relationship among the signifiers. The cartoonist drew the primary signifiers as 'foregrounds.' Chandler mentioned Leymore's (1975) idea of figure and ground which states that selective perception allows 'foregrounding' and 'backgrounding' dominant shapes or figures. The figure or 'foreground' was considered as the primary signifiers while the ground or 'background' images and texts are referred to as secondary and tertiary signifiers. Thus, this creates the format of primary, secondary and tertiary signs in the analyses.

The signifiers were identified the way they are found in the editorial cartoons, often in capitalized and bold form. Several of the signifiers have signifieds or meanings similar to their form (signifier) because of how they are utilized in the editorial cartoon. Also, the 'the' article is often used in the signifieds (meaning) of the sign for the reason that it provides distinction. When 'the' is used, the reader or audience is instructed to locate the object being referred to in the same shared mental set of objects. The instruction to locate this object has a situational-cultural, a textual or structural basis (Hawkins, 1975 as cited by Murcia & Freeman 2010). In the analyses, the article 'the' has structural relationship with the signifier. It points out to the audience that the signifier being referred to is the one that can be seen in the editorial cartoon.

These concepts were applied in the analyses of the following editorial cartoons found in Table 1.

Table 1. Signs (signifier and signified) in editorial cartoons.

Editorial Cartoon Plate:	Primary Signifiers	Signified
1	ORGANIZED CRIME GROUPS, PRIVATE ARMED GROUPS, CRIMINAL GANGS and POLITICAL RIVALS	The different armed groups
2	MEDIA	The media group
	CORRUPTION	Corruption
3	NO TO POLITICAL DYNASTIES	Opposition to political dynasties
4	COMELEC	Comm. Sixto Brilliantes represents the COMELEC
	PCOS MACHINE	All PCOS machine used in the election
	2010 FAILURES AND ERRORS	The previous election's failures and errors
	FRAUD	Fraud
5	PROCLAMATION RALLY ELECTION 2013	President Aquinos' grand proclamation rally for senatorial candidates
6	COMELEC	Comm. Sixto Brilliantes represents the COMELEC
7	EPAL POLITICIANS	Politicians who campaigned prematurely
8	DEMOCRACY	Democracy in the Philippines
9	POLITICAL DYNASTIES	The political dynasties in the Philippines
10	FAKE MONEY	Vote-buying

Plate 1. The primary signifiers in this editorial cartoon areOrganized crime groups, Private armed groups, Criminal gangsand Political rivals, which are written all over a pair of legs with big guns hanging on its side. All of these serve as a single signifier for the different armed groupspresent in the country. According to the Philippine National Police (PNP), they were monitoring 86 private armed groups (PAG) based on their surveillance maps which were dated from September 15, 2011 to January 31, 2012. Most of these private armed

groups were under politicians. Being stepped on by one of the feet of the armed groups is the secondary signifier, which is a poster saying Gun ban. The government has implemented a gun ban during the election to avoid violence especially among the politicians, citizens and other people involved.The tertiary signifier is COMELEC checkpoints personified by a man with only two guns. Following its gun ban campaign, the COMELEC designated checkpoints in the country as stated in Section 1 of Resolution No. 9588,

"**Comelec checkpoints.** – There shall be at least one COMELEC checkpoint in each city/municipality. However, additional checkpoints may be established at the discretion of the highest ranking official of the Armed Forces of the Philippines (AFP) or the Philippine National Police (PNP)."

This resolution was promulgated on December 18, 2012 by the COMELEC for a peaceful and orderly election.

Plate 2. In this editorial cartoon, the primary signifier is Media. It signifies the media groups who covered the election. It is depicted through the image of a man wearing long-sleeved polo while facing a computer. The media is comprised of the television companies, radio stations and also the print. Corruption, another primary signifier, has been one of the major problems in the country which was supported by the Corruption Perceptions Index conducted by Transparency International. The Philippines ranked 34 from a scale of 1 to 100 with 100 being very clean (Salaverria, 2012). Corruption has been depicted in many ways but the most popular is that of a crocodile. The crocodile that was labeled Corruption has placed itself inside the man's clothes. This portrayal signifies that corruption has been involved media in its endeavors. As the editorial cartoon illustrates corruption has made its way to the media, and it is being a great influence in the media's involvement during the 2013 election.Polls 2013 is a secondary signifier in this editorial cartoon. Taking from its linguistic meaning, it refers to the polls cast by the voters during the 2013 election. It only refers to the votes but not to the tallied results. The image of Polls 2013 on a computer also signifies that the votes cast in 2013 are being tallied through the use of the computer. It implies the computerized election the country has been experiencing since the 2010 election. In addition, Media organizations& Political parties labeled on two arms signifies the groups involved during the election. This is also a secondary signifier. There are many media organizations and political parties who are monitoring the process and results of the election. Another secondary signifier, Ethical practices and covenants labeled on a long sicklerefers to the ethical practices agreed upon by the media organizations and political parties. The media organization and

political parties are patronizing and encouraging the compliance of the ethical practices and covenant among the groups involved during the elections. Prior the 2013 May election, media organization and political parties signed the "Covenant against Media Corruption 2013." The covenant encloses that the political parties and journalists would collaborate with each other to avoid bribery and any form of corruption (Buenaobra& Reyes, 2013).Though subtly placed, the ₱ signifies money. The presence of this sign indicates that the media has been involved in the election to get money because of the influence of corruption.The ₱ sign is a part of another signified, a humongous bag, on which the man and the crocodile sit. This signifier implies that the polls of 2013 and the media are based on the money that circulates in the situation. Hedman (2010) stated that the poverty and the economic insecurity present in the Philippines has made the majority of the people vulnerable to clienteles, coercive and monetary incentives and pressure during election. This created an arena for fund-raising which benefits the politicians while they utilize resources to stay in position. The editorial cartoon implies the role of money during election.

Plate 3. NO to political dynasties is the primary signifier in the third editorial cartoon. It signifies the desire to oust political dynasties in the country and end their glorious reign. The image of the placard strikes away the figures of people wearing fancy clothes. This group of people implicitly refers to the political dynasties wherein they are portrayed in the cartoon as people from different ages. The cartoon illustrates the idea of putting away political dynasties from their seats in the government.The secondary signifier is Bishops, which signify the church leaders making their comments and critics concerning the issues in the country. The bishops and other church leaders in the Philippines have voiced their political perceptions. In a pastoral letter issued on January 29, 2013, the Catholic Bishops' Conference Philippines (CBCP) denounced political dynasties saying that political authority is to be implemented for the good of the country and not singularly for private and family benefits (Doronila, 2013). The editorial cartoon's depiction is an implication that the church leaders are patronizing their stand against political dynasties.

Plate 4. Labeled on the barong of a man, COMELEC is one of the primary signifiers which represents the COMELEC itself. The image of the COMELEC chairman is used to depict the entire committee. The man was saying, "Minor glitches." It is a secondary signifier, which indicates how the COMELEC tries to assure the public that there are only minor glitches during the elections. The

COMELEC conducted a mock election last February 2, 2013 in preparation of the incoming senatorial election. COMELEC chairperson SixtoBrillantes Jr. guaranteed that there were no major problems with the PCOS machines (Tubeza, 2013). Lying behind the man, the primary signifier PCOS machineis labeled on a machine along with the secondary signifiers Missing chips, Conflicting voters list, Failure to read ballotand Paper jam on pieces of paper and Transmission problemson a stink. These signifiers indicate that many errors concerning the PCOS machine were encountered during the election. It simply means that numerous errors such as missing chips, conflicting voters list, failure to read ballot and paper jam have been encountered in the election process.From a heap of rubbish, another primary signifier is written as 2010 Failures and errors. The situation implies that the COMELEC was unable to improve the process of election from the past and learn from it. The flaws of 2010 election: missing chips, conflicting voter's list, failure to read ballots, paper jam and transmission problems, were indicated on the "Incident Reports on the May 10, 2010 Automated Elections" by the Europe Union – Center for People Empowerment in Governance (EU-CenPeg) (2010). The editorial cartoon suggests that there are no significant differences from the previous automated election in the Philippines. Another primary signifier is presented by a figure of the head of a giant man named Fraud overlooking the whole chaos while saying "OK!" which is a secondary signifier. This signifies that glitches and mishaps during the election would encourage fraud. In summary, the editorial cartoon depicts that the major glitches encountered during the 2010 election will be replicated in the coming 2013 senatorial election.

Plate 5. Just like a grand carnival with all the confetti, balloons and gimmicks, the Proclamation rally, Election 2013, the primary signifier, implies that the politicians hold these events with such magnificence in order to attract and excite voters to their own benefit. February 12, 2013, the day before the editorial cartoon was published, President Aquino endorsed the 12 senatorial candidates from Team PNoy in a grand proclamation rally in Plaza Miranda (Musico, 2013).A secondary signifier, Promises is uttered by the ring master of the proclamation rally. Promises are the words they utter of how they would try to improve the state of living of the voters in order to gain more votes. During the grand proclamation rally, Team PNoy directly asked the electorate to vote for the entire team to sustain and accomplish the current administration's vow on improving the country's state. Thus, this is explicated in the editorial cartoon.

Plate 6. The primary signifier of this editorial cartoon is COMELEC which is marked on the forehead of a man desperately trying to fix a machine. This implies that the COMELEC is having a difficult time in handling situations during the election with the PCOS machines.Among of COMELEC's many problems is the malfunctioning of PCOS machines. This is signified by the words PCOS machine, a secondary signifier, referring to the machine whose knots and bolts are flying around. It is an exaggerated description of a malfunctioning PCOS machine.COMELEC also says the tertiary signifier "This is all media's fault!" Chief Chair SixtoBrillantes Jr. blames the Automated Election System Watch (AEA Watch) and Center for People Empowerment in Governance (CenPeg), two media watchdogs, for sowing mistrust and sabotage on the May 2013 polls (Crisostomo, 2013). The editorial cartoon thus implies that the COMELEC blames the media for the confusion brought about the PCOS machine.

Plate 7. Epal politicians suggests that there are politicians who desperately seek attention. It is the primary signifier in this editorial cartoon. The politicians referred to stick out posters in inappropriate places and outside the allocated time of campaigning. For the desire of winning the elections, they become attention-seekers and lawbreakers. In response, the secondary signifier, COMELEC, which is labeled on an arm holding a long sickle, is ready to implement the just punishment. With the long sickle referring to Disqualification, the tertiary signifier, it tears apart the posters and also the chances of winning for the politicians. COMELEC warns candidates to remove all premature propagandas and advertisements. All of these propagandas and ads are to be removed before the official campaigning which starts on February 12, 2013 for national candidates and March 29, 2013 for the local candidates or else the violating candidates will face disqualification or imprisonment (Santos, 2013). Therefore, the editorial cartoon exemplifies that the COMELEC would readily disqualify the politicians who campaigned prematurely for the May 2013 election.

Plate 8. As the primary signifier, Democracypersonified through a young tree with few leaves and a bird perching on one of its branches indicates that democracy in the Philippines is young and still growing.According to the editorial cartoon, one of the factors in protecting democracy is Good governance which is a secondary signifier in the editorial cartoon. In relation to that, a traditional image of a Filipino boy puts up the fence on which Good governance is labeled. This image signifies the Filipino people. Thus it suggests that the responsibility of the Filipino people to protect the country's democracy through good governance.

Aside from good governance, the editorial cartoon suggests that democracy flourishes when there is a Clean&honest elections, another secondary signifier, as written on a watering can held by a Filipina dressed in traditional clothing. The editorial cartoon suggests that democracy would thrive if the country has clean and honest elections. In contrary, A Comparative Survey of Democracy, Governance and Development conducted in Asia states that the Philippines lack education on democratic legitimacy, the freedom of implementing laws within due process, and thus creating an instable government. This contradicts the editorial cartoon's depiction of democracy as the basis of good governance (Chu& Huang, 2009). In addition, Thompson (2007) states on the article The Dialectic of "Good Governance" and Democracy in Southeast Asia: Globalized Discourses and Local Responses that adhering toward the advent of 'good governance' by means of democracy yielded instability and political unrest in Southeast Asia, including the Philippines, due to money politics and populist challenges.

Plate 9. Political dynasties marked on a rather odd-looking man with a crocodile tail, messy hair, pointy shoes, a nose with hands holding candies and balloons while his two hands were playing a guitar is the primary signifier in this editorial cartoon. It signifies the political dynasties in the country who were trying to buy some votes. The kiddy stuff, especially the balloon, was labeled Political promises which is a secondary signifier, indicating the sweet talks and words declared by these political dynasties to bribe with the people. Playing the guitar also implies that the political dynasties try to sing people out in order to sell themselves to the public. These signifiers indicate that the political dynasties resolve to every possible trick in order to stay in their positions.The editorial cartoon also presents two little boys playing with few toys through the tertiary signifierImmature voters, the tertiary signifiers, who were taking a look at the kiddy stuff being offered to them by the odd-looking man. The editorial cartoon suggests that immature voters are the possible victims of political dynasties.

Plate 10. Fake money is the primary signifier in this editorial cartoon which is labeled on one of the numerous peso bills falling from the sky. The signified of the primary signifier is vote-buying which, as the editorial cartoon suggests, occurs during the Election 2013, the secondary signifier.Vote-buying has been reported as a recurrent act of politicians during Philippine elections as reported of its occurrences in Lanaodel Norte and Misamis Occidental last May 2013 ranging from 1,000 – 1,500 pesos for a vote for the entire party of local politicians (Rosario, 2013). To add to that, National Citizens' Movement for Free

Elections (Namfrel) reported that candidates are offering bribe from 100, 2,000, 3,000 to 3,500 pesos in Tawi-tawi, ZamboangaSibugay, Ilocos Sur and Ilocos Norte respectively. Meanwhile, Senator Juan Ponce Enrile's bailiwick had been said to offer 1,000 to 5,000 pesos for votes. In Aurora, voters were offered with 1,200 pesos to vote for candidates in political dynasties. Whereas in Cagayan and Ilocos Norte, candidates were said to go house to house, offering as much as 1,000 to 1,500 pesos per person (Tubeza, 2013). These were only a few of the vote-buying incidents during the May 2013 election.

Symbol/Index/Icon Triad

The symbol/index/icon triad is based upon Pierce's (1867) perception of a sign which was cited by Chandler (2011) in his semiotic concepts. Initially, he define symbol as a form of a sign that is conventionally used and is given meaning by the means of habit, for example linguistic symbols such as letters. Meanwhile, a sign perceived as an index depends upon association by contiguity which means that resemblance to the object it represents is not necessary but it reflects what it does, is or has. Lastly, an icon is a replication of an entity mainly by its similarity. However, there are no 'pure' icons considering that a part of something resembling its real form is also an icon.

Chandler incorporated de Saussure's term of signifier and signified with the Pierce's theory wherein he employed the use of the signifier bearing the symbolic, indexical and iconic characteristics. This was applied in the analyses of the editorial cartoons wherein the signifiers were also classified according to its primary, secondary and tertiary importance in par with Leymore's (1975) idea of figure and ground.Thus, these are the premises of which the editorial cartoons are analyzed as shown in Table 2.

Plate 1. The primary signs Organized crime groups, Criminal gangs and political rivals are symbols since they are conventional signs for the words. These signs are symbolic because of their linguistic use in the context. At the same time, Organized crime groups, private armed groups, criminal gangs and political rivals labeled on a pair of legs with guns hanging around are also iconic. The pair of legs and the guns makes the signs iconic because although these don't actually represent all of the various crime groups, it somehow presents how they are armed with many weapons. Thus, this primary signifier is both symbolic and iconic.As with the secondary sign, Gun ban, it possesses the triadic characteristic of a sign. Gun ban is symbolic, indexical and iconic. It is symbolic because of

the use of letters as conventional signs spelling out GUN BAN. Written on a signpost that was stepped on, the sign becomes indexical because it implies the effect of the reaction of the armed groups toward the gun ban – disrespect and noncompliance. The sign is also an icon because it represents what a gun ban notice would look like when announced through a signpost.COMELEC checkpoints is the tertiary sign which is symbolic, indexical and at the same time iconic. Similar to the reasons behind the symbolic trait of the previous signs, the words COMELEC checkpoints are conventional symbols for the reason that they are used linguistically. The indexicality of the sign is indicated through its relationship with the gun ban. Since there is a gun ban, the COMELEC has to put up checkpoints to ensure the implementation of the law. The sign is iconic through depiction of the COMELEC checkpoints in the form of a man with two guns on its waist. As there is not a sign which is a 'pure icon,' the image somehow represents the officers in charge of the COMELEC designated checkpoints. In summary, the sign COMELEC checkpoints illustrates the triadic characteristic of a sign.

Table 2. Symbol/index/icon triad classification in editorial cartoons.

Editorial Cartoon Plate:	Primary Signifiers	Symbol/Index/Icon
1	ORGANIZED CRIME GROUPS, PRIVATE ARMED GROUPS, CRIMINAL GANGS and POLITICAL RIVALS	Symbol & icon
2	MEDIA	Symbol & icon
	CORRUPTION	Symbol & index
3	NO TO POLITICAL DYNASTIES	Symbol, index & icon
4	COMELEC	Symbol & icon
	PCOS MACHINE	Symbol & icon
	2010 FAILURES AND ERRORS	Symbol & index
	FRAUD	Symbol & index
5	PROCLAMATION RALLY ELECTION 2013	Symbol & icon
6	COMELEC	Symbol & icon
7	EPAL POLITICIANS	Symbol, index & icon
8	DEMOCRACY	Symbol & index
9	POLITICAL DYNASTIES	Symbol & index
10	FAKE MONEY	Symbol, index & icon

Plate 2. The primary signs in this editorial cartoon are MediaandCorruption. Media is a sign which displays two of Pierce's triadic approach to a sign. It is both symbolic and iconic. Since it uses letters of the alphabet, Media is symbolic in nature. Whereas it is iconic because the image in which it is presented is that of a man working in front of the computer. This is quite analogous to what the media is doing. Thus, this particular sign is both a symbol and an icon. On the other hand, Corruption possesses the two features of the triad. The sign is symbolic because it is a conventional sign. It is, however, also symbolic in another aspect that it is depicted through the image of a crocodile. A crocodile in the context of Philippine politics is a person who is gluttonous for fortune or fame, emphasizing that it is greedy and selfish. Thus, it is a fitting way to depict the sign Corruption. In a way, it is indexical for the reason that it has placed itself inside the coat of the man marked as Media. This supports its indexical characteristic because of the fact that it is so greedy for power that it has leaked its way inside one of the most powerful aspects in society – media.One of the secondary signs in this editorial cartoon, Polls 2013, is symbolic, indexical and also iconic. Polls

2013 is symbolic through the use of conventional letter signs similar to the previous signs discussed. It is indexical in a way that the sign is labeled on a computer. This means that the Polls of 2013 are processed and tallied through the use of computer. It is an index because it displays a relationship between two things that consequently affect each other. Also, Polls 2013 is iconic for the same reason that it is labeled on a computer but for the meaning that it represents the votes cast during the election which is implicitly understood in the cartoons.Media organizations & political partiesandEthical practicescovenant are also secondary signs. Both of them are symbols for being conventional signs as letters. However, Media organizations& political parties is an icon in that the conventional signs (the letters) were inscribed on two arms. These arms are a representation of the different and diverse media organizations and political parties involved in the elections. In contrast, Ethical practices covenant is indexical in trait because it is a result of the involvement of these said groups during the election period. Another aspect of its indexicality is the image on which the conventional signs, Ethical practices covenant, were labeled on a long sickle. The long sickle tries to pull away the crocodile marked with the primary sign Corruption from the other primary sign Media. This implies that the Ethical practices covenant illustrates the effect of the participation of media organizations and political parties to the corruption in media. Thus, the sign possesses an indexical attribute.A tertiary sign in the editorial cartoon, ₱ is a sign that possesses the three attributes of the sign. It is symbolic because it is the sign for the Philippine peso. It is implicitly comprehended as the sign for money in the cartoon which makes up for its symbolic character. The ₱ is at the same time indexical in nature because whenever this sign is present it implies wealth which is also depicted in the cartoon as a big bundle of money on which the man and the crocodile is seated on. Its iconic attribute is its exact representation on what appears on Philippine peso coins thus referring to money. All in all, the ₱ sign is symbolic, indexical and iconic.

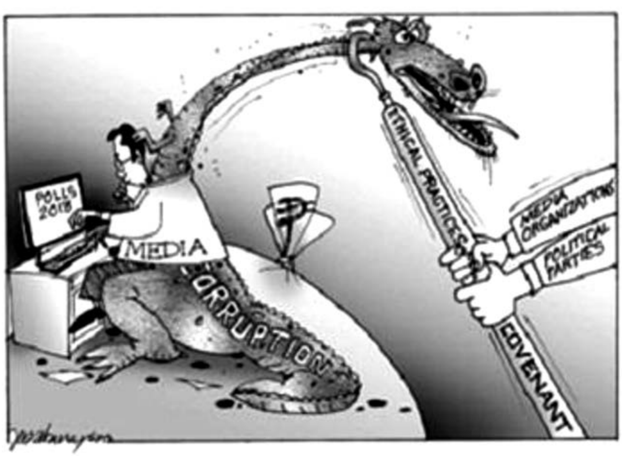

Plate 3. “NO! to political dynasties” on a placard is the primary sign in this editorial cartoon which has three triadic attributes of Pierce’s definition of a sign. It is symbolic because it is an alphabetical conventional sign as most of the signs have been. Aside from its symbolic nature, it is also indexical. This is for the reason that the particular sign indicates the resistance of the people against political dynasties. It implies a relationship between the idea and the action taken of those who are opposing. The hitting of the placards on the group of people, another secondary signifier, which are implied as the political dynasties is an effect of the people’s disapproval of their stay in the government. At the same time, it is an icon because the sign “NO! to political dynasties” which is written on the placard replicates the placards being raised by protesters during rallies against such politicians. Hence, the primary sign possesses the three attributes of the triad.The secondary sign, Bishops, is a symbol as well as an icon. The symbolic nature it possesses is derived from its characteristic of being a conventional sign. Its iconic trait is illustrated through the hands outstretched holding the placard. Though it is not an accurate representation of the bishops, the sign implies the association of the church leaders in the editorial cartoon.

Plate 4. One of the primary signifiers in this editorial cartoon is COMELEC, which is symbol and at the same time an icon. Used as a linguistic sign, it possesses the symbolic character of the sign. Marked on a man, it becomes iconic. The man used to depict the sign is COMELEC chairperson SixtoBrillantes. In this wise the sign gains its iconic attribute. Illustrating the commission of which he is the head, COMELEC chairperson SixtoBrillantes represents the sign, COMELEC, in denying the obvious errors experienced during the elections while uttering the secondary sign, "Minor glitches."Minorglitches is a sign which has both the symbolic and indexical attributes of the triad. It is symbolic because it is used as a conventional sign pertaining to the alphabet. In addition, it possesses the indexical nature because it implies the effect between the flaws and glitches present in the elections and the COMELEC's denial. Summing it up, declaring that there are only minor glitches pertains to the indexical trait of the sign since it creates the connection between the denial and the COMELEC. Thus, the sign possess both symbolic, indexical and iconic nature. Another primary sign in the editorial cartoon is PCOS machine which is symbolic as well as iconic. Apparently, it is symbolic through the means of its conventional attribute as a sign in forming the word creating no connection and similarity between the linguistic symbols (letters) and the actual thing. On the other hand, PCOS machine is iconic for the reason that the sign is inscribed on a machine which is analogous to the real PCOS machine utilized during the election. The portrayal of the PCOS machine infuses the sign with its iconic attribute giving it a duel nature. Aside from the primary sign, PCOS machine, a secondary sign is also labeled on the image of the PCOS machine which is Missing chips. This sign also has a dual nature. It is both symbolic and indexical. It is symbolic for the apparent reason of being a conventional sign and indexical for the reason that it establishes the relationship between the faults and mistakes during the election and its association to the PCOS machines. Missing chip would indicate that there are some anomalies going on concerning the votes and the PCOS machines whose chips went missing supports the indexical characteristic of the sign. In addition to that, there are also papers inserted and going out of the PCOS machine on which several secondary sign are inscribed: Conflicting voter's list, failure to read ballotand paper jam. These sign possess the three attributes of a sign. They are all used as conventional sign thus making them symbolic. Also, these signs are indexical because these exemplify the connecting glitches experienced with the PCOS machines. Then, these signs are iconic because they are labeled on paper which is the actual objects for the said signs. Moreover, another primary sign present in the editorial cartoon is 2010 Failures and errors which was written all over a heap of rubbish. This sign is symbolic and at the same time indexical. Clearly, its use as a linguistic sign gives it its symbolic nature

because linguistic sign are always conventional signs accepted by the society as a general idea. It acquires its indexical nature through the signs depiction. Since it is labeled on a heap of rubbish, it is implicitly understood that the failures and errors of the 2010 election is associated with a garbage dump. Being emitted from the heap of rubbish is a stink labeled as Transmission problems which is a symbolic and indexical sign also. Just as most of the prior symbolic signs, Transmission problems possess its symbolic nature because it is a linguistic sign. Then, it is indexical as its depiction of a stink illustrates effect. The sign implies that it is an effect of the rubbish or rather the failures and errors of the 2010 elections. This means that after the 2010 elections the stink or the secrets behind its failures came out revealing it to be transmission problems. The final primary sign in this editorial cartoon is the image of a giant head of a man labeled as Fraud. The image of the giant head implies the sign's indexical trait for the reason that consequences of fraud in the election would result to great impact and enormous issues. On the other hand, the sign acquires its symbolic nature through the means of using it as a conventional linguistic sign. Uttered by the giant head of Fraud, the secondary sign, "OK!" is of symbolic and indexical. The use of the sign as a conventional sign in language yet again gives it its symbolic nature. Whereas the relationship between fraud and the occurrence of election failures and errors causes the effect of encouragement and a delighted expression "OK!" among those who wanted to commit fraud.

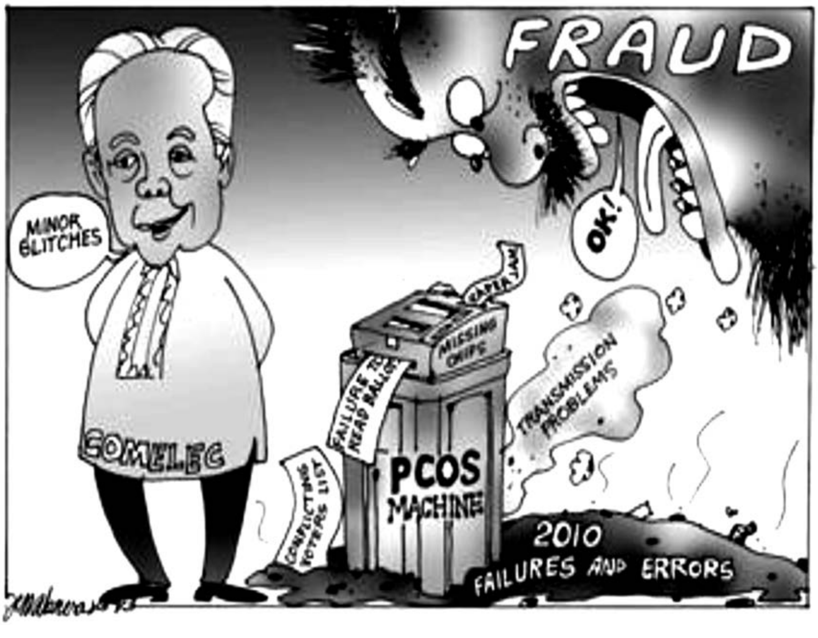

Plate 5. The primary sign in this editorial cartoon is Proclamation rally, Election 2013 which has the symbolic and iconic attributes of a sign. The sign possesses its symbolic nature through its use as a linguistic sign; it is iconicbecause of its presentation as an event similar to that of a circus. The cartoon tries to illustrate the proclamation rallies held by the politicians which are in no doubt grand and seems to look like a carnival. Marking the illustrated event in the editorial cartoon as Proclamation rally, Election 2013 makes the sign iconic. The secondary sign in this editorial cartoon is the ring leader of the circus. It is a symbolic sign for the reason that it symbolizes the politicians who lead the proclamation rallies during the elections. Just like the ring leader or circus master, the politicians are the ones who control and organize the events that happen during a proclamation rally. Thus, the sign possesses a symbolic nature.Moreover, the circus master of the event was saying the tertiary sign "PROMISES" which is a symbolic as well as an iconic. For its use as a linguistic sign, "PROMISES" is considered to have the symbolic attribute of a sign. Being said by the circus master or rather the politician, the sign emphasizes the relationship between the promises being said and the occasion. As it is implicitly understood by the society, politicians try to impress their audience during proclamation rallies in order to gain more possible voters to their side. In this way, "PROMISES" showed its symbolic and indexical attributes.

Plate 6. COMELEC is the primary sign in this editorial cartoon which is both symbolic and iconic in its attribute. Once more, the sign's symbolic nature is through its conventional use as a linguistic sign. Also, just as one of the previous editorial cartoons, the sign is iconic because it is labeled on the forehead of a man analogous to that of COMELEC Chairperson SixtoBrillantes. Depicting the COMELEC, through a figure similar to his physical features, results to an iconic sign. Therefore, COMELEC is a sign which pertains to the symbolic and iconic attributes of the triad. A secondary sign, PCOS machine is also a symbol and an icon. Again, its symbolic nature is attributed through its utilization as a conventional sign in the alphabet thus a linguistic sign. The reason behind its iconic trait is that it replicates the actual image of a PCOS machine. Therefore, it is clearly seen that PCOS machine is a symbolic and iconic sign.The tertiary sign in this editorial cartoon are the words uttered by COMELEC which is "This is all media's fault!" This sign is both symbolic and indexical in nature. Similar to most of the signs in this study, "This is all media's fault!" is a symbolic sign due to its conventional use as a linguistic sign. On the other hand, the sign has also an indexical attribute for the reason that it is what the COMELEC said after not being able to repair the malfunctioning PCOS machine. In other words, putting the blame on media because of its inability to fix the machine gives the sign an indexical attribute. In summary, the tertiary sign of this editorial cartoon is indexical which depicts the reaction of the COMELEC to the issue of the malfunctioning of the PCOS machine.

Plate 7. Labeled on a poster with the face of a person, Epal politicians is the primary sign in this editorial cartoon which possesses the triadic characteristics of a sign. The sign is evidently symbolic because it is used as a linguistic sign as most of the symbols in the discussions have been. Epal politicians is also indexical for the reason that it is the result of what politicians are called for being attention-seekers. It is indexical because it relates the relationship between the politicians' actions and what they are called. Moreover, the sign is iconic since it is written on a poster which indicates that the posters and fliers propagated by the politicians replicate the ones in the editorial cartoon.COMELEC, the secondary sign in the cartoon exhibits the symbolic and iconic attributes. For the reason of being a conventional sign, COMELEC is a symbol. It possesses the iconic characteristic since the words COMELEC is inscribed on the arms of a person. Being on the arms implicates that it represents that department of the government responsible for the nation's election processes. Thus, the sign have both symbolic and iconic characteristics. The tertiary sign in the editorial cartoon is Disqualification which is marked on a long sickle held by the arms on which COMELEC is inscribed. This sign has the symbolic and indexical attributes of the triad. Just like the other signs, the symbolic attribute it possesses is through its utilization as a conventional sign toward the forming of a word. Furthermore, the sign Disqualification is indexical in view of the fact that it is a result of the inappropriate time of publishing of posters by the politicians. Hence, Disqualification possesses both the symbolic and indexical characteristics of a sign.

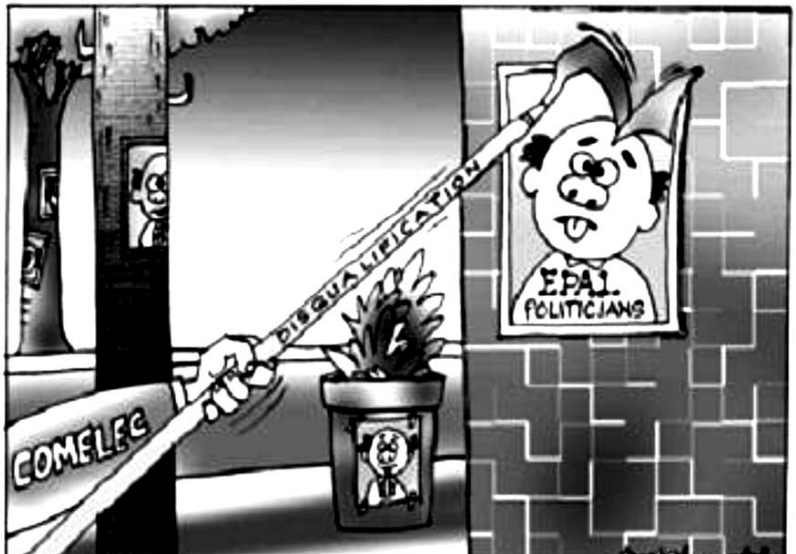

Plate 8. In this particular editorial cartoon, Democracy, the primary sign, possesses the symbolic and indexical trait of a sign. Used as a linguistic sign, it is applied as a conventional sign, thus a symbol. On the other hand, it is also an index for the reason that Democracy is inscribed on a budding tree, characterizing it as young. The indexicality of the sign implies the connection between democracy and the tree which are still both developing and growing. There are two secondary signs in this editorial cartoon. One of which is a boy putting up a fence. This boy in particular is iconic and what he is doing is indexical. The boy is iconic since it is similar representation of a common Filipino with his sombrero and typical Filipino farmer get-up. Yet, this sign is also indexical for the reason that the boy is trying to put up a fence around the tree labeled as Democracy. The indexical insinuation of the sign depicts the love of the Filipino people for the democracy of the country. For this reason, he is protecting Democracy by putting up a fence around it. The action illustrated in the editorial cartoon is the implied indexicality of the sign. So, the boy putting up a fence possesses the iconic and indexical attribute of a sign. As a tertiary sign in the cartoon, Good governance is inscribed on the fence that was being placed by the boy. This sign is both symbolic and indexical. The sign is symbolic for the reason of using it as a linguistic sign which is no different for most of the signs that were already discussed. However, Good governance is also indexical because it is an effect or a result of how the boy would protect democracy as implied by its inscription on the fence. This shows that this particular sign is

both symbolic and indexical.The other secondary sign in the editorial cartoon is the lady holding a watering can with which she waters the tree. The young lady dressed in baro'tsaya is a sign which is both indexical and iconic. Similar to the boy putting up the fence, the image to which she was portrayed makes the sign iconic and the action she is taking makes the sign indexical. A woman on baro'tsaya is an icon for the Filipino people just as the young boy was. Carrying a watering can, she waters the tree marked as Democracy, the primary sign. The indexical suggestion of this sign means that the Filipino people are willing to do what it takes to maintain the democracy in the Philippines. Summing it up, the young lady holding a watering can is a sign which possesses the iconic and indexical nature of a sign.Clean & honest elections, a tertiary sign, is a symbol like the other sign discussed because it is used conventionally as a linguistic sign. Also, it possesses the indexical trait of the sign triad for the reason that it is written on the watering can held by the young lady. Conducting a clean and honest election is the indexical implication of this sign. Therefore, as explained the Clean & honest elections is both symbolic and indexical.

Plate 9. The primary sign in this particular editorial cartoon is Political dynasties which possesses both the symbolic and indexical trait of a sign. As it is implied that linguistic signs are considered symbolic in nature, Political

dynasties is a symbol. Moreover, this sign is also indexical for the reason that it is used to refer to the image of a rather odd-looking and bloated man with hands on his nose holding presents and his real hands playing a guitar. The indexical implication of this sign is that political dynasties are those who are greedy for power and wealth ensuring the vote and approval of the people through various gimmicks and manipulation. It reveals an effect on what these political dynasties do to fulfill their desires. Thus, as expounded, Political dynasties possesses the symbolic and indexical attribute of the sign triad.The secondary sign in this editorial cartoon is Political promises inscribed on a balloon belonging on one of the gifts held out by the Political dynasties. This sign possesses the triadic attributes of a sign. It is symbolic in the same wise as the other sign have been, by being used as a linguistic sign. Political promisesis also an index for the reason that it displays relationship between the political dynasties and their desire to stay in position. The indexical implication of this sign suggests that the political promises are the effect or the action taken by the political dynasties. Thus, Political promises is sign which holds both symbolic and indexical nature of a sign.Facing the odd-looking, bloated man, is the tertiary sign Immature voters which implicitly refers to the two young boys playing. This sign is also both symbolic and indexical. Apparently, this sign is symbolic because it is used as a conventional sign through linguistics forming the words Immature voters. Likewise, the sign is also indexical because it depicts a connection between the two young boys and the Immature voters in that they both cannot make proper decisions by themselves. The indexicality of the sign suggests that some voters in the country are like young children, immature.

Plate 10. Referring to this editorial cartoon, Fake money is the primary sign which takes the symbolic, indexical and iconic traits of a sign. It is symbolic as it is used conventionally as a linguistic sign to mean money that is unreal. The sign is also iconic in nature because it replicates how money looks like in reality. However, the twisted ₱ sign on the bills indicate that it is a fake. Thus, Fake money is both symbolic and iconic in nature.Receiving the falling bills with hand stretched out, the secondary sign Election 2013 is labeled on one of these people. The sign is both symbolic and indexical. With the same explanation, the use of the sign linguistically to mean the elections of 2013 bestows on it its symbolic attribute. On the other hand, it is also indexical for the reason that being labeled on people who are trying to catch and swallow the bills which means that the fake money is being accepted and used during the 2013 elections. As expounded, Election 2013 has the symbolic and indexical character of the sign triad.

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Print ISSN 1656-0604
Online ISSN 2244-6532

The Effect of Positive and Negative Music in Changing the Moods of College Students

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ABSTRACT

Music has become an integral part of today's youth, influencing their moods and emotions. In this study, we describe the change of moods as triggered by music among 120 randomly selected college students. Specifically, we determined if the mood of the participants would be significantly changed after listening to positive or negative music, and investigated their personal reasons for changing moods after music-listening. We employed sequential explanatory mixed methods design. In the quantitative part, we used validated self-made questionnaire and six songs chosen based on lyrical content, to determine the moods of the participants before and after music intervention. For the qualitative part, we interviewed the participants to explore their feelings and subjective experience triggered by listening to either positive or negative music. The data were analyzed using McNemar statistics and thematic analysis. The results showed no significant change in the moods of the participants after listening to individual music. However, significant change in their moods was revealed by the collective data for all positive ($p = .016$) and negative ($p = .002$) music. Six themes emerged from the participant's narratives, in support of the statistical results. Our findings could be useful for youth-advocated individuals and organizations in understanding the dispositions of young people as influenced by their music choices, hence strategizing music-oriented activities for their well being.

KEYWORDS: Music education, positive and negative music, mood, college students, sequential explanatory mixed methods, Philippines

INTRODUCTION

The adverse impacts that music may have on the youth are alarming. For instance, a teenager who is constantly preoccupied with music that has seriously destructive theme may potentially manifest unpleasant moods and risky behaviors. In the US, a number of studies on the effects of negative music to teens have revealed correlations between adolescents' emotional response to music and taking risky behaviors (Roberts, 1998); between degrading sexual music lyrics and teens' sexual behavior (Jay, 2007); and between loose sexual music lyrics and teenage pregnancy (Martino et al., 2006), among others. Grippingly, the mentioned studies were conducted at the time US survey reports that the average American youth listens to music only 1.5 to 2.5 hours per day.

Incidentally, the International Federation of the Phonographic Industry (IFPI, 2015) announced an explosion in global music consumption as supported by multiple platforms with global revenue through digital platform alone of USD 6.7B in 2015. The report of Stanley (2009) on how teenagers consume media implies that with available technologies, the today's youth, whether consciously or not, can be constantly bombarded by music. In the Philippines, the Social Weather Stations (SWS) 2007 survey revealed that three-fourths of Filipino youth listen to music almost everyday. Undeniably, not all of this generation's music give positive messages; many contain negative messages either expressed explicitly or subliminally,.

Music is positive when it is emotionally and spiritually uplifting, relaxing, calming, and mentally invigorating. In contrast, negative music stimulates negative emotions such as anger, frustration, depression, hatred, aggression and fear (Robertson, 2004). Historically, many authors have pointed out the use of music in mood and emotion regulation (Wood, 2015), atmosphere-creation (Lincoln, 2005), self-regulation to control cognition and arousal (Heasley, 1995), in evoking "feeling better" and "lifting spirits" (BeroniusHaake, et al., 2006), which all support the previous observation of Thayer, et al. (1994) that music listeners self-rate music in raising energy, reducing tension, and regulating bad mood.

Mood is a fleeting, temporary state, usually not intense, and not tied to a specifiable behavior (Gardner, 1985), and may also be referred to as a feeling (Hoeksma, et al., 2004). Moods can be positive or negative, such as cheeriness, peacefulness, guilt and depression. According to Clark and Isen (1982), feeling states are general, pervasive, and occur frequently, and do not usually interrupt on-going behavior. Feeling states or moods are distinguished from emotions, which are usually more intense, obvious, and said to involve a cognitive component. Emotion theorists endorse the view that emotional reactions comprise three components - subjective experience, expressive and behavioural, and physiological components (Scherer, 2004). Music has been shown to affect all of these components (Sloboda & Juslin, 2001).

Though many studies have been conducted about the links between music and self-regulation, ambience creation, and even adolescents' unpleasant behaviours, there have been no or little studies about specific positive and negative music's effect to trigger change in moods among college students. Further, no or little research had plunged into teens' personal and intimate reasons for their feelings as influenced by music-listening.

In this current study, we determined if positive and negative music can change the moods of selected college students, and explored their subjective mood experience as influenced by music-listening. As depicted in figure 1, we utilized the input-process-output framework with mood status pretest and posttest as input and output, respectively, and music-listening as the process to trigger mood changes among the participants. Consequently, we tested the null hypothesis that moods cannot be significantly changed by listening to either positive or negative music.

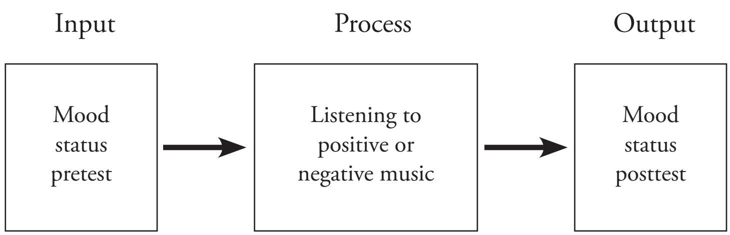

Figure 1. Conceptual framework of the quantitative part of the study

Specifically, we aimed to a) determine the mood status of the participants before and after listening to positive or negative music; b) find out any significant change in the moods of the participants after music-listening; and c) explore the participants' personal and inner reasons why they changed or did not change moods after music-listening.

METHOD

We employed mixed methods research design particularly sequential explanatory (Creswell, 2003), utilizing first quantitative design by quasi-experimental approach then qualitative design by interviews. In the quasi-experimental approach, we administered mood status pretest to the participants before music-listening to identify their initial or baseline mood, then gave the mood status posttest after they listened to music to determine if the music intervention changed their moods. In the qualitative approach, we interviewed the participants to know their feelings and inner reasons why they changed or did not change moods after the music intervention. We conducted this study with proper permission in the University of the Immaculate Conception (UIC) Annex Campus with volunteer 2nd-4th year college students as participants. By random quota sampling, we involved 20 students per music, totalling to 120 participants for six songs.

We used validated self-made questionnaire and selected songs as research instruments. We devised the questionnaire to have 25 items that describe negative and positive moods to serve as a checklist designed to gauge the participant's mood status as either positive or negative. We selected songs that were included in the top international hits of 2010-2014 to ensure their popularity. We used six songs, three have positive lyrical themes, while the other three contain negative lyrical themes (tables 1a and 1b). To ensure familiarity of students to the chosen music, we conducted a pilot testing, which also served to validate the chosen songs' particular themes as either positive or negative.

Table 1a. The positive-themed music used in the study

Music (Genre)	Theme	Some public reactions	Awards	Portion of lyrics
Roar by Katy Perry (Pop with rock subgenre)	Rising up from defeat	Roar is an empowerment anthem told in first person about rising up from defeat. The "you" in the song is the villain.- J.August, Blogspot	People's choice award 2014; Best Pop Solo Performance in 56th Annual Grammy Awards.	You held me down, but i got up already brushing off the dust. You hear my voice, you hear that sound like thunder, gonna shake the ground.
Let it go by Idina Menzel (Pop ballad)	Letting go of insecurities in order to reach full potential	The song is an incredible anthem of liberation, a stirring tribute to girl power & the need to 'let go' of fear & shame - Joe Dziemianowicz, The New York Daily News	Academy Award for Best Original Song at the 86th Academy Awards 2014.	You held me down, but i got up Let it go! Let it go! Can't hold it back anymore! Let it go! Let it go! Turn away and slam the door! I don't care what they're going to say. Let the storm rage on The cold never bothered me anyway
Blessing by Laura Story (Contemporary Christian)	Worshipping God even when life is hard	The lyrics remind us that God's ways are higher than ours & that we are to trust Him for He is faithful & loves us deeply - Sharon Aplin, Christian blogger	2012 Grammy Award for Best Contemporary Christian Music Song	Cause what if Your blessings come through raindrops What if Your healing comes through tears? What if trials of this life Are Your mercies in disguise?

Table 1b. The negative-themed music used in the study

Music (Genre)	Theme	Some public reactions	Awards	Portion of lyrics
Judas by Lady Gaga (Electro house)	Being in love with a deceitful man	Gaga is trying to rip off Christian idolatry to shore up her talentless, mundane & boring performances - Catholic League president	Artist 2011 International Video of the Year	I'm just a holy fool, Oh baby it's so cruel but I'm still in love with Judas baby I'm just a Holy Fool, oh baby it's so cruel But I'm still in love with Judas
Wrecking Ball by Miley Cyrus (Pop)	Deterio-ration of a relation-ship	The most despairing, confronta-tional and musically tur-bulent album - Rolling Stone, 2012	World Music Awards Best Video 2014; MTV Europe Music Awards Best Video 2013; Vevo most views in first 24hrs after release	I came in like a wrecking ball Yeah, I just closed my eyes and swung Left me crouching in a blaze and fall All you ever did was break me Yeah, you wreck me
S&M by Rihanna (Dance-pop)	Sex, sadomas-ochism bondage & fetish	Open your eyes people! Open your eyes! This song called S&M stands for "Satan & me" - Dawn, Blogger	Charted No. 2 on the US Billboard Hot 100 chart.	Cause I may be bad but I'm perfectly good at it Sex in the air, I don't care, I love the smell of it. Sticks & stones may break my bones but chains & whips excite me

The quantitative data were analyzed using McNemar Statistics, a tool that tests the difference between paired proportions, such as in "before and after" design, to determine if there was significant change in the moods of the participants before and after music intervention. The qualitative data were analyzed using narrative reduction and thematic analysis to come up with relevant themes that represent the participants' inner reasons for having or not changed their moods after music-listening.

RESULTS

Positive music and change of mood

The effect of the positive music Roar to trigger a change in the moods of the participants is presented in table 2a. Out of 20 participants, 15 initially had positive pretest mood and five had negative pretest mood. After listening to the music, mood status posttest revealed that four out of the five with negative pretest mood changed to positive mood. Still, McNemar test indicates that the change in the mood of the participants is not significant ($p > .05$).

Table 2a. Change of mood due to positive music Roar

Mood Before \ Mood After	Positive	Negative	Total	Mean After
Positive	15	0	15	1.25
Negative	4	1	5	
Total	19	1	20	
Mean Before	1.05			

Remarks: 4 out of 5 previously from negative mood changed to positive mood.
McNemar statistic's p-value = .125; i.e. no significant change in mood

Table 2b presents the effect of the positive music Let it go to the moods of 20 participants who except for one, were gauged to initially have positive pretest mood. After listening to the music, mood status posttest revealed that the student with the negative pretest mood changed to have positive mood. However, McNemar test shows that the change in the mood as triggered by the music Let it go is not significant ($p > .05$).

Table 2b. Change of mood due to positive music Let it go

Mood Before \ Mood After	Positive	Negative	Total	Mean After
Positive	19	0	19	1.05
Negative	1	0	1	
Total	20	0		
Mean Before	1.00			

Remarks: 1 previously from negative mood changed to positive mood.
McNemar statistic's p-value = 1.00; i.e. no significant change in mood

Table 2c shows that out of 20 participants for the positive music Blessing, 17 had positive pretest mood and three had negative pretest mood. After listening to the music, mood status post-test revealed that two out of the three students with previously negative pretest mood changed to have positive mood. Still, McNemar test indicates that the change in the mood of the participants is not significant ($p > .05$).

Table 2c. Change of mood due to positive music Blessing

Mood Before \ Mood After	Positive	Negative	Total	Mean After
Positive	17	0	17	1.15
Negative	2	1	3	
Total	19	1		
Mean Before	1.05			

Remarks: 2 out of 3 previously from negative mood changed to positive mood.
McNemar Statistic's p-Value = .500; i.e. no significant change in mood

Though the individual effect of each positive music to trigger change in moods of the participants showed that the change was not significant, the McNemar test on the combined data for all three positive music used in the study revealed a significant change ($p = 0.016$) in the moods of the participants from negative to being positive. No participant who initially had positive pretest mood changed to having negative mood after listening to the positive music, affirming that the selected music were indeed positive.

Table 2d. Change of mood due to collective data from all positive music

Mood Before \ Mood After	Positive	Negative	Total	Mean After
Positive	51	0	51	1.15
Negative	7	2	9	
Total	58	2		
Mean Before	1.03			

Remarks: 7 out of 9 previously from negative mood changed to positive mood.
McNemar statistic's p-value = 0.016; i.e. there is significant change in mood

Overall, nine participants for the positive music initially had negative mood but after listening to the positive music, seven of them changed to having positive mood, two remained in negative mood. We interviewed some participants to find out how they felt while listening to the positive music, hence their inner reasons for changing or not changing mood. Table 3 presents the themes analyzed from the participants' feelings and personal reasons for their moods after listening to the positive music Roar, Let it go, and Blessing.

Table 3. Themes from the participants' feelings about the positive music

Themes	Participants' synthesized statements
positive change, lyrical message	*'the song gave me a happy feeling* *'the lyrics are uplifting and relaxing* *'the music made me feel peaceful* *'the positive theme lifted up my spirit*
self-disposition	*'my positive disposition is strengthened by the positive music '* *the music has positive effect to change my negative mood*
song popularity	*'because I'm not familiar with the song, some of the message in the lyrics are difficult to understand* *'the song & singer are not popular* *'it's my first time to hear the song*

Negative music and change of mood

The effect of negative music Judas in triggering a change in the mood of participants is presented in table 4a. Out of 20 participants, 17 had positive pretest mood and three had negative pretest mood. After listening to the music, five of the 17 who had positive pretest mood changed to have negative mood. However, as McNemar test revealed, the change of mood is not significant (p = 0.063).

Table 4a. Change of mood due to negative music Judas

Mood Before \ Mood After	Positive	Negative	Total	Mean After
Positive	12	5	17	1.15
Negative	0	3	3	
Total	12	8		
Mean Before	1.40			

Remarks: 5 out of 17 previously from positive mood changed to negative mood.
McNemar Statistic's p-value = .063; i.e. no significant change in mood

As shown in table 4b, out of the 20 participants for the negative song Wrecking ball, 19 initially exhibited positive baseline mood and 1 negative baseline mood. After listening to the music, four out of the 19 who initially had positive mood changed to have negative mood. Yet, the change of mood was revealed not significant (p=0.125) by McNemar test.

Table 4b. Change of mood due to negative music Wrecking Ball

Mood Before \ Mood After	Positive	Negative	Total	Mean After
Positive	15	4	19	1.05
Negative	0	1	1	
Total	15	5		
Mean Before	1.25			

Remarks: 4 out of 19 previously from positive mood changed to negative mood
McNemar Statistic's p-value = .125; i.e. no significant change in mood

For the negative song S&M (table 4c), one out of 19 participants who initially had positive pretest mood changed to have negative mood after listening to the music. Still, McNemar test showed that the change of mood was not significant ($p > .05$).

Table 4c. Change of mood due to negative music S&M

Mood Before \ Mood After	Positive	Negative	Total	Mean After
Positive	18	1	19	1.05
Negative	0	1	1	
Total	18	2		
Mean Before	1.10			

Remarks: 5 out of 17 previously from positive mood changed to negative mood.
McNemar Statistic's p-value = .063; i.e. no significant change in mood

Though the effect of individual negative music to trigger change of mood among the participants was not significant, McNemar statistics analysis using the combined data for all the negative music used in the study revealed a significant ($p = 0.002$) change of moods from positive to negative among the participants (table 4d).

Table 4d. Change of mood due to collective data from all negative music

Mood Before \ Mood After	Positive	Negative	Total	Mean After
Positive	45	10	55	1.08
Negative	0	5	5	
Total	45	15		
Mean Before	1.25			

Remarks: 10 out of 55 previously from positive mood changed to negative mood
McNemar Statistic's p-Value = .002; i.e. there is significant change in mood

Overall, out of the 55 participants for the negative music who initially had positive mood, 10 changed to have negative mood after listening to negative music. All five who initially had negative mood remained in negative mood. We interviewed the participants to find out the subjective feelings that they experienced while listening to the negative music, hence their inner reasons for changing or not changing mood. Table 5 presents the themes analyzed from the participants' feelings and personal reasons for their moods after listening to the negative music Judas, Wrecking ball, and S&M.

Table 5. Themes from the participants' feelings about the negative music

Themes	Participants' synthesized statements
lyrical message	*'the negative lyrics was offensive to my Christian faith* *'I am aware of its negative lyrics* *'the lyrics are hurtful and irritating*
self disposition, self control	*'the music caused uncomfortable feeling deep within me but not to the point of affecting my inner disposition to become negative* *'it depends on the person if he allow himself to be affected by the negativities of the music*
music arrangement	*'the music is fun* *'the fun beats & rhythm of the music make me want to listen more though I know it could somehow cause a negative feeling*

As shown in figure 2, combining the extracted themes from the participants' narratives reveal two overlapping themes for both positive music and negative music, which each has two exclusive themes. Advertently, the themes reflect either the listener's characteristics (positive change, self disposition, and self control) or the music characteristics (song popularity, lyrical message, and music arrangement).

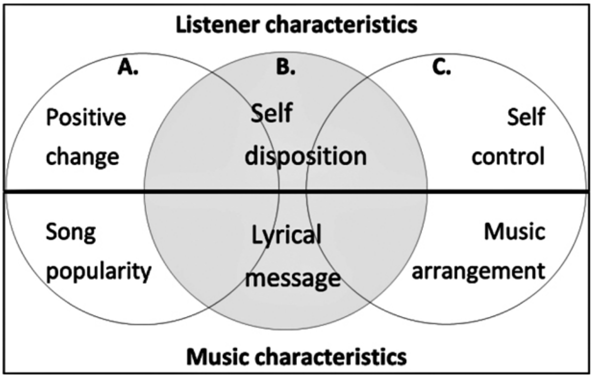

Figure 2. Overall themes showing overlaps (B) for both positive (A) and negative (C) music. The theme is either innate to the music (bottom box) or to the listener (top box).

DISCUSSSION

The positive-themed music Roar, Let it go, and Blessing all caused a change of mood from negative to positive, which though not significant individually, was collectively revealed as significant. This implies that continuously listening to music with positive themes can make one have positive mood. In the same way, the overall effect of negative songs Judas, Wrecking ball, and S&M triggered a significant change of mood from positive to negative, though the individual song's effect to cause negative mood was not significant. Again, this implies that continuously listening to music with negative themes could make one's mood negative. Our result is consistent with the findings of another study (Langenberg, 2013) wherein participants who received happy song showed a significant happier mood compared to participants who received sad song, who showed sadder mood states after listening to the sad music. Further, a study (Saarikallio, 2007) on the effect of music as mood regulator amongst adolescents concluded that music-listening is a psychological process that can shape the spheres of one's emotions, cognitive abilities and physical functionalities.

This is alarming considering the many negatively-themed music being released and how teenagers are so into music now. This points to the importance of the role of guardians during the crucial moral developmental stage of children in nurturing them to have the right values and principles in life. Having strong virtuous foundations could influence teens' song preferences as well as arm them to filter out negative messages in the songs they hear. Incidentally, of our 55 total participants who had initial positive mood pretest, 82% remained positive after listening to negative music. In interviews with them, they said having strong spiritual, emotional, and family foundations served to guard their feelings. This is consistent with the report of American Academy of Child and Adolescent Psychiatry that music does not necessarily pose mood problems for teenagers who live a balanced and healthy lifestyle.

Of a surprise to us but obviously not to the music industry, the extracted themes from the participants' narratives turned out to be either a characteristic of the listener or the music (i.e., positive change, self disposition, and self control for listener characteristics; while song popularity, lyrical message, and music arrangement for music characteristics). In the music industry, the really popular buck-earning songs are produced by a team of experts in music lyrics and arrangement, and in identifying just the right artists and marketing for the songs (CareersinMusic.com, 2015). The direct uncensored lyrics in many of today's top charting songs have influenced music fans' bias for them, and vice versa. All the more teens should be equipped with strong upright foundation, as manifested by our research participants who admitted that strong self control shielded their positive self disposition. Also, our results indicate that positive mood change can occur more likely with positive music, than negative mood change with negative music. Again, this is related to the listeners' self disposition and self control at work as they are bombarded by negative music.

Essentially, our findings could be of use not only for parents, guardians, and educators in understanding and guiding children and teens regarding music choice and effects; but more so for youth-advocated organizations to exploit music in nurturing positivity among youths. Ambitiously, they could collaborate with music producers to create positive-themed songs based on the themes we highlight in our findings, i.e., having fun, catchy, and exciting lyrical and music arrangements and popular mainstream artists or fresh unlisted artists with strong marketing or commercial appeal, to record them.

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Print ISSN 1656-0604
Online ISSN 2244-6532

Teenage Pregnancy: A Phenomenological Case Study

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ABSTRACT

Philippines is among the top 10 countries with increasing number of teenage pregnancy. To date, there are 3.6 million young mothers in the country; most of them are below 19 years old. Teenage pregnancy has been listed as one of the social determinants of health under human and social development of Davao City. Due to this alarming fact, this study that aimed to describe and understand the lived experiences of teenagers that went through pregnancy outside marriage was conducted. This phenomenological study covered three conversation partners (CP) who were purposively chosen from two higher education institutions in Davao City. Thematic-emergent approach was used in analyzing information. Effects of teenage pregnancy included broken relationship with family members, physical abuse, planned abortion, delay and added sacrifice to proceed with schooling, mother and child relationship is not being nourished, and loss of freedom to hang-out with friends. It could be noted, however, although premarital sex runs contrary to the teachings of the church, two CPs claimed to have encountered God in a deeper manner during the pregnancy. More so, CPs have realized that motherhood at teenage is not easy. Their priorities in life had also evolved; the welfare of their kid has become their primary consideration in the pursuits of their dreams.

KEYWORDS: Teenage pregnancy, lived experiences, realizations, Davao City, Philippines

INTRODUCTION

Pregnancy is the major life transition requiring changes, challenges and adaptations of many kinds. Parenthood's continuous demands and responsibilities leave very little or no time for most teens' concerns such as academics and career choices. Apparently, becoming a parent, at any age, can be a life-changing experience. In the global setting, United States has the highest teenage birthrate, but until 2009, there has been a declining trend in teenage pregnancy number especially since the early nineties. The most salient consequences of teenage are school drop-out or interrupted education, school advancement difficulties for teen-mother as well as repeat pregnancies. In 2000 the total number of teen pregnancies in the United States was 821,081 (84 pregnancies per 1000 people). Compare this with Canada whose total rate of teen pregnancies for 2000 was 38,600 (38 pregnancies per 1000 people). Many other Western Industrialized countries such as Sweden and France have even lower teen pregnancies rate than Canada while compared to other countries, it is to understand why the United States is considered to have a serious problem when it comes to teen pregnancy (Coley & Lansdale, 2009).

According to the studies conducted by World Bank, the Philippines is among the top 10 countries where there is an increasing number of teenage pregnancy. Seven out of 10 Filipina mothers are adolescents; most of them are below 19 years old. There are 3.6 million young mothers in the Philippines to date. While there is a prevalence of pregnancy among teens, it is still intensely unaccepted by the society – especially the parents. Because of this reason as well as their youth, adolescent mothers-to-be are more prone to stress. They suffer both physical and emotional pains, and at the same time had been forced to drop-out from school (Sembrano, 2011).

In Davao City, teenage pregnancy is increasing, according to the City-wide Investment Plan for Health (CIPH) 2012-2016, which covers the city's comprehensive health situational analysis. The report stated that teenage pregnancy recorded about 12 percent in 2007, 12.2 percent in 2008,12.4 in 2009, and to 13.4 percent in 2010. Teenage pregnancy, in fact, is listed as one of the social determinants for health under human and social development of Davao City. Social determinants for health is defined as those critical characteristics of societies and communities in which people live that have an impact on their health such as level of education, water and sanitation, housing employment food production (Sunstar Davao, 2013).

The alarming rate of teenage pregnancy around the world has prompted the researchers to document the experiences of selected teenagers who went through the arduous journey of giving birth and becoming a mother at a young age. Through the findings of the study, it is hoped that teenagers especially the females will be convinced to be certain in their decision to avoid circumstances that might lead to early pregnancy. Likewise, results may give caution to teenagers on the possible downside of enduring pregnancy at a young age as well as accomplishing the role of a parent while one pursues an undergraduate degree.

The Feminist Theory of Friedan and Dworkin (1963) which focused on the women's sexuality, reproduction and social consequences of living in a patriarchal culture supports the foundation of this investigation. As it is being observed, the consequence of teenage pregnancy usually boils down to the female victim. It is the female who would usually face a lot of issues—stigma, temporary opportunity loss, undue pressure brought about by premature motherhood, loss of self-esteem, insecurity and many more.

Purpose of the Study. The purpose of this phenomenological case study is to describe and understand the lived experiences of individuals who went through teenage pregnancy. Specifically, it aimed to find out the 1) study participants' views about their teenage pregnancy; 2) effects of teenage pregnancy and young motherhood role in the participants' lives; and 3) lessons they have realized from their experiences.

METHOD

This study utilized a blend of qualitative research design – a phenomenological case study. Phenomenological is appropriate in the sense that there is still peculiarity in teenage pregnancy even in the 21st century. Also, the essence of the early pregnancy experience was drawn through this study. Thus, in-depth interviews were conducted to elicit the thoughts and views of the selected study participants as regard to their experiences brought about by their early pregnancy and as young mothers.

We conducted this study in Davao City. Davao City is located in the southeastern part of Mindanao, Philippines. The city is home to various colleges and universities in which our prospective study participants are currently enrolled with. In particular, the study participants came from two schools—University of the Immaculate Conception, and Holy Cross of Davao College. These two schools are both catholic institutions which have been founded by the Religious of the Virgin Mary (RVM).

The conversation partners (CP) included three females who have experienced being pregnant during their teenage years. They should have been enrolled for the first semester of School Year 2014-2015 at any college or university in Davao City. A snowball sampling approach was used in prospecting them.

In drawing out the information, we conducted a series of in-depth interviews with the aid of guide questions. Series of interviews with each conversation partner was anticipated to exhaust their thoughts about teenage pregnancy and young motherhood.

In doing this study, we assumed the role of an interviewer-observer. During the interview, we facilitated the discussion and at the same time interacted with the conversation partners.

To establish the trustworthiness of a qualitative study, Merriam (2009) devised these procedures: triangulation, or multiple sources of data as evidence; member checks, or arranging for those who provided data to evaluate the conclusions; saturation, or continuous data collection; peer review, or consultation with experts; audit trail, or the detailed record of data collection and rationale for important decisions; and thick description, or providing rich detail of the context of the study. Moreso, according to Lincoln and Guba (1985), qualitative researchers have agreed that trustworthiness is evidenced by these aspects: transferability, dependability, confirmability and credibility.

Thus, conforming to the suggestions of Merriam (2009) and Lincoln and Guba (1985), the following procedures were observed in the conduct of this study. In order to establish the transferability character, sufficient thick descriptions of information was provided to allow readers to decide if results are applicable to other fields. Audit trails and triangulation was made as foundation of the dependability of the study. For the audit trail, important responses of each CP were represented by a code to facilitate easy path for verification. More so, triangulation, which is comprised of the conduct of in-depth interviews and individual reply in writing to preliminary questions, was made. The dependability of the study was established further through the exhaustion of information made possible through the conduct of series of interviews with each of the CPs.

Moreover, for the confirmability aspect, each interview proceeding was audio taped supplemented with written field notes. The tape recorded information was transcribed as basis for data analysis. All the pertinent records gathered in the course of the study will be kept and preserved for possible inspection by any interested party. Further, the credibility of the findings was ensured through the proper documentation of the narrated stories of the CPs. The validity of the collated data, its analysis and subsequent conclusions were established through the validation of the conversation partners themselves.

The most basic issue under ethical consideration that we will observe is the respect to the point of views, opinions and perceptions of the CPs either verbalized or not. We will also respect the language that the CPs will use. Moreover, we asked them questions using the most understandable terms and then we asked follow up questions to clarify vague information. We properly documented the proceedings of the interviews by using electronic recording device so as not to miss any words expressed by the CP.

Further, we observed anonymity and secrecy by not requiring the conversation partners to share their names and other personal data. Indeed, during the in-depth interview, we just listened to their responses. To uphold confidentiality, intentionally we did not also mention in the manuscript any information that will trace to the identity of the study participants. Consequently, we secured an informed consent (Appendix B) from each CP prior to the conduct of the interviews. Before each CP affixed their signature in the informed consent form, we made sure that they have understood the purpose of the study and that they are aware of their right to back-out anytime as study participant.

The thematic-emergent approach was used in the analysis of information. The transcribed in-depth interview proceedings were codified and categorized to draw out themes that could represent each of the categorized information.

RESULTS AND DISCUSSION

A. Views on Teenage Pregnancy

Generally, the conversation partners regard teenage pregnancy negatively except for CP3. According to them teenage pregnancy is not favorable in the sense that the role of being a mother is not easy. More so, they have to sacrifice a lot for the child like watching over them while preparing for school requirements and that they could no longer enjoy the freedom they used to have prior to the pregnancy.

The view of CP3 on early pregnancy is striking as she considers it as an instrument for them to have a gift from God in the form of a baby. Accordingly she said "I don't have any regrets at all, the baby is a gift from God that we need to cherish and accept." This positive thought about this experience is actually influenced by her mom saying that "the baby is a blessing carrier towards us." It is indeed amazing to hear such declaration from a parent whose young child went through an extraordinary experience of bearing a child at a young age of 17.

Matrix A. Views on teenage pregnancy

Narratives	Code	Theme
CP3		
I don't have any regret at all, the baby is a gift from God that should be accepted and cherished. The baby is a blessing carrier towards us.	Blessing or a gift	Teenage pregnancy is an overture of receiving God's gift—the baby.
CP1 and CP2		
Teenage pregnancy is not favorable in the sense that the role of being a mother is not easy. They have to sacrifice a lot for their child like watching over them while preparing for school requirements. They could no longer enjoy the freedom they used to have prior to the pregnancy.	Negative effect	Teenage pregnancy results to negative effects—loss of freedom, being a mother at a young age is more difficult, it makes schooling even harder.

B. Effects of Teenage Pregnancy and Motherhood

Seven themes which represent the effects of teenage pregnancy and motherly role were derived and categorized from the transcribed materials. This information was elicited from the conversation partners through a two round in-depth interviews.

Broken relationship with family members – parents and sibling. The initial reaction of parents when they would learn that their teenage daughter is pregnant is to detach themselves from the reality. Specifically, they would often not converse with the child for a while as their way of sending a message that they do not accept the situation.

CP1 had really observed the change in the treatment of her father to her because of disappointment – *(nabugnaw ang tinagdan ni papa* – my father is no longer that warm towards me). For CP2, it took one month before her mother made conversations with her – (*"Mao to wala ko gitingugan sa akong mama* for one month – because of the incident my mother did not talk to me for a month). According to her, this scenario made it even more difficult for her to cope with the situation as she has no one to share her thoughts to. The older brother of CP3 was not able to immediately accept the situation, thus, he refrained himself from talking with them (younger sister and the boyfriend).

Physical Abuse. CP 1 had revealed that when her father learned about her pregnancy, he pointed a gun to her and because of fear, she was forced to stay overnight with her uncle's family that day. She also added that her boyfriend had abused her physically by hitting her every time they have misunderstandings. The saddest incident was when the boyfriend pointed a knife at her because of jealousy. These incidents of abuse from her boyfriend prompted her to go back to her own family.

Planned Abortion. Abortion is often being considered when a teenager is impregnated as the family would want to protect their name from humiliation. The mother of CP1 wanted the child to be aborted, however, one of her uncles opposed with the idea with the reason that the child is innocent, thus, she/ he should be given the chance to live. CP2 personally considered the idea of aborting her child, as she does not know what to do when she learned that she was pregnant. Moreover, she was aware of the reality that she could not provide for the needs of the child.

Studies show that the idea of abortion among teens is influenced by their relationship with their parents, access to family planning services and behavior of their peers (Lowen, 2010). Further, about 75% of the parents (US survey) who knew about the pregnancy had been told by the daughter herself, and the great majority supported their daughter's decision to have an abortion (Henshaw and Kost ,1992).

Delay and Added Sacrifice to Proceed with Schooling. The three conversation partners have really recognized the adverse effect of teenage pregnancy to their schooling. CP1 learned that she was pregnant when she was only 14 years old and that was when she was in third year high school. She had to stop schooling because of humiliation, and because she also chose to live with her boyfriend.

CP2 was also 14 years old when she was impregnated but she was only second year high school then. However, she was able to complete her sophomore year, as they did not inform the school officials that she was pregnant for her baby bump was not yet that obvious – three months old as of the end of school year. Apparently, the pregnancy did not hinder her to proceed with her studies, but the incident did require her to sacrifice more (six month pregnant) by attending Sunday classes instead of the regular school days of Monday through Friday. When she gave birth, she realized that having a child to watch over makes studying even more difficult – *"maglibog ko unsa ang unahon, mag-study o magbantay as akong anak"* (what shall I prioritize study my lessons or watch-over my child).

CP3 on other hand had to stop schooling when she got pregnant at the age of 17 as being pregnant outside marriage was against the policy of the school. So because of the teenage pregnancy she is still in third year college at the age of 24.

Previous studies have noted that pregnant and parenting teens are being confronted with challenges in attaining their educational goals. About 70% of teenage girls in the US are forced to leave school and accordingly illegal discrimination is the primary factor of the high dropout rate. In many cases, pregnant students are informed outright that they cannot stay because of morality issues (ACLU, 2002).

Mother and Child Relationship is not being Nourished. Two conversation partners had revealed that their children are even closer to their grandmother than them. In the case of CP1, her child treats her as older sister as she calls her "ate". It is the grandmother whom the five year old child considers as her mother. Although, CP1 claims that the child knows that she is the real mother. However, because of the physical separation as she lives in Davao City for schooling purposes while her daughter lives with her family in the province, no mother and daughter relationship is being nourished.

A similar fear is being felt by CP3 as her child lives with her parents. She is imagining the scenario that when the right time comes when she and her boyfriend, the father of her child will be responsible enough to take care of the child, and the child would choose to stay with the grandparents.

Loss of Freedom to Hang-out with Friends. CP2 expressed that she was relatively freer to hang-out with friends prior to her pregnancy and motherhood. According to her, she has to consider who will take care of her child if she hangs out with friends. The sense of being responsible by even just watching over the child is evident to her as manifested in this statement: *"Lahi ra gyud ang walay anak kay free ka mag-laag, karon kay naa nakay huna-hunaon nga anak"* – it is really better if you don't have a child yet as you are free to go anytime you want without thinking that someone (child) must be watched over.

A Closer Relationship with God. A positive effect in the religious aspect is noteworthy among the CPs. They claimed that the experience deepened their relationship with God. According to CP1 – *"hindi ako nawalan ng pag-asa na tutulungan ako ng Dios"* (I did not lose hope that the Lord will help me overcome the situation). CP2 had also shared – "my communication with God during that time was very frequent as I wanted to talk to Him every minute for the safety of my baby and of course for my health as well." CP3 also did the same thing, like always praying and going to church with the family.

Matrix B. Effects of teenage pregnancy

Narratives	Code	Theme
CP1 Nabugnaw ang tinagdan ni papa (my father is no longer that warm towards me) CP2 Mao to wala ko gitingugan sa akoang mama for one month (because of the incident my mother did not talked to me for a month) CP3 Was not able to immediately accept the situation.	Family relationships	Broken Relationship with family members- Parents, and Sibling
CP1 Her father pointed a gun at her Her boyfriend had abused her physically by hitting her every time they have misunderstanding. Her boyfriend also pointed her with a knife because of jealousy.	Physical abuse	Physical Abuses are extensive among young partners
CP1 Her mother wanted the child to be aborted, however one of her uncles opposed with the idea with the reason that the child is innocent.	abortion	Teenage pregnancy could lead to planned abortion

CP2 Personally considered the idea of aborting her child, as she does not know what to do when she learned that she was pregnant		
CP1 He had to stop schooling because of humiliation, and because she also chose to live with her boyfriend. CP2 Mag libog ko unsa ang unahon, mag study o mag bantay sa akong anak (what shall I prioritize, study my lesson or watch over my child). CP3 Had to stop schooling when she got pregnant at the age of 17 as it was against the policy of the school.	schooling	Delay and added sacrifice to proceed with schooling
CP1 Her child treats her as older sister as she calls her “ate”. CP3 A physical separation as she lives in Davao city for schooling purposes while her daughter lives with her family in the province, no mother and daughter relationship is being nourish.	Mother and child relationship	Mother and Child Relationship is not being nourished
CP2 Lahi ra gyud ang walay anak kay free ka mag-laag, karon kay naa nakay huna-hunaon nga anak- it is really better if you don’t have a child as you are free to go anytime you want without thinking that someone (child) must be watched over.	Freedom	Loss of freedom to hang-out with friends
CP1 Hindi ako nawalan ng pag-asa na tutulungan ako ng Dios (I did not lose hope that the lord will help me overcome the situation)	Relationship with God	This form of trial could lead to a closer relationship with God

CP2

My communication with God during that time was very frequent as I wanted to talk to him every minute for the safety of my baby and of course for my health as well.

CP3

Always praying and going to church with the family

C. Realizations Drawn from the Experience

Motherhood/Parenthood at Teenage Years is not Easy. CP1 realized that it is very difficult to bear a child at a young age, more so of becoming a mother as young as 14 years old. According to her, starting a new life then was not easy – one is confronted with decisions as to what to prioritize, her own dreams or her responsibility towards the child.

CP2 would like to share their experiences as young parents to their own daughter when the latter is mature enough to comprehend the story. She would like to emphasize the hardships that the young father has to go through as a worker just to be able to support the needs of the child.

The incapacity to provide for the needs of the child as a result of being undergraduate is the struggle of CP3. She had realized that financial constraints made parenthood even more difficult.

The Need to Avoid Temptations of Engaging in Sex at Teenage. CP1 had realized that one must avoid temptations in engaging into sex to avoid being impregnated at a young age. CP2 also added that individuals involved in a relationship with the opposite sex at a young age must be vigilant at all times to avoid temptations of engaging in sex as she had expressed – *"dapat dili gyud mag-tinanga"* (she should be certain to refuse engaging in sex).

Inclusive Motivation to Finish Schooling to Earn a Living. Prior to the pregnancy, conversation partners had individualistic motivation to finish schooling. Now that they already have their own children, their responsibility towards their children serve as inspiration to do well in school for seamless completion of their college course. They unanimously expressed that they need to prove that they could become responsible parents by finishing their school and consequently earn a living in order to provide for the schooling of their children in the near future. Thus, each conversation partner now possess the sense of self-giving from a self-serving goal to an inclusive drive to pursue a dream beneficial not only for herself but also for her child.

Matrix C. Realizations drawn from the experience

Narratives	Code	Theme
CP1 Had realized that it is very difficult to bear a child at a young age. Starting a new life is not easy. Confronted with decisions as to what to prioritize, her own dreams or her responsibility towards the child CP2 *"Gusto nako isulti ang akong mga kaagi sa akong anak para dili niya maagian ang tanang kalisod nga na experience sa iyang papa karon"* (I want to share this trial to our daughter so that she will not go through the same level of difficulty her father had experienced as a young worker. CP3 Incapacity to provide for the needs of the child as a result of being undergraduate.financial incapacity made parenthood even more difficult.	Parenthood	Parenthood at Teenage is not easy
CP1 One must avoid temptations in engaging into sex to avoid being impregnated at a young age. CP2 *Dapat dili jud mag-tinanga* (she should be alert to refuse engaging in sex.)	Self-denial	The need to avoid temptations of engaging in sex at teenage.
CP1, CP2, and CP3 They unanimously expressed that they need to prove that they could become responsible parents by finishing their school and consequently earn a living in order to provide for the schooling of their children in the future.	motivation	Inclusive motivation to finish schooling to earn a living

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Print ISSN 1656-0604
Online ISSN 2244-6532

Profiling of Alcohol Drinkers among College Students

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ABSTRACT

The problem of alcohol drinking among the youth has become alarming. This study profiled 150 purposively selected student alcohol drinkers in three Davao City universities; determined the respondents' drinker classification and level of drinking habits; and tested for the existence of significant correlation, association, and difference between variables. Descriptive survey design, using researcher-made questionnaire, was utilized in data gathering. The results show that majority of the respondents are between 18-20 years old, male, have below average weekly allowance, and live with their own family. In terms of drinker classification, the hedonistic type dominates among the respondents; 10% were characterized as bordering to being alcohol dependents. In terms of drinking habits, six revealed drinking alcohol everyday, eight started drinking at age 10 or younger, and six admitted they can drink 16 or more glasses of alcoholic drinks in one sitting. In terms of controlling their drinking habits, four never considered it while 21% admitted always considering it. Pearson r test revealed no significant correlation between drinker classification and drinking habits. Chi-square test revealed that drinker classification is significantly associated to age ($p = .036$) but not to sex ($p = .162$); whereas drinking habit is significantly associated to sex ($p = .033$) but not to age ($p = .676$). T-test established the difference between the levels of male and female drinking habits to be significant ($p = .002$). The results indicate that how alcohol drinkers characterize their habit is age-related and that sex could be a significant factor in formation of the habit. The overall findings provided basis for an intervention program to address alcohol problem among university students.

KEYWORDS: Alcohol, college students, drinking habits, drinker type, Pearson r, Chi square, t test, intervention program, Davao City

INTRODUCTION

Drinking alcoholic beverages is a common feature of social gatherings in many parts of the world. Nevertheless, the consumption of alcohol carries a risk of adverse health and social consequences related to its intoxicating and dependence-producing properties (World Health Organization, 2014). As a drug, alcohol is classified as a depressant, meaning that it slows down vital functions – resulting in slurred speech, unsteady movement, disturbed perceptions and an inability to react quickly. It reduces a person's ability to think rationally and distorts his or her judgment (Drug-free World, 2006). No wonder the US Department of Justice reported that as many as 40% of violent crimes occur under the influence of alcohol. in England, the National Health System reported 187,640 annual alcohol-related hospital admissions (International Statistics, 2006).

Government researchers have analyzed the social and psychological characteristics of people who regularly drink twice the recommended guidelines of alcohol. Cockcroft (2008) characterized nine personality types of heavy drinkers, identified by the Department of Health in England. The De-stress drinkers are middle-class men and women who use alcohol to regain control of life and to calm down. The Conformist drinkers are typically men aged 45 to 59 who do clerical or manual jobs driven by the need to belong and seek a structure to their lives. The Boredom drinkers consume alcohol to pass the time, seeking stimulation to relieve the monotony of life; alcohol helps them to feel comforted and secure. The Depressed drinkers may be of any age, gender or socioeconomic group who crave comfort, safety and security. The Re-bonding drinkers are driven by the need to keep in touch with people who are close to them. The Community drinkers are usually lower middle class men and women who drink in large friendship groups and are motivated by the need to belong. The Hedonistic drinkers crave stimulation, want to abandon control, and are often divorced people with grown-up children. The Macho drinkers, mostly men of all ages who want to stand out from the crowd, spend most of their spare time in pubs. . The Border dependents regard the pub as a home away from home, visiting it during the day and the evening, on weekdays and at weekends, drinking fast and often (Cockcroft, 2008).

According to World Health Organization (WHO), some 2.5 million people die annually due to harmful alcohol use, based on figures gathered in 134 countries worldwide on the impact of excessive and hazardous use of alcohol. Of these, 320,000 young people aged 15-29 years old die annually from alcohol-related causes, resulting in 9% of all deaths in such age group. Alarmingly, in

Southeast Asia, Filipinos were found to be the second highest consumers of alcohol, second only to the Indonesians. (Manila Bulletin, 2011).

Alcoholism is a growing concern in the culture and social life in the Philippines. One facility in the country that offers treatment and counselling for alcoholics is the Philippine General Hospital (PGH) Alcohol Support Group Centre. However, only a few cases have been recorded by the centre which could be because alcoholism is not considered a medical problem by most Filipinos, apart from the fact that well-off patients go to private rehabilitation centres. There are also non-governmental organizations which provide similar services and carry out advocacy work. However, more effort is still needed in the Philippines in order to address the problems of alcohol abuse (WHO), 2004).

This study is primarily anchored on the Social Norms Theory, first used by Perkins and Berkowitz in 1986, which aims to understand the environment and interpersonal influences (such as peers) as a more effective way in order to change behaviour, rather than focusing on the individual himself (Behavioral Change Models, 2013). This theory was used to gain understanding about students' alcohol use pattern in order to best address reducing alcohol consumption and alcohol-related injuries among college students. Secondarily, this study is supported by the Social Learning Theory proposed by Bandura which argues that people can learn new information and behaviours by watching other people (Cherry, n.d.). In this study, students may have developed the habit of drinking by imitating other people who drink.

Figure 1 illustrates the study's conceptual framework showing that the drinking habit of an individual could be attributed to what type of a drinker he/she is, based on Cockcroft's classification of drinkers namely de-stress, conformist, boredom, repressed, re-bonding, community, hedonistic, macho and border dependent drinkers. Further, variables such as sex, age, year level and weekly allowance were considered as factors that could alter drinking habit. The results of the study served as basis for a proposed intervention program.

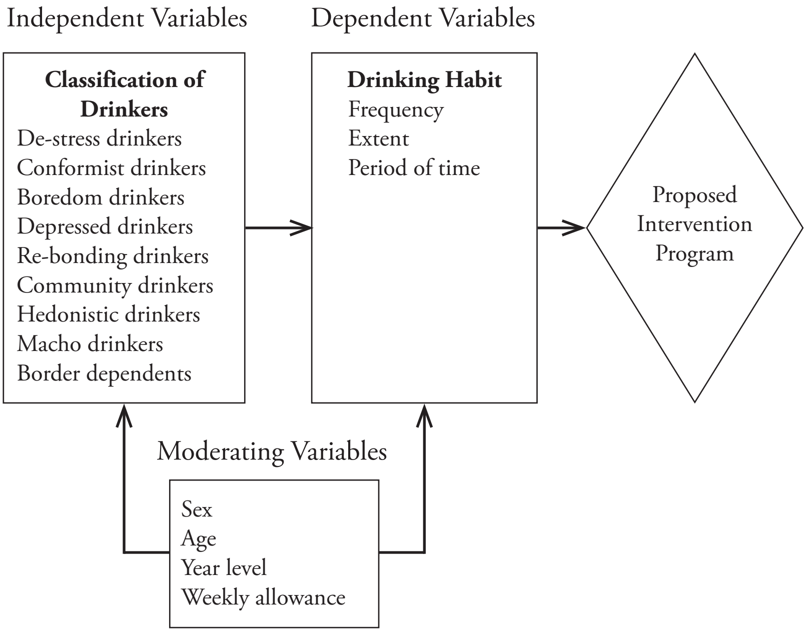

Figure 1. Conceptual framework of the study

This study profiled selected student alcohol drinkers in three universities in Davao City. Specifically, it determined the respondents' drinker classification and level of drinking habits, and whether a significant correlation between the two variables exists. Further, it tested for significant association of profile variables to both drinker classification and level of drinking habits, as well as for significant difference in the respondents' drinking habits when they are grouped according to profile variables. The results of the study could be utilized as basis for developing an intervention program that will address the problem of alcohol drinking among university students.

METHOD

Descriptive survey design was utilized to profile University student alcohol drinkers in Davao City. A total of 150 volunteer students from the University of the Immaculate Conception (UIC), Ateneo de Davao University (AdDU), and University of Mindanao (UM) consented to participate in the study. They were purposively selected based on the inclusion criteria of involvement in alcohol drinking and being of required age, to ensure appropriate capacity to answer the survey questionnaire.

The questionnaire was researcher-made, validated by experts, and reliability-tested with 0.795 Cronbach alpha coefficient reflecting internal consistency. It was designed to have two parts; the first part consists of five questions about the frequency and extent of drinking alcohol, while the second part has 45 items of characteristics from which the respondents would choose at least 15 that best describe them.

The data were analyzed using four statistical tools (percentage, T-test, Pearson r, and chi-square). Percentage was used in describing the respondents' demographic profile, t-test in determining the significant difference, chi-square for the significant association, and Pearson r in determining the relationship between drinker classification and drinking habit.

RESULTS

As shown in table 1, majority of the respondents are male (64%); most are under the age bracket of 18-20 years old (65.3%), while the youngest was between 12-14 years old. Majority (59.3%) acknowledged having below average weekly allowance of P1,000 or less; only four (2.7%) have weekly allowance of more than P2,000. Thirty percent of the respondents are not living with their own parents, but either with friends, siblings, relatives, or stepmother/ stepfather.

Table 1. Demographic profile of the respondents

Variables	Frequency	Percentage
SEX		
Male	96	64.0
Female	54	36.0
AGE (in years)		
12-14	1	0.7
15-17	23	15.3
18-20	98	65.3
21-23	22	14.7
24-26	4	2.7
27-30	2	1.3
YEAR LEVEL		
1st	17	11.3
2nd	38	25.3
3rd	59	39.3
4th	33	22.0
5th	3	2.0
WEEKLY ALLOWANCE(PhP)		
500 & below	28	18.7
501 - 1,000	61	40.7
1,001 - 1,500	30	20.0
1,501 - 2,000	27	18.0
2,001 & above	4	2.7
LIVING WITH		
Family	105	70.0
Stepmother/father (broken family)	5	3.3
Siblings	17	11.3
Relatives (no more parents)	9	6.0
Friends	14	9.3

N = 150

Drinker classification of the respondents

Of the nine types of drinkers, the hedonistic type emerged the most dominant (22.7%) among the respondents, followed by the re-bonding type (21.3%) type. The community type of drinkers emerged the least among the respondents. Alarmingly, 10% of the respondents tend to be border dependents, characterized to frequent pubs both day and night, at the same time, drink fast and often.

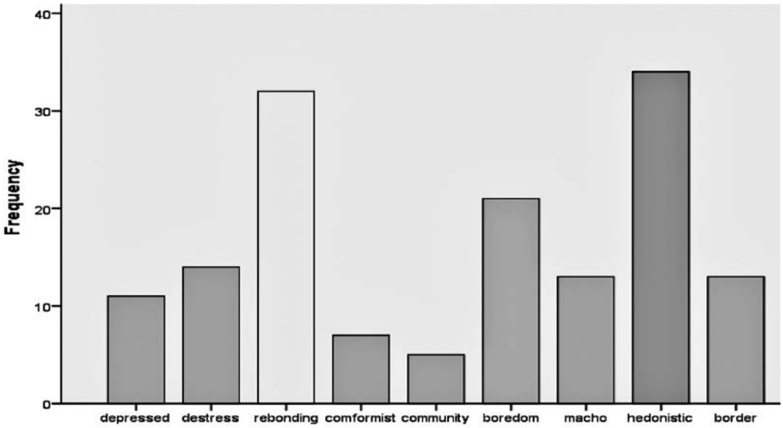

Figure 2. Drinker classification of the respondents

Level of drinking habits

About half of the respondents (49%) drink alcoholic beverages on special occasions only; six of them revealed drinking everyday. Eight respondents revealed they started drinking alcoholic beverages when they were only 10 years old or younger; majority (58%) started drinking alcohol at ages between 16-20 years old. Most of the respondents (65%) can consume 3-10 glasses of alcoholic beverages and liquors in one sitting while six revealed that they can consume 16 or more in one sitting. Fifteen (10%) of them admitted they always plan drinking sessions. Four respondents never considered controlling their drinking habit, while 21% admitted always considering to control the habit.

Table 2. Alcohol drinking habits of the respondents

Questions	Rating				
	5	4	3	2	1
1. How frequent do you drink alcoholic beverages?	Everyday	3-5 / wk	1/ wk	Occasionally	Never
	6	25	39	74	6
2. At what age did you start drinking?	10 or younger	11-15	16-20	21-25	26-30
	8	51	87	3	1
3. How many glasses of alcoholic drinks can you consume in one sitting?	16 or more	11-15	5-10	3-4	1-2
	6	8	42	56	38
4. Do you plan drinking sessions?	Always	Often	Occasionally	Rarely	Never
	15	30	53	38	14
5. How frequent do you consider controlling your drinking habit?	Always	Often	Occasionally	Rarely	Never
	32	35	51	28	4

N = 150

Correlation between drinking habits and the classification of drinkers

Pearson r statistical test revealed no significant correlation between the respondents' level of drinking habits and their classification of drinking ($p = .799$).

Association of profile variables to drinker classification and level of drinking habit

The associations of the demographic variables sex and age to the respondents' drinker classification and level of drinking habits were analysed using the Chi-square test. As shown in table 4a, the classification of drinkers is significantly associated to age ($p = .036$) but not to sex ($p = .162$), which could imply that how the respondents characterize their alcohol drinking is related to their age or maturity regardless of whether they are male or female. On the other hand, as presented in table 4b, sex is significantly associated (p = .033) while age is not (p = .676) to the level of drinking habits of the respondents. This can be attributed to the fact that the higher percentage of the respondents in this study is male, who generally can drink more alcoholic beverages than female.

Table 4a. The association of sex and age to drinker classification

Variable	Chi-square	p-value	Interpretation
Sex	21.456[a]	.162	Not Significant
Age	104.213[a]	.036	Significant

alpha level = .05

Table 4b. The association of sex and age to the level of drinking habit

Variable	Chi-square	p-value	Interpretation
Sex	16.745[a]	.033	Significant
Age	35.431[a]	.676	Not Significant

alpha level = .05

Significant difference in drinking habits in terms of profile variables

Mean values of 3.0604 and 2.7370 were obtained as level of drinking habits among males and females, respectively. By t-test, the difference between male and female mean levels of drinking habits was established to be highly significant (p = .002), which means that sex could have served as a significant factor in the forming of drinking habits of the respondents. The other profile variables (year level, age, allowance, and living condition) did not establish significant difference in the respondents' level of drinking habits.

Table 5. Significant difference in drinking habits based on sex

Sex	Mean level of drinking habits	Difference	p-value	Interpretation
Male	3.0604	0.323	0.002	Significant
Female	2.7370			

level of significance = .05

DISCUSSION

The respondents of this study are a total of 150 students from UIC, AdDU, and UM who professed being alcohol drinkers. Their demographic profile shows points that are subtly alarming. For instance, majority live with their own family and have weekly allowance of less than P1000, which could imply that an intact family and meager allowance are not enough to prevent students from engaging in alcohol drinking.

As expected, more respondents were classified as hedonistic drinkers, closely followed by re-bonding drinkers, than the other types. Hedonistic drinkers are characterized by excessive drinking that visibly abandon control and express their independence, freedom and youthfulness, consuming alcohol to release inhibitions/repressions (Science Daily, 2014). The re-bonding drinkers are driven by the need to keep in touch with people who are close to them. The combination of hedonistic and re-bonding types of drinkers together with alcoholic beverages or liquors enjoying life and expressing freedom could raise more concern, as Leah (2012) pointed out that they drink to loosen them up and for them to pour out their hearts to their friends and lovers. Still of gripping concern is the 10% of the respondents who tend to be border dependents, characterized as fast and heavy drinker who regard the pub as home, visiting it during the day and the evening, on weekdays and at weekends (Cockcroft, 2008).

Likewise, alarming extremes were evident in the drinking habits of the respondents. For instance, six revealed drinking alcohol everyday, eight started drinking at age 10 or younger, six admitted they can drink 16 or more glasses in one sitting, and four never considered controlling the drinking habit. Nevertheless, 21% admitted that they always consider controlling the habit, which shows their desire to give up the alcohol, but may not know how, since as pointed out by WHO (2008), alcohol has dependence-producing properties and can hook drinkers to the habit.

The results of the tests for significance revealed that there is no significant correlation between drinker classification and drinking habit; that drinker classification is significantly associated to age but not to sex, whereas drinking habit is significantly associated to sex but not to age; and that the difference between the levels of male and female drinking habits is significant. These results indicate that how alcohol drinkers perceive their drinking characteristics is age-related, which may reflect their experiences and maturity. The findings further indicate that sex could be a significant factor in the formation of the habit of drinking. Males are generally more concerned of having fun, bonding with friends and meeting new interesting people, as traditionally proposed by Siegel (1952) and Windham and Aldridge (1965) referring to the old school belief that the use and abuse of alcohol was a male prerogative. This is supported by Clark (1967) adding that drinking differences are based largely on the expectation that female sex roles are characterized by "conventionality" which might have stood true with the respondents' conditions. Apparently, Obot and Room (2005) have stressed that as compared with women throughout the world, men are evidently more likely to drink, consume more alcohol, and cause more problems by doing so, which they claim is one of the few universal gender gaps or gender differences in human social behaviour. The overall findings of this study provided basis for an intervention program to address alcohol problem among university students.

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UIC Research Journal
Vol. 21 No. 2 October 2015

Print ISSN 1656-0604
Online ISSN 2244-6532

Influence of Gay Language on the English Proficiency of Freshmen Students

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ABSTRACT

The flourishing of gay language in society shows the dynamism of language. This study sought to determine whether the proliferation of gay language could have a relationship with the English proficiency of freshmen college students. Using a two part survey questionnaire and an English Grammar Competency Test, the study found that the level of use of gay language among higher education institutions students is low, which indicates that the usage of gay language is manifested by the respondents once in a while at a long interval of time. The level of the English proficiency of the respondents in terms of grammar is average. In terms of significant difference in the level of English proficiency among the respondents when analyzed according to their demographic profile, there is a significant difference in terms of gender while there is none in terms of economic status and religious affiliations. In terms of significant relationship between the use of gay language and English proficiency of the respondents, findings revealed that there is no significant relationship.

KEYWORDS: Gay Language, English Grammar Proficiency, Correlation, Philippines

INTRODUCTION

Gay language is a slang or collective term used to identify what seems to be a secret language in gay communities. It uses elements from Filipino, English, Spanish, and Japanese, as well as trademark brands and celebrities' names, giving them meanings in different contexts which make words colorful and funny when used in conversing. In the past, one is immediately identified as homosexual when one uses swardspeak. This created an exclusive group among its speakers making it easy for people belonging to the third sex recognize each other (Vestil, 2013).

In the Philippines, gay lingo, sward language, gay language, sward speak and gay slang are a variety of words in Filipino language. By using the said language, Filipino gay men are able to resist the dominant culture by creating a space of their own. The gay language does not follow the universal grammatical rules since these words are created through the creativity of the mind. It is also constantly changing reflecting changes in their culture and also maintaining exclusivity. The dynamic nature of the language refuses to isolate itself to a single culture and allow for more freedom in expression among its speakers (Maruja, 2010).

According to Remoto (2008), the intricacy of gay language is seen how it defies the structure of English grammar where the uses of functions of words are interchanged, such as when noun is used as an adjective. Aside from the fact that gay language is characterized by constant progress, changing everyday, it has no established grammar or spelling system which makes it difficult to codify.

It is in this context that the researcher finds an urgency to conduct a deeper study and understanding on the level of influence of gay language on grammar proficiency of the students of Davao City. This study could be of benefit to various stakeholders like English teachers and students, by providing relevant and evidence-based information hoped to enlighten them about effects of using gay language, and specifically for teachers, as basis for crafting corrective measures.

This study is anchored on the theory of Krashen (1987), which states that adults have distinct and independent ways of developing competence in a second language. The first way is language acquisition which is a process similar, if not identical, to the way children develop ability in their first language. Acquisition is a subconscious process in which language acquirers are not usually aware of the fact that they are using the language for communication. The second way to develop competence in a language is by language learning. He uses this term to refer to conscious knowledge of a second language, knowing the rules, being aware of theme and being talk about them.

In support of the above theory, Gianan (2008) stated that gay language users acquire it either subconsciously or consciously. First is subconsciously in which users may not know but they are continually using the language of gays as they speak. It had actually added color and fun in their ordinary conversations and in away boosted their morale when it comes to speaking. The other way to acquire it is consciously, users are aware that they are using it, why they are using it and how to use it.

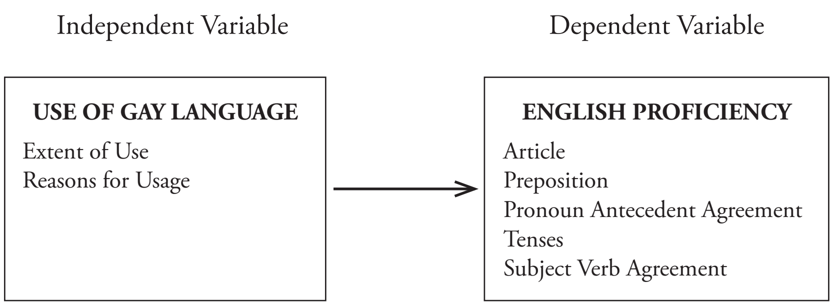

Figure 1. Conceptual framework of the study

Study Objectives. This study aimed to determine the effect of using gay language to the English proficiency of first year students in tertiary institutions in Davao City. Specifically, it sought to 1) find out the level of use of gay language among the first year student respondents in terms of extent of use and reasons for usage; 2) find out their level of English proficiency in terms of Grammar; and 3) test the null hypotheses that the difference in the level of the English proficiency among the respondents when they are grouped according to profile, and that the relationship between their use of gay language and English proficiency are not significant.

METHOD

This study made use of descriptive correlational method in order to investigate the presence of a relationship between the use of gay language and English proficiency among college freshmen. It used desciptive survey technique to measure the independent variable. This technique is concerned with perceptions, conditions, relationships that exists, practices that prevail, beliefs, processes that are going on, effects that are being felt, or trends that are developing and how variable varies with another that is, to have similar relative positions (Williams, 2007). In this view, the descriptive survey method was an appropriate research design employed in the study for the study try to determine or find out the level of influence of gay language on grammar proficiency of the respondents.

The respondents of this research study were 400 students from selected tertiary schools in Davao City who were officially enrolled during the First Semester of Academic School Year 2013-2014.

The research instrument that was used in this study was a researcher-made survey questionnaire that was subjected to validation by school validators prior to the survey proper and had undergone reliability test. The questionnaire contained two parts. The first part of the questionnaire contains the demographic profile of the respondents and the second part of the survey questionnaires will consisted. The second part has 40 questions that were adapted from gay-lingosurvey blogspot.com and was translated by the researcher in English language. It has two gay language indicators and these were the extent of use and the reasons of usage. Five Likert scale was used for the questionnaire.

Scale	Range	Descriptive Equivalent	Interpretation
5	4.50-5.00	Very High	This indicates that the usage of gay language is manifested at all times.
4	3.50-4.49	High	This indicates that the usage of gay language is manifested oftentimes.
3	2.50-3.49	Moderate	This indicates that the usage of gay language is manifested sometimes.
2	1.50-2.49	Low	This indicates that the usage of gay language is manifested once in a while.
1	1.00-1.49	Very Low	This indicates that the usage of gay language is manifested not at all.

Competency testing was also used in this study to determine the level of English proficiency of the respondents, specifically their competency in grammar.

Statistical Treatment of the Data

Specific statistical tools were used in the computation of data testing the hypothesis at .05 level of significance. Frequency / Percentage was used in determining the numbers of respondents and their frequency according to their demographic profile. Mean was used in determining the level of usage of gay language and the level of competencies in English among the higher education institution freshmen students. ANOVA was used in determining the significant difference in the level of the English proficiency among first year students when analyzed according to their demographic profile. Pearson (r) was used in determining the significant relationship between the use of gay language and English proficiency of the respondents.

RESULTS AND DISCUSSION

Presented in this section are the results and discussions which are arranged as follows: Level of Use of Gay Language Among the Respondents, Level of English Grammar Proficiency Among the Respondents, Significant Difference in the Level of Grammar Proficiency When Analyzed According to Gender, Significant Difference in the Level of Grammar Proficiency When Analyzed According to Economic Status, Significant Difference in the Level of Grammar Proficiency When Analyzed According to Religious Affiliations and Significant Relationship Between the Use of Gay Language and English Proficiency.

Table 1. Level of use of gay language among the respondents

Gay Language	Mean	Descriptive Equivalent
Extent of Use	1.85	Low
Reasons of Use	2.44	Low
Total Mean	**2.14**	**Low**

Findings revealed that Reasons of Use has the highest weighted mean of 2.44 which has a low descriptive equivalent. This indicates that the usage of gay language is manifested once in a while. The extent of Use has the lowest weighted mean of 1.85 which has also a descriptive equivalent of Low. This also indicates that the usage of gay language is manifested once in a while. The total mean is 2.14 which is interpreted as low which means that the respondents do not use the said language in a daily basis.

The result above is in conformance with the idea of Collier (1985) in which he stated that a person will become bilingual when there is a real need to communicate in two languages and will just as quickly revert back to monolingualism when there is no longer a need.

Table 2. Level of English grammar proficiency among the respondents

Variable	Mean	Descriptive Equivalent
English Proficiency	50.00	Average

Findings revealed that the total weighted mean of grammar proficiency of the respondents is 50.00 which has a descriptive equivalent of average. This means that the respondents are good enough in English language in terms of grammar.

The result above is in conformance with the report of Marcelo (2010), country director of IDP Education for the Philippines wherein he found out that the majority of tertiary school students have average proficiency scores in English of 50% for secondary students and 67% for tertiary students.

Table 3. Significant difference in the level of grammar proficiency when analyzed according to gender

Gender	Mean	t-value	p-value	Decision on Ho
Male	47.99	2.287	0.023	Rejected
Female	51.37			

If p-value is less than or equal to 0.05 alpha level, reject Ho.

The significant difference in the level of grammar proficiency revealed that the computed t-value is 2.287 while p-value is 0.023 which is lesser than 0.05 level of significance, which lead to the decision of rejection of null hypothesis. Therefore, there is a significant difference in the level of grammar proficiency when analyzed according to gender.

The findings above is in conformance with the study of Yi'an (2006) in which he investigated English majors, and believed that female students obviously excel male students in terms of grammar proficiency and language learning.

Haiyan (1998) who studied prototype of gender and its reflection in grammar and speech communication competence between the two genders. According to her, obvious differences exist between male and female in terms of grammar proficiency and language use.

Table 4. Significant difference in the level of grammar proficiency when analyzed according to economic status

Income Bracket	Mean	t-value	p-value	Decision on Ho
10,000 & below	50.78			
10,001-30,000	50.60			
30,001-50,000	50.32	0.012	0.891	Accepted
50,001-70,000	50.74			
70,001 & above	50.69			

If p-value is less than or equal to 0.05 alpha level, reject Ho.

Findings revealed that the computed t-value is 0.012 while p-value is 0.891 which is greater than 0.05 level of significance, which lead to the decision of acceptance of null hypothesis. Therefore, there is no significant difference in the level of grammar proficiency when analyzed according to economic status.

The results above is supported by the study of Lang (1998) cited by Blevins (2009), in which he stated that some scholars argue that socio-economic status is an excuse for low scoring school districts on assessments. It is said to believe that low-income school districts can still perform at a high academic level.

Table 5. Significant difference in the level of grammar proficiency when analyzed according to religious affiliations

Religious Affiliations	Mean	t-value	p-value	Decision on Ho
Catholic	50.23			
Protestant	49.72	0.769	0.512	Accepted
Born Again	50.64			
Others	46.67			

If p-value is less than or equal to 0.05 alpha level, reject Ho.

Findings revealed that the computed t-value is 0.769 while p-value is 0.512 which is greater than 0.05 level of significance, which lead to the decision of acceptance of null hypothesis. Therefore, there is no significant difference in the level of grammar proficiency when analyzed according to religious affiliations.

The results above is supported by Ellis (2007) which stated that language proficiency may be defined as the ability to use a language effectively and appropriately throughout the range of social, creed or religion, personal, school, and work situations required for daily living in a given society. In literate societies, language proficiency includes both oral and written language. Language proficiency emphasizes not only the grammatical rules governing sounds, word forms, and word orders to convey meaning. Thus, it can be seen, judgments concerning language proficiency are deeply rooted in social, religious and cultural norms

Table 6. Significant relationship between the use of gay language and english proficiency

Use of Gay Language (x)	English Proficiency (Y)	p-value	Verbal Interpretation
Extent of use	0.015	0.760	Accepted
Reasons of use	0.047	0.356	Accepted
Overall Mean	**0.035**	**0.493**	**Accepted**

The overall computed p-value is 0.493 which is greater than 0.05 level of significance, therefore there is significant relationship between the use of gay language and English proficiency.

The result above is supported by the idea of Labov (1979) which stated that English is a separate language system with its own grammar and rules. This means that learning English grammar is learned independently. Even though some is trying to acquire new language, it does not influence the grammar proficiency of a person acquiring it.

Conclusions

The level of use of gay language among higher education institutions students is low, which indicates that the usage of gay language is manifested by the respondents once in a while at a long interval of time. The level of the English proficiency of the respondents in terms of grammar is average.

In terms of significant difference in the level of English proficiency among the respondents when analyzed according to their demographic profile, there is a significant difference in terms of gender while there is none in terms of economic status and religious affiliations. In terms of significant relationship between the use of gay language and English proficiency of the respondents, findings revealed that there is no significant relationship.

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