EARIST RESEARCH JOURNAL

"Knowledge and Technology Transfer: Barometer of Excellence in Research Innovation"

FOREWORD

The Eulogio "Amang" Rodriguez Institute of Science and Technology takes pride in publishing Volume XVIII, No. 24, July - December 2018 of the EARIST Research Journal as it contributes to the attainment of EARIST's Mission, Vision, Goals, and Objectives through scholarly publications.

This volume is the output of researches conducted by EARIST faculty during the School Year 2017-2018. This volume highlighted seventeen (17) distinct researches in different fields, but most noteworthy, each individual research achievement.

The topics vary as shown in every page, but each is full of diverse stories confirming happenings in every college of the Institute. The office of research hopes to mirror the activities of our educators in assuming their task as researchers.

There are more challenges left in the various fields waiting for further scrutiny. We continue the never ending cycle of the quest for new knowledge and further understanding of the issues at hand. The work remains unsolved. But unless we produce our own solutions to existing problems, the challenges will never be met.

The research work undertaken by faculty members and staff are included with the hope that these will contribute to the advancement of research activities of the institute and will serve as medium in the dissemination of research outputs to the community.

Engr. Rogelio T. Mamaradlo
Director, Research Services

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Technical Research

COMPUTER BASED TRAINING FOR PROFESSIONALS ENROLLED IN COMPUTER NETWORKING COURSE THE CENTER FOR CONTINUING EDUCATION AND SPECIAL COMPETENCIES - MAPUA INSTITUTE OF TECHNOLOGY: AN ASSESSMENT

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INTRODUCTION/RATIONAL

Today, computer and internet is probably one of the most powerful tools to have the biggest impact on education. The rapid rise of available software and various education tools that are computer based caused a significant change in the world of education.

Computer Based Learning can be used as a cost effective tool to bring efficiencies to the transfer of knowledge. It can be used for a wide range of learning and development processes, and if delivered via the internet, it can be readily modified and deployed in an updated form instantly. (Internet 2013)

Computer-based education ore-learning has become very popular in both traditional school and online universities. Whilst learning has three basic ingredients: learning materials, teacher and student, computers and internet have become essential tools in learning.

In computer-based education, computers and other electronic devices are integrated into the learning process to facilitate learning. Computer-based education includes, but is not limited to, computer-aided instruction and distance learning.

The need for lifelong and continuous education, the rise of a more accessible educational resources bolstered an influx of professional adult learning that are computer based, thus making it easily available anytime, anywhere.

Using the computer for training and instruction, Computer Based Training programs are caUed 11courseware11 and provide interactive training sessions for all disciplines. Using graphics extensively, Computer Based Training was originally introduces on Main Frames, then laser discs, then CD-ROMS and later on line. Computer based training courseware is typically developed with authoring languages that are designed to create interactive question/ answer session.

The increased use of distance learning is one of the most controversial trends in Higher Education today. Nevertheless, clear and comprehensive information on how distance learning is implemented in higher education is hard to find. Previous studies have focused primarily on quantifying the rate of increased use and attempts to catalogue brief description of the programs available at various institutions. What have not been addressed in the previous research are the questions of pedagogical practices as they relate to using educational technology. (The Knowledge Medium: Designing Effective Computer-Based Educational Learning Environments by Gary A. Berg, 2003).

Despite the fact that educational technologies now cover a variety of approaches such as micro world or virtual communities, they still convey among many the caricature of the early days: a sequence of question-answer feedback frames or a drill-and-practice environment. Most forms of modern e-learning are inspired by this paradigm in the form of Web Based Training (WBT). Web Based Training (WBT) may include live broadcasts, videoconferencing, instant messaging, forums, etc.

Frequently, Computer Based Training or Computer Aided Instruction refers to a wider range of pedagogic strategies such as:

- Drill and practice - allows student to hone their skills and competency while exposing them to the actual activities of the course. Frequent exposure to hands on activities will further enable to them to understand not only the concept but the application as well.

- Tutorial - the course.ware and course materials are made avaUable on line any time students wish to gain access, as long as there is an internet available. Students can learn at their own phase, their own time. Simulated activities can also be accessed thereby, allowing a tutorial like environment to the learners.

- Simulation - there are learners who expressed adeptness to learning while seeing or watching a video related to the course. As such, the computer based education courseware provided a simulated environment for students to work on. This is on an interactive environment that encourages critical analysis and active participation of the learners.

- Educational games-this environment further encourage and motivates learners to engage in their studies. Games promotes fun learning in a relaxed environment for the learners.

- Problem solving -Various case studies are presented in the course material to hone the problem solving/ troubleshooting skills of the learners. Learners should be able to present/ create a feasible solution required from the course.

- Application -this is the most essential part of the course as application gauges the students' mastery of the skill and theories learned.

However, assessing its impact to learners may be a difficult task since computer technology has a broader and complex scope.

This research project aims to evaluate and assess the effectiveness of Computer Based Learning (CBL)Program for adult professional learners of the Center for Continuing Education and Special Competencies of the Mapua Institute of Technology.

With the following objective in mind, the researcher aims to study and evaluate the following areas:

1. Assess the rate and performance of the Computer Based learning Program

2. Assess the impact of Computer Based learning adult professionals enrolled

3. Assess the efficiency of teaching strategies

4. Assess the adequacy of learning materials and facilities

5. Assess the competence of the course instructors

The scope of the study is the set of a number of adult learners and professionals who are enrolled in the program.

STATEMENT OF THE PROBLEM

This study aims to assess the course of professional students enrolled in Computer Networking Program, a Computer Based Learning Course offered at the Center for Continuing Education and Special Competencies.

Specifically, this research aimed answer the following questions

1.   What is the profile of student respondents in terms of:

    a.   Age;
    b.   Bachelor's Course,
    c.   Reason for taking the course, and
    d.   Economic Status?

2.   How do the professional respondents perceive the assessment of the computer based training course in Computer Networking at the Center for Continuing Education and Special Competencies in terms of:

    a.   Course Evaluation;
    b.   Support Services and technical aspects;
    c.   Equipment and Facilities;
    d.   instructor Competence; and
    e.   Teacher-Student Interaction?

3.   Is there a significant difference in the perceptions of the professional respondents in assessing Computer Based Training in Computer Networking in terms of:

    a.   Age;
    b.   Bachelor's Degree;
    c.   Reason for taking the course; and
    d.   Economic Status?

4.   What are the problems met by the professional learners as respondents in assessing the Computer Based Course in Computer Networking?

5.   What are the proposed recommendations/ suggestions given by the professional learners as respondents to solve the problem stated in item# 4?

THEORETICAL FRAMEWORK

Figure 1 shows the Conceptual Framework of the study which describes the workflow and sequence of activities of the research study.

This research focuses on the tenets by prominent theorists in the field of computers, internet and technology. Some of them are Parkey and Stanford (1992) who predicted that:

1.   Greater individualization of instruction

2.   Diagnostics use of computers to identify learning problems

3.   New teachers responsibilities as planners, coordinators, programmers and

managers.

    4.   Stronger development of problem solving and communication skills.

    5.   Greater development of cooperative learning modes.

Let me share some of the timely quotes about computers and education today:

"Teaching in the Internet age means we must teach tomorrow's skills today." -Jennifer Fleming

"Itis not about the technology; it's about sharing knowledge and information, communicating efficiently, building learning communities and creating a culture of professionalism in schools. These are the key responsibilities of all educational leaders". -Marion Ginapolis

"Education is evolving due to the impact of the Internet. We cannot teach our students in the same manner in which we were taught. Change is necessary to engage students not in the curriculum we are responsible for teaching, but in school. Period." -April Chamberlain

We need technology in every classroom and in every student and teacher's hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world." - David Warlick
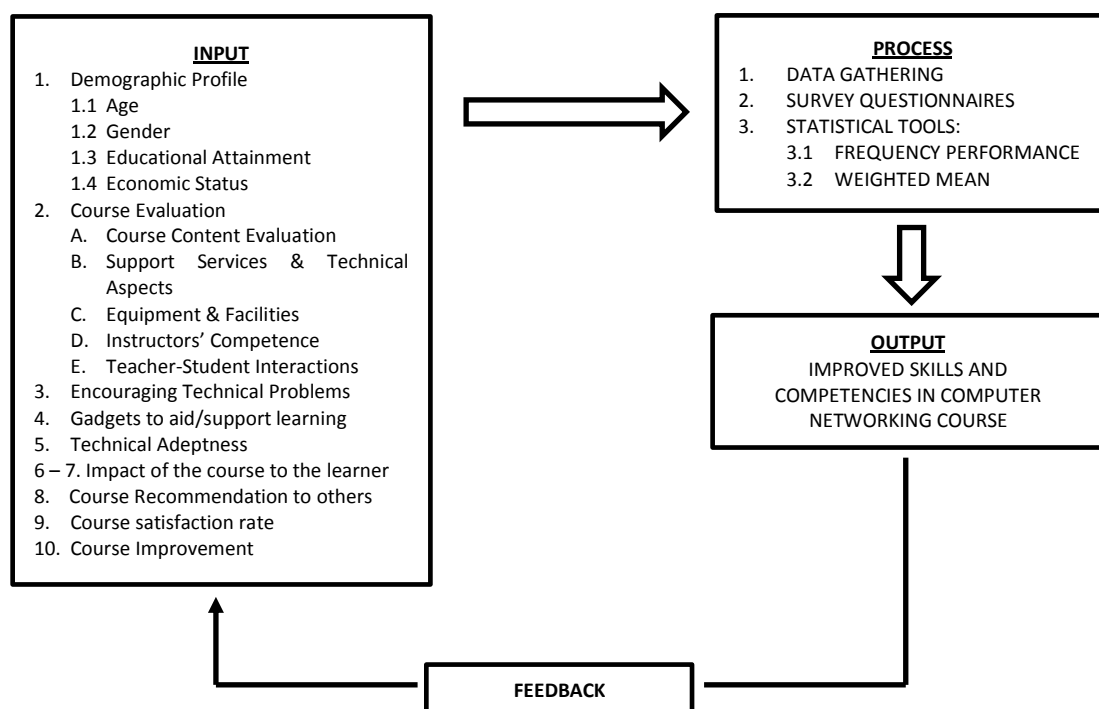
Figure 1.

Conceptual Paradigm

The researcher created the conceptual framework of assessing the Computer Based Learning of professional learners taking up Computer Networking Course at the Center for Continuing Education and Special Competencies using the IPO System approach.

The variables in this study are the professional learner's input which consists of their individual perceptions of the course. This will help determine the overall assessment outcome of this research.

The processes are the data gathering, the survey questionnaires and the statistical tools. The output process would be the improved course, as well as improved skills and competence of the professional learners.

REVIEW OF RELATED LITERATURE AND STUDIES

The Mapua Institute of Technology was founded on January 25, 1925, by Don Tomas Mapua an Architecture graduate of the Cornell University in the USA and the first registered Filipino Architect. He envisioned an educational institution that should emphasize the importance of science and technology and create an impact on the economy and quality of life of the Filipino.

The tradition of academic excellence was carried on even after his demise on December 1965. His only son, Don Oscar B. Mapua took over the presidency with the commitment to the furtherance of the vision of the founder of the Institute. The success of the efforts of the Institute to establish a culture of excellence in education is firmly evidenced by the high performance of its graduates in the licensure examinations; consistently placing in the top ten and maintaining high percentage rates.

On December 1999, the ownership of the Institute was passed on to a business conglomerate headed by Secretary Alfredo T. Yuchengco. The new Mapua Institute of Technology has started to establish linkages with other technological schools and cyber - technology institutions so that Mapuans will have a global access to knowledge and techniques. (MIT viewbook 2011-2012). To be able to further expand and supplement the culture of excellence, MIT established the Center for Continuing Education and Special Competencies {CCESC).

CCESC, formerly the Continuing Education Program (CEP) was established in 1986 to provide supplemental course programs in computer applications to MIT students. The initial course offerings bolstered CCESC's resolve to expand its program by introducing non-conventional and computer based learning instructions covering advance courses in Engineering, IT related programs (hardware and software applications), and review modules for engineering licensure exams (CCESC Brochure 2013).

Offering of computer based learning and embedding it in the curriculum of the students seeks to improve their studies and provide students with state of the art instructions and learning experience so that they will gain a competitive edge in the global market. Computer Based Learning can increase the level of technical expertise of students as well as keeping them abreast with the latest breakthroughs of learning. Starting off with the Computer Aided Design as an elective subject for engineering students. Later on, CCESC was able to establish ties with world leading IT institutions and eventually, CCESC was granted accreditation by various IT educational providers to be the training center for the delivery of selected Computer Based Learning Courses. Some of the well known learning partners that CCESC are in collaboration with are Queensland University of Technology for the SAP UAE Program, Cisco

Systems for CNAP, HP- UX for the UNIX Courses, and Microsoft Academy for Microsoft Programs.

With its vision of becoming a premier center for non-conventional learning, CCESC aims to utilize the latest technology in the educational world.

But like many other technologically advanced learning tool, there will always be the pros and cons to it. As such the researcher will somehow able to look and dwell more on the greater good, effectiveness and reliability of the computer based learning systems to our professional learners seeking continuing education, relative to the world of information technology.

Based on the literature stated above, the researcher seeks to study the sustainability, strengths, weakness and the impact of Computer Based Learning to our professional learners.

RESEARCH METHODOLOGY

This chapter will dwell on how the study will be undertaken. This will include among others, the research method and discussion of the research design, sources of data, procedures on gathering data, sampling techniques and relevant information from the respondents.

RESEARCH METHOD AND DESIGN

Descriptive researcher statistical research provides data about the population or universe being studied. But it can only describe the "who, what, when, where and how" of a situation, not what caused it. Therefore, descriptive research is used when the objective is to provide a systematic description that is as factual and accurate as possible. (www.htm.uoguelph.)

This research utilize the descriptive method of research in determining the problem in assessing the Computer Based training course in Computer Networking at the Center for Continuing Education and Special Competencies at the Mapua Institute of Technology.

The survey questionnaire is directed to appropriately extract answers that will give light on the researcher's statement of the problem.

The result of the questions will be used as the main data of this study will be used interpreted, presented and analyzed in the documentary analysis using the descriptive method.

POPULATION AND SAMPLE SIZE

The respondents of this study are the fifty (SO) randomly selected professional learners enrolled in the computer based learning course which the Computer Networking Program of the Center for Continuing Education and Special Competencies.

RESEARCH INSTRUMENT USED

Survey questionnaire is used as the primary tool in gathering the data needed for this research. In order to accomplish this, a letter of approval was sent to the Director of the Center

for Continuing Education and Special Competencies. This is to formally seek permission for the conduct of the survey to professional learners of CCESC enrolled in Computer Networking Course.

The content of the questionnaire was drafted through the use of various available resources such as thesis, internet, books, related articles, journals, etc. to be able to come up with an effective measuring tool for this research.

Likert scale by means of 5 to 1 rating for the rater to correspond accordingly to what they deemed is the appropriate answer, 5 being the highest (excellent, very satisfactory, satisfactory, fair, poor) 1 being the lowest.

The survey instrument was then reviewed, edited and validated by professors who are expert in this field, namely Dr. Loreto Jao, Dr. Zenaida Santos and Dr. Virginia Fermin

STATISTICAL TREATMENT OF DATA

Data gathered in this research were analyzed, interpreted and presented. Statistical tools are the mean, weighted mean, frequency distribution.

a. Relative Frequency
b. Mean
c. Weighted Mean

Rating Scale: The level of the respondents' response were determined by verbal interpretation to the computed weighted mean using likerts' 5 point scale as illustrated in the table below:

Ranges	Scale	Verbal Interpretation
4.50-5.00	5	Excellent (E)
3.50-4.49	4	Very Satisfactory (VS)
2.50-3.49	3	Satisfactory (S)
1.50-2.49	2	Fair (F)
1.00-1.49	1	Poor (P)

d. ANOVA (Analysis of Variance)

e. Independent Samples T-TEST

RESULTS AND DISCUSSION

This focuses on the analysis, interpretation and presentation of data. The data obtained from the survey questionnaire given by the respondents are the source of information for this research.

RESPONDENTS OF THE STUDY

The data recorded from the respondents yielded the following characteristics:

1.   PROFILE

1.1   AGE

Frequency and Percentage Distribution of Respondents by Age Group

The frequency and distribution of respondents by age group for the Computer Based Learning of the Professional Learners enrolled in the Computer Networking course has 7fY',{, for 21-30years age group, with the frequency of 35. On the other hand, 28% is for 20 and below age group with a frequency of 14. The lowest is 2% for 31-40 age group with only a frequency of 1.

COURSE

Frequency and Percentage Distribution of Respondents by Course

The frequency and percentage distribution of respondents by course went to Engineering with the highest percentage score of 64% because of the 32 frequency. The Information Technology course on the other hand has 32% with a frequency of 12. More so, only 8% with a frequency of 4 was for the medical course. While 4 % with a frequency of 2 was under the Computer Science course which is the lowest in the research.

1.2   ECONOMIC STATUS

Frequency and Percentage Distribution of Respondents by Economic Status

The Economic Status projected to have 3&% with a frequency of 19, for unemployed garnered the highest. Followed by 34% with a frequency of 17 for the employed professional learners. And 24% with 12 frequency for the students, while 4% with 2 frequency was the lowest for the self employed.

2.   ASSESSMENT

2.1   COURSE EVALUATION

Weighted Mean and Qualitative Description of the Training Course in Computer Networking at the Center for Continuing Education and Special Competencies in terms of Course Evaluation

It earned Very Satisfactory as the overall weighted mean (WM) for the Computer Based Training Course for Professional Learners enrolled in the Center for Continuing Education and Special Competencies- MIT, in terms of the course evaluation.

It is on a positive note that all survey questions for the course evaluation earned a Very Satisfactory rating, beginning from the highest for the course content being innovative and interesting with 4.48 WM.

Course instruction is easy to understand and interesting with a 4.36 WM, Thoroughly Explained course content comes next with a rate of 4.32 WM, Clearly met course objective with a 4.22 WM and the right level of difficulty for the course earned the rating of 4.12 WM.

2.2 SUPPORT SERVICES AND TECHNICAL ASPECTS

Weighted Mean and Qualitative Description of the Training Course in Computer Networking at the Center for Continuing Education and Special Competencies in terms of Support Services and Technical Aspects

A Very Satisfactory rate was obtained for the Support Services and Technical Aspects for the weighted mean and qualitative description of the training course in Computer Networking at the Center for Continuing Education and Special Competencies (CCESC).

Weighted Mean (WM) started with a highest score of 4.42, for the course readily available/accessible online, 4.36 WM for the course facilitator who provided useful information / tools about the course, 4.34 WM for the coursereadily available /accessible on line (off campus),4.32 WM for the course facilitator *I* course technician who handled the technical problems, and the lowest from the very satisfactory rate was 3.88 WM for the speed and efficiency of the Internet Service Provider in the campus.

2.3 EQUIPMENT AND FACIIITIES

Weighted Mean and Qualitative Description of the Training Course in Computer Networking at the Center for

Continuing Education and Special Competencies in terms of Equipment and Facilities

It has a very satisfactory rating was the overall Weighted Mean (WM) for equipment and facilities used for the training course in Computer Networking for professional learners at the Center for Continuing Education and Special Competencies (CCESC)- MIT.

The highest weighted mean (WM) was 4.38 for the LCD projector, followed by 4.34 WM for lighting and air - conditioning. Next is 4.04 WM for computers and laptops, while Internet Service Providers garnered 3.90 WM and the last would be 3.&4 WM for the tables and chairs.

C.	Equipment and Facilities			
	1. Computers should be upgraded	1	2	3
	2. Routers, switches and cables should be upgraded	1	2	3
	3. LCD should be replaced *I* cleaned *I* checked	1	2	3
	4. Testing Centers should be upgraded	1	2	3

2.4   INSTRUCTOR COMPETENCE

Weighted Mean and Qualitative Description of the Training Course in Computer Networking at the Center for Continuing Education and Special Competencies in terms of Instructor Competence

The Instructor Competence got an Excellent overall weighted mean (WM) for the Computer Networking Course at the Center for Continuing Education and Special Competencies (CCESC)- MIT. This would have would be interpreted that Computer Networking instructors have the competence and skills to handle the course.

Technical Skills of the instructor garnered the highest grade of 4.60 WM, followed by mastery of subject matter with WM. Teaching methodologies and strategies obtained a 4.54 WM while a 4.52 WM was for Skills presentation and demonstration. The last WM of 4.48 was for the ability of the instructor to maintain the interest of the participants.

2.5   TEACHER - STUDENT INTERACTION

Weighted Mean and Qualitative Description of the Training Course in Computer Networking at the Center for Continuing Education and Special Competencies in terms of Teacher-Student Interaction

For this result, 4.64 Weighted Mean {WM) was the highest rate obtained with the interpretation as Excellent for Comments, Questions and Suggestions that were welcomed by the instructor as well as the ability to present the course very well. Still an Excellent rate of 4.60 WM went to encouraging students to participate in the lecture and laboratory activities required by the course. Another parallel equivalent for 4.56 WM as excellent was for "Encouraging and Promoting Critical Thinking and Analysis " and for the "Ability to maintain interest of the participants".

In summary, the overall weighted mean projected Excellent of 4.60 WM for the Teacher- Student Interaction in the training course of Computer Networks of Center for Continuing Education and Special Competencies.

3.   TEST

3.1   AGE GROUP (t-test)

T test Test for Significant Difference between the Age Group of Respondents towards their Mean Assessment with Training Course in Computer Networking at the Center for Continuing Education and Special Competencies

The test for significant difference between the age group of the respondents and their mean assessment towards the computer based training course in Computer Networking at the Center for Continuing Education and Special Competencies using independent sample T-test since we are only comparing 2 variables. Our decision is to reject the null hypothesis (there is no significant difference between the two variables) if the value of sig. is less than or equal to the 0.05 level of significance. Otherwise, we do not reject the null hypothesis.

As reflected, since the value of sig. {0.948) is greater than our level of significance (a= 0.05), we failed to reject the null hypothesis. Thus, at 0.05 level of significance, we have insufficient evidence to conclude that there is a significant difference between the age group of the respondents and their mean assessment towards the computer based training course in Computer Networking at the Center for Continuing Education and Special Competencies.

3.2 COURSE (ANOVA)

ANOVA (One-way Analysis of Variance): Test for Significant Difference between the Course of Respondents towards their Mean Assessment with Computer Based Training Course in Computer Networking at the Center for Continuing Education and Special Competencies

The ANOVA (One-way Analysis of Variance) test which determines if a significant difference exists between the between the Course of Respondents towards their Mean Assessment with Computer Based Training Course in Computer Networking at the Center for Continuing Education and Special Competencies when grouped according to their course or BS Degree. Significant difference is said to be present among variables if the sig. value is less than or equal to the level of significance [0.05).

The table shows that the sig. value (0.125) is greater than the level of significance (a= 0.05), we retain the null hypothesis, thus, we have insufficient evidence to conclude that there is a significant difference between the mean assessment of professional learner respondents of the Computer Based Training Course in Computer Networking at the Center for Continuing Education and Special Competencies when grouped according to their course or BS Degree.

3.3 ECONOMICSTATUS

ANOVA (One-way Analysis of Variance): Test for Significant Difference between the Economic Status of Respondents towards their Mean Assessment with Training Course in Computer Networking at the Center for Continuing Education and Special Competencies

Ho (null hypothesis): 7here is no significant difference between mean assessment of the respondents towards the training course in Computer Networking and their economic status.

The independent samples t-test to determine if there exists a significant difference between the mean assessment of the respondents towards the training course in Computer Networking and their economic status. If the Sig. value is less than or equal to the level of significance (a= 0.05) set by the researcher, then the null hypothesis is rejected. It can be observed thatthe Sig. value (0.000) is less than the level of Significance (0.05). With this, the null hypothesis is rejected, thus, we conclude that there is a significant difference between the mean assessment of the respondents towards the training course in Computer Networking and their socio economic status.

CONCLUSIONS

The researcher is able to draw several findings in this study. These are:

1.   The Computer Networking Course, a computer based learning program *of* the Center for Continuing Education and Special Competencies is a well accepted course in the field of continuing adult education. More so, the result of the survey conducted yield a very positive result in terms of course content, support and technical services, teacher- student interaction, equipment and facilities and instructor competence which earned an excellent rating.

This is the most crucial among all evaluation as instructors/facilitators played a major part in the learning process of the adult learners.

2.   There are more unemployed professional learners who enroll on a computer based learning program to acquire new skills in the field of computer networking. This proves that adult learners are open to learning and acquiring knowledge and skills in the field of information and computer technology, in order for them to be competitive and become marketable in the job market.

3.   Professional adult learners are technically adept and rate themselves as computer sawy persons who can adapt to the modern technology of teaching and learning. This is another positive attribute and may become a basis for developing other computer based learning course designed to cater to the needs of adult professional learners seeking continuing education utilizing the modern approach in education.

4.   All respondents rated that the Computer Based Learning program of the CCESC is beneficial and the course should be recommended to other professionals who wants to pursue continuing adult education through a CBL program, utilizing the latest technology of teaching and learning.

RECOMMENDATIONS:

Based on the conclusions, the following recommendations are drawn:

1.   Adult learners are open and adept to the computer based learning programs, therefore the CCESC department should tap the opportunity to develop more CBL programs that can cater to the needs of the adult learners and the need of the industry as well.

2.   The professional learners suggested some improvement on the equipment and facilities used such as the LCD projectors, Internet Service Providers, desktop /laptop as well the testing center used for taking examination of the Computer Networking Course. The CCESC department should allocate budget for such.

3.   Inputs from the respondents recommended more laboratory and simulated activities as well as video and audio presentation for the course.

4.   Course instructors/facilitators got an excellent rating from the respondents, however this does not mean that they are off the hook. They should always be on the look-out with the latest technology innovations and trends in education and equip themselves more to be able to competently guide the learners.

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SENSORY EVALUATION AND PROXIMATE ANALYSIS OF CANCANDALIAN JELLY

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Marivir M. Pielago

INTRODUCTION

Cancandaly fruit is indigenous fruit available in the province of Pangasinan and Bicol. It is commonly eaten by children and available from the month of July to October. Its tree is almost similar with ginger tree and the fruit is blossom through its roots.

Thus, this study aimed to develop another variety of jelly using cancandaly fruit as the main ingredient using two proportions in terms of appearance, aroma, flavor and spreadability.

MATERIALS AND METHODS

The process where the collection of raw materials, extraction, formulation, testing and improvement of the product. Subjected to sensory evaluation using the two proportions and evaluated by the selected consumers. The most acceptable proportion in the sensory test was evaluated by the experts and subjected to proximate analysis.

The study made used of the experimental method of research using two proportions (80% and 100%). The formulations were evaluation by the 30 selected consumers. The most preferred formulation was evaluated by the 10 expert respondents. In preparing, first select a sound ripe cancandaly fruit, wash and remove from cover, extract the juice then combine with other ingredients, cook until syrupy medium.

According to Cordova (2011:117) experimental research, or a quasi experiment, is research where the scientist actively influences something to observe the consequence. Found to be effective in identifying problem and finding solutions to it, the study presented to the respondents and make realization that solution and improvement based on their first hand experiences and acceptability. It is the study of relationship among variables which are manipulated and measured as well as improve conditions under observation in arriving at a better result.

RESULTS

Table 1

Summary of the Evaluation of consumers on Cancandaly Jelly using 80% and 100% Formulations

Criteria	80% Formulations		100% Formulations		Overall	
1. Appearance	7.07	LM	8.09	LVM	7.63	LVM
2. Aroma	7.53	LVM	7.93	LVM	7.73	LVM
3. Flavor	7.63	LVM	8.50	LE	8.06	LVM
4. Spreadability	7.05	LM	8.93	LE	7.99	LVM
Total	**7.32**	**LM**	**8.36**	**LVM**	**7.84**	**LVM**

Table 1 shows the evaluation of consumers on the level of acceptability of Cancandaly Jelly using 80% and 100% formulations.

Results showed that 100% Cancandaly Jelly got the highest mean score of 8.36 with the most acceptable treatment observe in almost all the sensory attributes evaluated.

Table 2

Summary Table on the Acceptability of Cancandaly Jelly as Evaluated by Expert using the Most Preferred Formulation (100%)

Criteria	100% Formulation	Verbal Interpretation
1. Appearance	4.73	HA
2. Aroma	4.02	A
3. Flavor	4.53	HA
4. Spreadability	4.13	A
Total	**4.20**	**A**

Table 2 manifests the evaluation of expert on the acceptability of Cancandaly Jelly using the most preferred formulation.

It could be gleaned from the table that appearance and flavor criteria were evaluated as Highly Acceptable as evidence by the mean values of Appearance and Flavor. Aroma and Spreadability criteria were evaluated Acceptable as evidence by the mean values of 4.13 and 4.02 respectively.

These findings imply that the 100% formulation of Cancandaly Jelly is acceptable to expert respondents.

Table 3

Result of Proximate Analysis

Analysis Name	Result	Methodology
Ash	2.44%	Based on AOAC
Crude Fat	21.10%	Based on AOAC
Crude Protein	10.22%	Based on AOAC
Moisture	2.35%	Based on AOAC
Calories from Carbohydrates	110.56/kcal/100g	By Computation
Calories from Fat	258.10/kcal/100g	By Computation
Total Carbohydrates	28.89%	By Computation

As to the proximate analysis made by SGS ash has 2.44%, crude fat has 21.10%, crude protein has 10.22%, moisture has 2.35%, calories from carbohydrates has 110.56 kcal/100 grams, calories from fat has 258.10/kcal/100grams and 28.89% total carbohydrates.

Conclusions

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

1. The two different formulations utilized in the preparation of Cancandaly Jelly is Like Very Much.

2. The expert respondents positively accepted the acceptability of Cancandaly Jelly.

3. The Proximate Analysis result are as follows ash has 2.44%, crude fat has 21.10%, crude protein has 10.22%, moisture has 2.35%, calories from carbohydrates has 110.56 kcal/100 grams, calories from fat has 258.10/kcal/100grams and 28.89% total carbohydrates.

Recommendations

Based on the findings and conclusions of the study, it is recommended that:

1. Further experimental study should be conducted to determine=ne the marketability and shelf life of Cancandaly Jelly.

2. Proper sealing and storage should be observe to prolong the shelf life of the product.

FACTORS AFFECTING THE UTILIZATION OF INSTRUCTIONAL MATERIALS IN TEACHING AND LEARNING COMPUTER 1

Arnold M. Bautista
Jeffrey B. Villena
Jonjon V. Pantaleon

INTRODUCTION

A lot of aspect during teaching and learning is affected and compromise when teachers just talk and talk without the use of instructional materials. Firsthand, is the sustenance of student's interest during the critical part of the lesson. Without any materials at hand may make them uninterested in the lesson, class participation is not maximize, engagement during discussion is not as energetic and lively, and most of all, mastery of the lesson may not be achieved by the student. It's a fact that instructional material is an aid to teaching and learning. It enables to raise learning from verbalization to practical aspect of teaching and learning. It can be stressed that the use of instructional materials is very important and needed, for the reason that it makes teaching and learning interesting, easy and enjoyable and thus makes learning more effective.

In addition to these notions, instructional materials can be considered as one of the major determining variables that affect learning. It has to do with the creation of an environment in which students can develop their full potentials and lead productive lives in accordance with the demands of their interest and needs either as individuals or as group within the society.

Furthermore, instructional materials are those things which help teaching and learning process through understanding of concepts and generalization by making lessons practical and realistic. Any teachers, instructors and professors, who shows deep concern regarding the learning of their students, is committed to think of the ways and means, such as preparing tools and other instructional materials to make teaching and learning process effective and interesting to the students. It stimulates the students desire to learn. It assists learning process by making assimilation and memorization of materials easy. Also, it helps to hold attention, include greater acquisition and, as well as objectives, which may be in accessible to many students.

One of the main purposes of instructional materials is to promote efficiency of education by improving the quality of teaching and learning. Incorporating these tools and materials present, support and reinforces teaching. Materials and resources including audio tape recorders, video tape recorders, slide projectors, opaque projectors, overhead projectors, still pictures, programmed instruction, filmstrips, maps, chart, graphs and many, more offers a variety of learning experiences individually or in combination to meet different teaching and learning experiences (as cited in Okobia, 2011).

MATERIALS AND METHODS

This study employed the descriptive research. This method describes the nature of a situation as it exists at the study and explores the causes of particular phenomena, Traverse (1978) as cited by Amon (2011). Nageswara Rao Posinasetti (2014) defines descriptive research as one in which information is collected without changing the environment (i.e., nothing is manipulated). It is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation. The methods involve the range from the survey which describes the status quo, the correlation

study which investigates the relationships between variables, to developmental studies which seek to determine changes over time.

RESULTS AND DISCUSSION

Sub-Problem No. 1. What is the extent of utilization of instructional materials in teaching and learning Computer 1?

The table shows that the school heads and teachers assessed the extent of utilization of instructional materials as much utilized by the following: chalk and board (WM=4.41) rank 1; and textbooks (WM=4.33) rank 2. They rated as fairly utilized the following instructional materials: real objects (WM= 3.04) rank 3; video clips (WM = 2.54) rank 7; powerpoint presentation (WM= 2.99) rank 4; strategic intervention materials (WM= 2.86) rank 5; on line strategies/approaches (WM = 2.52) rank 8; and demonstration video (WM = 2.55) rank 6.

In general, the respondents assessed all the instructional materials as fairly utilized with computed composite mean of 3.16.

It can be noted that instructional materials that is technology-based was the least utilized among mathematics teachers. According to Robles, (2012), to promote meaningful and authentic learning, blended learning may be employed by teachers. It can be noted that the combination of traditional and technology-based approaches in teaching, specifically, blended learning can enhanced pedagogy, better access and flexibility, and amplified cost-effectiveness (Graham , Allen, and Ure, 2005).

Table 1 presents the extent of utilization of instructional materials in teaching and learning Computer 1.

Table 1

Extent of utilization of Instructional Materials

Instructional Materials	School Administrators		Techers		Composite		Rank
	WM	DI	WM	DI	WM	DI	
1. Real Objects	2.89	FU	3.18	FU	3.04	FU	3
2. Textbooks	4.18	MU	4.48	MU	4.33	MU	2
3. Chalk and Board	4.25	MU	4.56	VMU	4.41	MU	1
4. Video Clips	2.47	PU	2.60	FU	2.54	FU	7
5. Powerpoint Presentations	2.78	FU	3.20	FU	2.99	FU	4
6. Strategic Intervention Materials	2.73	FU	2.99	FU	2.86	FU	5
7. Online strategies/approaches	2.58	PU	2.45	PU	2.52	FU	8
8. Demonstration Video	2.49	PU	2.61	FU	2.55	FU	6
Average	**3.05**	**FU**	**3.26**	**FU**	**3.16**	**FU**	

Legend:

Scale	Numerical Value	Descriptive Interpretation	
5	4.50 – 5.00	Very Much Utilized	(VMU)
4	3.50 – 4.49	Much Utilized	(MU)
3	2.50 – 3.49	Fairly Utilized	(FU)
2	1.50 – 2.49	Poorly Utilized	(PU)
1	1.00 – 1.49	Not Utilized	(NU)

Sub-Problem No. 2. What are the factors affecting the utilization of instructional materials in teaching and learning Computer 1 as assessed by the school administrators and teachers in terms of:

2.1. Physical Facilities

The table shows that the school administrators and teachers were assessed by using the following indicators on the factors always affecting the utilization of instructional materials: Limited computers, LCD projectors and electronic appliances (WM = 3.74), rank 5; Weak internet connections (WM = 4.22), rank 1; Lack of ancillary rooms to store, assemble and secure IMs, furniture and equipment. (WM = 4.05), rank 2; Overcrowded classrooms (WM = 3.78), rank 4; Defective electrical installations (WM = 3.85), rank 3; and Maintenance of ICT resources (WM = 3.73), rank 6. Meanwhile, they assessed as moderately affecting by using the following indicators: Classroom structuring and arrangement of furniture not conducive to teaching and learning (WM = 3.13), rank 9; Durability of instructional materials, bulletin boards, realias, and apparatuses (WM = 3.42), rank 7; and Defective tables, chairs, cabinets, and shelves for storage of instructional materials (WM = 3.25), rank 8.

In general the respondents assessed all the indicators as always affecting with a computed composite mean of 3.69.

It can be observed that physical facilities can be a factor that can affect the utilization of instructional materials. Absence of durable, dependable classrooms and storage furniture and fast internet connectivity can affect the effectiveness and efficiency of teachers in using these instructional materials.

Table 2 shows the factor as to physical facilities affecting the utilization of instructional materials.

Table 2

Factors Affecting Utilization of Instructional Material as to Physical Facilities

Indicators	School Administrators		Techers		Composite		Rank
	WM	DI	WM	DI	WM	DI	
1. Limited computers, LCD projectors and electronic appliances	3.47	MA	4.00	AA	3.74	AA	5
2. Weak internet connections	4.51	AAA	3.93	AA	4.22	AA	1
3. Lack of ancillary rooms to store, assemble and secure IMs, furniture and equipment.	4.27	AA	3.83	AA	4.05	AA	2
4. Overcrowded classrooms	4.00	AA	3.56	AA	3.78	AA	4
5. Defective electrical installations	4.25	AA	3.45	MA	3.85	AA	3
6. Maintenance of ICT resources	4.02	AA	3.44	MA	3.73	AA	6
7. Classroom structuring and arrangement of furniture not conducive to teaching and learning	3.18	MA	3.08	MA	3.13	MA	9
8. Durability of instructional materials, bulletin boards, realias, and apparatuses	3.55	AA	3.29	MA	3.42	MA	7
9. Defective tables, chairs, cabinets, and shelves for storage of instructional materials	3.38	MA	3.11	MA	3.25	MA	8
Overall Weighted Mean	**3.85**	**AA**	**3.52**	**AA**	**3.68**	**AA**	

Legend:

Scale	Numerical Value	Descriptive Interpretation	
5	4.50 – 5.00	Almost Always Affecting	(AAA)
4	3.50 – 4.49	Always Affecting	(AA)
3	2.50 – 3.49	Moderately Affecting	(MA)
2	1.50 – 2.49	Seldom Affecting	(SA)
1	1.00 – 1.49	Never Affecting	(NA)

2.2   Teacher Factors

The table shows that the school administrators and teachers assessed as always affecting by using the following indicators: Lack of knowledge and skills in the production and utilization of IMs and Ability to choose the suitable and quality IMs. (WM = 4.02), rank 4.5; Inability to keep up with technology application in the preparation and utilization of IMs (WM = 3.85), rank 6; Lack of training in the preparation and utilization of appropriate IMs (WM = 4.05), rank 3; Lack of time due to teachers extra workloads aside from teaching loads (WM = 4.20), rank 2; Teachers creativity and resourcefulness of preparing IMs (WM = 4.37), rank 1.

Table 3 shows the teacher factors affecting the utilization of instructional materials.

Table 3

Factors Affecting Utilization of Instructional Material as to Teacher Factors

Indicators	School Administrators		Techers		Composite		Rank
	WM	DI	WM	DI	WM	DI	
1. Lack of knowledge and skills in the production and utilization of IMs	4.33	AA	3.71	AA	4.02	AA	4.5
2. Inability to keep up with technology application in the preparation and utilization of IMs	4.15	AA	3.55	AA	3.85	AA	6
3. Lack of training in the preparation and utilization of appropriate IMs	4.31	AA	3.79	AA	4.05	AA	3
4. Lack of time due to teachers extra workloads aside from teaching loads	4.29	AA	4.11	AA	4.20	AA	2
5. Teachers creativity and resourcefulness of preparing IMs	4.64	AAA	4.11	AA	4.37	AA	1
6. Ability to choose the suitable and quality IMs	4.44	AA	3.60	AA	4.02	AA	4.5
Overall Weighted Mean	**4.16**	**AA**	**3.66**	**AA**	**3.91**	**AA**	

In general, the respondents assessed teachers as "always affecting" on the factors affecting the utilization of instructional materials, with a computed composite mean of 3.91.

The result indicate that teachers being the provider of knowledge and skills to the students, should always be prepared in supplementing the lessons by means of using the right IMs in order to clearly convey to the students the learning concepts being taught to them. Teachers who maximized the utilization of IMs during teaching and learning help students to achieve higher learning performance. The studies of Albarico et al (2014), Onasanya and Omosewo (2011), Omebe and Akani, (2015) supported this claim regarding the positive effect of IMs on student performance.

2.3 Learning Resources

The table shows that the school administrators and teachers assessed all the indicators under resources as "always affecting" on the factors affecting the utilization of instructional materials. These are the following: Learning resources is not compatible with the lesson and learning objectives (WM = 3.82), rank 5; Limited access to online resources due to internet connectivity (WM = 4.28), rank 1; Applicability of learning resources and instructional materials to local setting (WM = 4.23), rank 2; Expensive learning resources and instructional materials (WM = 4.19), rank 3; Durability and maintenance of learning resources and instructional materials (WM = 4.01), rank 4; Incompatibility between IMs and the learning abilities, individual differences, and needs of the learners (WM = 3.57), rank 7; and Availability of local and indigenous learning resources and instructional materials (WM = 3.60), rank 6.

In general, the respondents assessed resources as "always affecting" on the factors affecting the utilization of instructional materials with a computed composite mean of 3.95.

Table 4 shows the factors affecting the utilization of instructional materials as to learning resources.

Table 4

Factors Affecting Utilization of Instructional Material as to Learning Resources

Indicators	School Administrators		Techers		Composite		Rank
	WM	DI	WM	DI	WM	DI	
1. Learning resources is not compatible with the lesson and learning objectives	4.15	AA	3.49	MA	3.82	AA	5
2. Limited access to online resources due to internet connectivity	4.5	AAA	4.01	AA	4.28	AA	1
3. Applicability of learning resources and instructional materials to local setting	4.40	AA	4.06	AA	4.23	AA	2
4. Expensive learning resources and instructional materials	4.18	AA	4.20	AA	4.19	AA	3
5. Durability and maintenance of learning resources and instructional materials	4.15	AA	3.86	AA	4.01	AA	4
6. Incompatibility between IMs and the learning abilities, individual differences, and needs of the learners	3.22	MA	3.91	AA	3.57	AA	7
7. Availability of local and indigenous learning resources and instructional materials	3.15	MA	4.05	AA	3.60	AA	6
Overall Weighted Mean	**3.97**	**AA**	**3.94**	**AA**	**3.96**	**AA**	

The result indicates that learning resources should be developed based on the learning needs of the students. Localized and indigenous materials should be considered in the production of IMs so that it will be readily available when needed.

2.4   Management Support

The table shows that the school administrators assessed as "always affecting" using the following indicators under management support. These are the following: Regular supervision of school heads (WM = 3.72), rank 1; No specific plans for the acquisition, construction and utilization of instructional materials (WM = 3.68), rank 2; Coordination between school administration and its stakeholders to support instructional material needs of teachers and students (WM = 3.55), rank 3; and Limited school budget allocations for supplementary instructional materials (WM = 3.55), rank 3.5.

On the other hand the respondents rated as "moderately affecting" using the following indicators: Limited priorities of school administrators towards acquisition of supplementary instructional materials (WM = 3.32), rank 7; Organization of committees assigned for acquisition, construction and utilization of instructional materials (WM = 3.36), rank 6; and Monitoring and evaluation of the utilization of instructional materials to teaching and learning (WM = 3.42), rank 5.

In general, the respondents assessed management support as "always affecting" on the factors affecting utilization of instructional materials with a computed composite mean of 3.51.

Table 5 shows the factors affecting the utilization of instructional materials as to management support.

Table 5

Factors Affecting Utilization of Instructional Material as to Management Support

Indicators	School Administrators		Techers		Composite		Rank
	WM	DI	WM	DI	WM	DI	
1. Coordination between school administration and its stakeholders to support instructional material needs of teachers and students	3.16	MA	3.94	AA	3.55	AA	3.5
2. Limited school budget allocations for supplementary instructional materials	3.04	MA	4.05	AA	3.55	AA	3.5
3. Limited priorities of school administrators towards acquisition of supplementary instructional materials	2.91	MA	3.73	AA	3.32	MA	7
4. No specific plans for the acquisition, construction and utilization of instructional materials	3.40	MA	3.95	AA	3.68	AA	2
5. Organization of committees assigned for acquisition, construction and utilization of instructional materials	3.16	MA	3.55	AA	3.36	MA	6
6. Regular supervision of school heads	3.29	MA	4.15	AA	3.72	AA	1
7. Monitoring and evaluation of the utilization of instructional materials to teaching and learning	2.85	MA	3.98	AA	3.42	MA	5
Overall Weighted Mean	**3.12**	**MA**	**3.42**	**AA**	**3.27**	**AA**	**3.12**

The result accorded the study of Kaewmak and Intharaksa (2011), wherein the school involved in their study has no concrete budgetary plan in the purchase of IMs.

The support of the school management in the budgeting, planning, and prioritizing is considered a relevant factor that affect in the production and utilization of these IMs in teaching and learning. A teacher teaching competence and effectiveness is reflective of the school that is supportive on the instructional material needs of teachers.

Table 6 shows the summary of the factors affecting the utilization of instructional materials in teaching mathematics.

Table 6

Summary of Factors Affecting the Utilization of Instructional Materials

Indicators	School Administrators		Techers		Composite	
	WM	**DI**	**WM**	**DI**	**WM**	**DI**
1. Physical Facilities	3.85	AA	3.52	AA	3.69	AA
2. Teacher Factor	4.16	AA	3.66	AA	3.91	AA
3. Learning Resources	3.97	AA	3.94	AA	3.96	AA
4. Management Support	3.12	MA	3.42	AA	3.27	AA
Overall Weighted Mean	**3.78**	**AA**	**3.64**	**AA**	**3.71**	**AA**

As shown in the table, all variables were assessed by the respondents as "always affecting". These are: Learning Resources (WM = 3.96), rank 1; Teacher Factor (WM = 3.91), rank 2; Physical Facilities (WM = 3.69), rank 3; and Management Support (WM = 3.27), rank 4.

Generally, the respondents assessed the utilization of instructional materials as always affecting with an overall weighted mean of 3.71.

Sub-Problem No. 3. What are the problems encountered by the respondents in teaching Computer 1?

Table 7 shows the problems encountered by respondents in teaching Computer 1.

Table 7

Problems Encountered by Respondents in Teaching Computer 1

Indicators	School Administrators		Techers		Composite		Rank
	WM	DI	WM	DI	WM	DI	
1. Students are not interested in computer	4.13	AE	4.09	AE	4.11	AE	2
2. Students poor study habits	4.22	AE	4.08	AE	4.15	AE	1
3. Poor ability of students to understand math concepts and terminologies	4.15	AE	3.94	AE	4.05	AE	3
4. Poor attendance of students	4.07	AE	3.75	AE	3.91	AE	8
5. Poor reading ability and comprehension of students	3.91	AE	3.76	AE	3.84	AE	14
6. Capability of teachers in teaching computer due to lack of mastery of the subject matter	4.02	AE	3.30	STE	3.66	AE	21
7. Teachers' limited knowledge and skills in integrating ICT in teaching and learning	4.11	AE	3.75	AE	3.93	AE	7
8. Teachers' lack of computer literacy training of teachers	4.05	AE	3.83	AE	3.94	AE	6
9. Lack of training and seminars of teachers regarding computer concepts and pedagogies	4.04	AE	3.54	AE	3.79	AE	16
10. Poor classroom management of teachers during group activities	3.96	AE	3.79	AE	3.88	AE	11
11. Slow internet connection to integrate ICT in teaching computer	3.98	AE	4.01	AE	3.99	AE	4
12. Lack of indigenous and local resources and instructional materials in teaching computer	3.89	AE	3.68	AE	3.99	AE	17
13. Limited budget for the purchase of supplementary instructional materials	3.95	AE	3.48	AE	3.72	AE	19
14. Insufficient number of learning materials, textbooks, teachers guides in teaching computer	4.13	AE	3.86	AE	4.00	AE	5
15. Limited ICT resources, and electronic appliances for teaching and learning computer	3.98	AE	3.55	AE	3.77	AE	18
16. Not conducive learning environment	3.95	AE	3.69	AE	3.82	AE	15
17. Overcrowded classroom	3.89	AE	3.81	AE	3.85	AE	12.5
18. Lack of parental support for the students	3.87	AE	3.51	AE	3.69	AE	20
19. Some computer activities are seldom supported by school administrators	3.95	AE	3.75	AE	3.85	AE	12.5
20. Limited supervision of school administrators to teachers	4.02	AE	3.78	AE	3.90	AE	9
21. Limited provision for mathematics learning materials and equipment	3.93	AE	3.85	AE	3.89	AE	10
22. Computer subject is seldom prioritized by the school administrators	3.85	AE	3.38	AE	3.62	AE	22
Overall Weighted Mean	**4.00**	**AE**	**3.56**	**AE**	**3.78**	**AE**	

Legend:

Scale	Numerical Value	Descriptive Interpretation	
5	4.50 – 5.00	Almost Always Encountered	(AAE)
4	3.50 – 4.49	Always Encountered	(AE)
3	2.50 – 3.49	Sometimes Encountered	(STE)
2	1.50 – 2.49	Seldom Encountered	(SDE)
1	1.00 – 1.49	Never Encountered	(NE)

The table shows that all the criteria were assessed by the respondents as always encountered. These are the following: Students with poor study habits (WM = 4.15), rank 1; Students are not interested in computer (WM = 4.11), rank 2; Poor ability of students to understand computer concepts and terminologies (WM = 4.04), rank 3; Slow internet connection to integrate ICT in teaching computer (WM = 3.99), rank 4; Insufficient number of learning materials, textbooks, teachers guides in teaching computer (WM = 4.00), rank 5; Teachers' lack of computer literacy training of teachers (WM = 3.94), rank 6; Teachers' limited knowledge and skills in integrating ICT in teaching and learning (WM = 3.93), rank 7; Poor attendance of students (WM = 3.91), rank 8; Limited supervision of school administrators to teachers (WM = 3.90), rank 9; Limited provision for computer learning materials and equipment (WM = 3.89), rank 10; 10. Poor classroom management of teachers during group activities (WM = 3.88), rank 11; Overcrowded classroom and Some computer activities are seldom supported by school administrators (WM = 3.85), rank 12.5; Poor reading ability and comprehension of students (WM = 3.84), rank 14; Not conducive learning environment (WM = 3.82), rank 15; Lack of training and seminars of teachers regarding computer concepts and pedagogies (WM = 3.79), rank 16; Lack of indigenous and local resources and instructional materials in teaching computer (WM = 3.79), rank 17; Limited ICT resources, and electronic appliances for teaching and learning mathematics (WM = 3.77), rank 18; Limited budget for the purchase of supplementary instructional materials (WM = 3.72), rank 19; Lack of parental support for the students (WM = 3.69), rank 20; Capability of teachers in teaching math due to lack of mastery of the subject matter (WM = 3.66), rank 21; and computer subject is seldom prioritized by the school administrators (WM = 3.62), rank 22.

As a whole, the weighted mean is 3.78 with an interpreted as "almost always".

It can be noted that the top three problems always encountered by mathematics teachers in teaching were all student-related factors. Whereas, the fourth and fifth problems always encountered by mathematics teachers were related to physical facilities and resources for instructional materials, respectively. The sixth and seventh always encountered problems were teacher-related factors, while the ninth and tenth always encountered problems were school heads' management related factors.

Sub-Problem No. 4. Based on the findings, what plan of action may be proposed?

The result of the study showed that the factors affecting the utilization of IMs in teaching and learning computer 1 were all attributed to the four variables such as physical facilities, student factor, resources, and management support.

In this regard, the developed plans of action were focused on the aforementioned factors.

The aim of this plan of action was to maximize the utilization of IMs in teaching and learning computer 1.

Sub-Problem No. 5. How acceptable is the proposed plan of action for teaching and learning computer 1 as assessed by the group of respondents?

The table shows that out of seven criteria, six were assessed by the respondents as very acceptable. These are: The proposed plan of action will benefit the institution (WM = 4.35) rank 1; The proposed plan of action addresses the problems and concerns of the teacher (WM

= 4.28) rank 2; The proposed plan of action could be programmed and adopted by the institution (WM = 4.27) rank 3; The overall plan of action of the proposed plan can be made clear to all concerned (WM = 4.24) rank 4; The proposed plan of action cater to the needs of the teachers (WM = 4.22) rank 5; and The proposed plan of action is workable and operative (WM = 4.20) rank 6.

Table 8 shows the acceptability of the proposed plan of action in the utilization of IMs.

Table 8

Acceptability of the Proposed Plan of Action

Indicators	School Administrators		Techers		Composite		Rank
	WM	DI	WM	DI	WM	DI	
1. The proposed plan of action could be programmed and adopted by the institution	4.18	A	4.36	VA	4.27	VA	3
2. The overall plan of action of the proposed plan can be made clear to all concerned	4.22	VA	4.26	VA	4.24	VA	4
3. The proposed plan of action will benefit the institution	4.32	VA	4.38	VA	4.35	VA	1
4. The proposed plan of action is workable and operative	4.16	A	4.24	VA	4.20	VA	6
5. The proposed plan of action is flexible enough to adopt to different conditions for which it is intended	3.90	A	4.16	A	4.03	A	7
6. The proposed plan of action cater to the needs of the teachers	4.09	A	4.34	VA	4.22	VA	5
7. The proposed plan of action addresses the problems and concerns of the teacher	4.26	VA	4.30	VA	4.28	VA	2
Overall Weighted Mean	**4.16**		**4.23**	**VA**	**4.16**		

Legend:

Scale	Numerical Value	Descriptive Interpretation	
5	4.20 – 5.00	Very Acceptable	(VA)
4	3.40 – 4.19	Acceptable	(A)
3	2.60 – 3.39	Moderately Acceptable	(MA)
2	1.80 – 2.59	Less Acceptable	(LA)
1	1.00 – 1.79	Not Acceptable	(NA)

The proposed plan of action is flexible enough to adopt to different conditions for which it is intended (WM = 4.03) rank 7 were assessed by the respondents as acceptable.

The result indicates that the proposed plan of action for the utilization of instructional materials can be very beneficial and useful to every school and specifically to teachers and students with an overall weighted mean of 4.23, with an interpreted as "very acceptable". Its acceptability will guide every school and teachers on how to produce appropriate instructional materials and how to use it in the right time, place, and in the context of students' needs towards effective and efficient teaching and learning.

CONCLUSIONS

From the findings of this study, the following conclusions were drawn:

1. The utilization of instructional materials in teaching and learning computer 1 was fairly utilized.

2. The factors namely: physical facilities, teacher factors, learning resources and management support were always affecting in the utilization of instructional materials in teaching computer 1.

3. All the problems listed were assessed by the respondents as always encountered.

4. The proposed plan of action was developed to maximize, aligned, and improve the utilization of instructional materials in teaching computer 1.

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VEGETARIAN GARUM FROM PLANTAIN FLOWER

Ma. Lee D. de los Reyes

BACKGROUND OF THE STUDY

This research aim to produce a product yield from the banana blossom as the main ingredients in making a ***veggie garum*** that is rich in nutritional value which may help in reducing heath problems such as diabetes, high blood pressure and heart attack.it is believed that banana blossom is rich in anti oxidants and tannins which are known in combating cancers and prevent bladder and urinary tract infections.

The researcher came up producing a healthy salted paste because of its versatility affordability and availability in the market. To determine the acceptability of this condiment the researchers gather 25 respondents the information and data were gathered through survey questionnaire checklist with corresponding rating in each question. The researcher observed the following criteria of veggie Garum in terms of: taste, color, texture, aroma, and appearance. Veggie Garum in terms of *taste* was found out very satisfactory with a weighted mean of 4.067 it shows that the respondents are satisfied with the taste of this product. In terms of its *color* it showed that the respondents preferred the original color of the product with a weighted mean of 4.6 which is very satisfactory. The texture has a weighted mean of 4.067 meaning the respondents are satisfied with the texture of veggie ***Garum.*** The veggie Garum was rated satisfactory by the respondents and the weighted mean was 4.23 in terms of aroma. With a weighted mean of 4.567 it showed that the respondents like how the veggie ***Garum*** appears on their eyes.

Since the researcher considers the health of each individual they prefer to use the banana blossom as their main ingredients in Veggie Garum the researcher use only the fresh and nutritious ingredients for this product and known for its versatility, affordability and availability in the market.

METHODOLOGY

To achieve the objective of this study, the descriptive experimental method will be used to identify and determine the acceptability of vegetarian garum from plantain flower in terms of taste, aroma, texture, color and appearance.

STATEMENT OF THE PROBLEM

1.   What are the ingredients and procedure, total cost summary and average pricing in utilizing the vegetarian garum from plantain flower?

2 .   How do the respondents assess the   vegetarian garum from plantain flower in terms of:

      2.1   Appearance
      2.2   Color
      2.3   texture
      2.4   Aroma

FINDINGS

RECIPE AND PROCEDURE IN MAKING VEGETARIAN GARUM FROM PLANTAIN FLOWER

- ▶ 1CUP BANANA BLOSSOM (sliced)
- ▶ ¼ CUP BROWN SUGAR
- ▶ 1/8 CUP CALAMANSI EXTRACT
- ▶ 1CUP GUSO (MINCED)
- ▶ ¼ CUP ATSUETE OIL
- ▶ 1 SMALL CAN TAUSI
- ▶ 1PC. CHILI (MINCED)
- ▶ 1/8 CUP GARLIC (MINCED)
- ▶ PROCEDURE:
- ▶ Wash and cut all the ingredients according to the recipe, set aside.
- ▶ Heat a pan, add the atsuete oil and sautee garlic until golden brown.
- ▶ Add the banana flower and tausi then sautee until cooked.
- ▶ Add the guso, calamansi extract and brown sugar. And cooked until the desired color is achieved, add chili and stir until the flavor is absorbed. Lastly, when the mixture is already cool, pour it in a sterilized jar and then cover. Sterilize the product for about 5min

The researcher observed the following criteria of veggie garum in terms of *taste* was found out very satisfactory with a weighted mean of 4.067, it shows that the respondents are satisfied with the taste of the product.

In terms of color the respondents preferred the original color of the product with a weighted mean of 4.6 which is very satisfactory.

The texture has a weighted mean of 4.067 meaning the respondents are satisfied with the texture of vegetarian garum.

The vegetarian garum was rated satisfactory by the respondents and the weighted mean was 4.23 in terms of aroma.

With a weighted mean of 4.567 it showed that the respondents like how the veggie garum

CONCLUSIONS

1.   The vegetarian garum is easy to prepare and affordable, it contains nutrition that are beneficial to human's body.

2.   The capability of banana blossom is limitless it has nutritional content that can also be utilized as one of the ingredients in other dishes.

3.   As the researcher went on the studies they discover that the vegetarian garum from plantain flower is one of the Filipinos healthy vegetable that can be use to develop new product for the consumer.

RECOMMENDATION

Based on the summary, finding and conclusions the following recommendations are made:

1.   The researcher recommend to future researchers to conduct follow up study to enrich more knowledge how to utilize plantain flower in other dishes.

2.   Further study on its life span, marketing and expiration of products should be ventured to advance its marketability.

3.   Entrepreneurial possibilities are also encouraged.

FRESHMEN ELECTRICAL TECHNOLOGY STUDENTS' SELF-ASSESSMENT OF THEIR SKILLS AND KNOWLEDGE IN INSTALLING AN ELECTRICAL SYSTEM WITH RIGID NON-METALLIC (PVC)

Mario Manuel B. Doctor III

INTRODUCTION

This study is an offshoot of the previous study of the researcher on the learning styles of freshmen electrical technology students. This paved the way for more explorations of the result of the previous one which revealed that kinesthetic learning style is the most often used style of learning of electrical technology students. Kinesthetic learners are students who demonstrate a strong liking for doing things. Learners tend to move around a lot and enjoy hand-n activities in the classroom. As such, the present study delved into the discovery of how kinesthetic learners assess their skills and knowledge in installing an electrical system with rigid non-metallic (PVC).

STATEMENT OF THE PROBLEM

This study aimed to determine the assessment of freshmen electrical technology students of their skills and knowledge in installing an electrical system with rigid non-metallic (PVC).

Specifically, it will answer the following questions:

1.   What is the age and sex of respondents?

2.   What is the assessment of freshmen electrical students as to their skills in installing electrical system with rigid non-metallic (PVC)?

3.   What is the level of knowledge of freshmen electrical students in installing electrical system with rigid non-metallic (PVC)?

4.   Is there a significant relationship between the skills and level of knowledge of freshmen electrical technology students in installing electrical system with rigid non-metallic (PVC)?

SIGNIFICANCE OF THE STUDY

The study is deemed beneficial to the following:

The Electrical Technology Students. Results of the study would help them identify strengths and weaknesses in terms of their knowledge and skills in lessons taken from their subject in electrical technology.

Teachers. The data from this study would be a factual basis of students' performance in a skill subjects based on how students perceive and assess themselves in terms of their knowledge of the topic/s taught to them. Data could also serve as a hint for teachers to focus on areas which students need to improve on or strengthen.

School Administration. The findings of the study can be a basis for predicting effectiveness of instruction and at the same time a basis for improving quality of instruction especially for skill courses like engineering.

Parents. The results can be an eye-opener for parents to support their child in pursuing interest in skill-courses and to provide avenues for their child to grow in their interest.

RELATED LITERATURE AND STUDIES

The content of this section is based on a review of literature pertaining to the self-assessment of electrical technology students on their skills and knowledge in installing an electrical system with rigid non-metallic (PVC).

Knowledge is sometimes viewed as if it was a concrete manifestation of abstract intelligence, but it is actually the result of an interaction between intelligence (capacity to learn) and situation (opportunity to learn), so is more socially-constructed than intelligence. Knowledge includes underpinning theory and concepts, as well as tacit knowledge gained as a result of the experience of performing certain tasks. Each knowledge and learning hierarchy therefore rests on primary mental abilities, with the implicit assumption of a general learning transfer capacity and 'logic of knowledge acquisition'. In all domains there is some logic that the acquisition and comprehension of new knowledge demands facilitating cognitive prerequisites and specific knowledge and skills(Winterton, Delamare-Le Deist, Stringfellow, 2005). On the other hand, skills was characterized by Pear (as cited in Winterton, Delamare-Le Deist, Stringfellow, 2005)) as being concerned with the quantity and quality of motor output: 'skill is the integration of well-adjusted muscular performances'.

Plato (417-327 BC) believed in nativism, that knowledge is inherited and is therefore natural of innate component of human mind (Tria, Limpingco, & Jao, 1998). Knowledge as used in this study is on the extent of what has acquired in the classroom regarding installation of electrical system using rigid non-metallic (PVC) and to learn is to gain knowledge or skill.

MATERIALS AND METHODS

Descriptive survey research design was used in this study using self-assessment approach to collect data on freshmen electrical technology students' self-assessment of their skills and knowledge in installing an electrical system with rigid non-metallic (PVC). The population of this study consists of 35 freshmen electrical technology students. Because of the small size of the population, the researcher utilized the entire population and therefore there was no sample and sampling technique for the study. The survey questionnaire was developed by the researcher which consists of 16 items that provide answers to the research questions constructed. A five-point rating scale was used to gather data from the respondents. A draft of the survey questionnaire for data collection was face validated by three (3) experts, two (2) experts from the College of Industrial Technology and one (1) from the College of Education. The experts were requested to go over each item of the questionnaire for clarity of statement and examined the appropriateness and suitability of all items on the instrument. The suggestions and corrections of the experts were applied in the improvement of the instrument. The validated instrument was then utilized for data collection.

RESULTS AND DISCUSSION

FINDINGS

The results of this study will be discussed in this section, wherein the data revealed the following:

Sub-problem No. 1. What is the age and sex of respondents?

Table 1

Frequency Distribution of Respondents in terms of Age

AGE	FREQUENCY	PERCENTAGE
16	7	20
17	11	31.43
18	4	11.43
19	7	20
20	5	14.29
21	0	0
22	1	2.86
Total	**35**	**100**

Table 1 presents the frequency distribution of respondents in terms of age. Based on the table, 11 or 31.43% of the respondents are 17 years old; 7 or 20% of the respondents are 16 and 19 years old; 5 or 14.29% are 20 years old; 4 or 11.43% are 18 years old; 1 or 2.86% is 22 years old; and none are 21 years old.

Table 2

Frequency Distribution of Respondents in terms of Sex

SEX	FREQUENCY	PERCENTAGE
Male	32	91.43
Female	3	8.57
Total	**35**	**100**

Table 2 presents the frequency distribution of respondents in terms of sex. Out of the 35 respondents 32 or 91.43% are male while 3 or 8.57% are female.

Sub-problem No. 2. What is the assessment of freshmen electrical students as to their skills in installing electrical system with rigid non-metallic (PVC)?

Table 3

Mean of the Responses as to Self-Assessment on Skills

Item	Weighted Mean	Interpretation	Rank
1. Trimming	4.66	Very skillful	3
2. Joints	4.66	Very skillful	3
3. Support of rigid non-metallic conduit	4.66	Very skillful	3
4. Expansion joints	4.66	Very skillful	3
5. Minimum size	4.57	Very skillful	8
6. Number of conductors	4.63	Very skillful	6
7. Bushings	4.54	Very Skillful	9
8. Angle bend on non-metallic (PVC)	4.34	Skillful	10
9. Off-set bend on non-metallic (PVC)	4.60	Very skillful	7
10. Approved location of installation	4.66	Very skillful	3
Grand mean	**4.58**	**Very skillful**	

Table 3 presents the mean of the responses of the respondents' assessment of their skills. The items trimming, joints, support of rigid non-metallic conduit, and expansion joints and approved location of installation got a weighted means of 4.66 which is interpreted as "very skillful". While, minimum size, number of conductors, bushings, and off-set bend on non-metallic (PVC)"very skillful" interpretation or 4.57, 4.63, 4.54, and 4.60,respectively. On the other hand, angle bend on non-metallic (PVC) got "skillful" interpretation or 4.37. The grand mean in terms of self-assessment as to skills is 4.58% or "very skillful".

Sub-problem No. 3. What is the level of knowledge of freshmen electrical students in installing electrical system with rigid non-metallic (PVC)?

Table 4 shows the mean of responses of the respondents' in terms of their assessment of their level of knowledge. Based on the data shown on the table, all items obtained a grand mean of 4.63 or "very knowledgeable" except for "know that in installing PVC, it must be supported within 12 inches from each box or conduit termination with a clamp or c-clamps" which got a mean of 4.37 which is interpreted as "knowledgeable".

Table 4

Mean of the responses as to Level of Knowledge

Criteria	Weighted Mean	Interpretation	Rank
1. Know that PVC is one of the best commonly used conduits	4.66	Very knowledgeable	5
2. Know that an electrician needs to cut, heat and bend a non-metallic rigid conduit	4.80	Very knowledgeable	1
3. Know that an electrician should see to it that the internal diameter of the conduit cannot be reduced and damaged	4.54	Very knowledgeable	9
4. Know that a PVC should not be placed too long over a fire	4.77	Very knowledgeable	2
5. Know that a conduit can be bent while still soft.	4.57	Very knowledgeable	7.5
6. Know that in order to maintain the conduit's shape and size, the bent portion must be covered	4.60	Very knowledgeable	6
7. Know that a wet cloth placed over the heated portion of the conduit can provide instant cooling	4.71	Very knowledgeable	3.5
8. Know that an electrician should use appropriate tools in holding and cutting PVC	4.57	Very knowledgeable	7.5
9. Know that in installing PVC, it must be supported within 12 inches from each box or conduit termination with a clamp or c-clamps	4.37	Knowledgeable	10
10. Know that an electrician should follow rules and regulations in PEC concerning non-metallic conduit (PVC) installation	4.71	Very knowledgeable	3.5
Grand mean	**4.63**	**Very knowledgeable**	

Sub-problem No. 4. Is there a significant relationship between the skills and level of knowledge of freshmen electrical technology students in installing electrical system with rigid non-metallic (PVC)?

Table 5

Relationship of Skills and Level of Knowledge

Critical Value	Computed Value	Decision	Interpretation
± .334	.999	Reject null hypothesis	Significant

Table 5 reveals the relationship of skills and the level of knowledge of freshmen electrical technology students in installing electrical system with rigid non-metallic (PVC). It indicates that there is a strong relationship between skills and knowledge wherein the higher the level of knowledge the freshmen students acquire the higher their skills are developed.

CONCLUSIONS

Based on the findings, the following conclusions are drawn:

1.   Less than half of the total respondents are 17 years old; while 7 are 16 and 19 years old. Out of the 35 respondents, 32 are males and 3 are females. From this data, we can conclude that majority of the respondents are male.

2.   Majority of the respondents are very skillful in installing electrical non-metallic (PVC). However, the skill on putting angle bend on non-metallic (PVC) yielded only a "skillful" assessment from the students themselves.

3.   Majority of the respondents are very knowledgeable in installing electrical non-metallic (PVC). Yet one item "know that in installing PVC, it must be supported within 12 inches from each box or conduit termination with a clamp or c-clamps" got an interpretation of "knowledgeable" only.

4.   A relationship exist between knowledge and skills of freshmen students in installing rigid non-metallic (PVC).

RECOMMENDATIONS

Based on the conclusions, the following recommendations are offered:

1.   The skill on putting angle bend on non-metallic (PVC) may be re-examined by the teachers. They may try to find a way to help the students become more skillful in this area since this is important in proper electrical installation of PVC.

2.   Knowledge of proper installation of an electrical system with rigid non-metallic (PVC) is important in terms of its safety aspect. Teachers may ensure that the knowledge they impart to their students are tested by means of constant application and practice of principles taught by them in the classroom.

3.   For students, attention to details as well as knowledge of concepts to actual situations may be given importance most especially on situations that would require them to apply the concepts that they have learned inside the classroom.

4.   Future research may be conducted in investigating the skills acquired by students in the higher level of learning in terms of installation of other electrical system.

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MULTI – CHANNEL LEARNING PEDAGOGICAL APPROACH FOR A STATE COLLEGE: BASIS FOR A QUALITY INFORMATION TECHNOLOGY (I.T.) INSTRUCTION

Dr. Arlene P. Evangelista

INTRODUCTION

Nothing beats persistence when discussing the importance and undisputed cutting edge of new information technology in education. To be left behind is a serious academic disaster.

In fact, there is a plausible reason from any institution to log in exercising decisions over innovative and responsive innovation. However, its role in this information age extends up to telecommunications bridging the gap between antiquity and modernity. Teaching in higher education today has presently metamorphosed into a Camelot of dynamic technology.

Today, a lot of transfer of learning thrives on information. People depend on computer-based system to create, process, access, and distribute information. Information is knowledge, and knowledge is power. This is true for all ages in all works of life. Students use computers to research homework topics, communicate with friends, and acquire the latest music. Similarly, inventors use computers to make multimillion-dollar decision; financial institutions employ computers to transfer billions of dollars around the world instantaneously, and chemical engineers use computers to store and process information about chemical reaction rates to design biodegradable products.

According to Baldouf and Stair, employers expect graduating college students to be as fluent with computers and digital technology as they are with the English language. A case in point is the number of jobs in technical fields is growing by leaps and bounds. Many leading companies post many job ads, even in non-technical fields, specify computer skills. Employers advertising professional positions that require a bachelor's degree assume that applicants will have a thorough understanding of digital technologies and their uses. Applicants who don't are simply squeezed out of the running. The more they know about computers and technology, the more marketable they are no matter what their career. Employers recognize that computers can assist in acquiring important job skills and knowledge, communicating, effectively, and working efficiently. For instance, samples of these ads below indicate the need for computer and communication tools literate.

Presently, on the national setting, the economy of the country for the past years is showing signs of vigorous and continued growth even if it encounters uncertainly and concerns. Equally, the Filipinos are resilient and have a tremendous faith in education, specifically, the higher education institutions with the rising concern about the magnitude of the tasks ahead of them. There is absolutely no doubt that higher education is the cornerstone of the country's economy and the capability of the institutions to adopt information technology will eventually lead to dramatic improvement in education because of the profound impact of technology has had on virtually all other aspects of society.

Among the information communications technology (ICT) institutions used on a large scale is electronic computer (called ENIAC). Also in an increasing and quickening fashion, students and teachers are getting into internet-surfing or browsing for information that educate and entertain them. This advanced global network serve as the repository of global information

that caters to every information needs, from education, personal and entertainment, to business.

Eventually, these information tools are now in palm-sized terminals hook up to global networks via radio signals and teach students without even requiring them to attend formal schooling: hence, there won't be any need of a physical classroom as teachers and students can teach and learn as well as communicate, work and even play virtually anywhere and anytime even in the privacy of their bedroom. With these institutions, for one, teachers have a tremendous opportunity to become parallel thinkers – individuals can attend in several critical thinking processes at the same time, in the same manner that computers and other forms of communication tools can do multi-processing. With greater exposure to technologies, the possibility of stretching the brain capacity of the students to move their brain power and interactively communicate is really not remote.

It is in this context that the researcher conducts this study to assess the multi-learning pedagogical approach of a state college using information technology of its College of Arts and Sciences (CAS) and College of Engineering (CEN) as basis for an innovative approach to multi-channel learning instruction approach.

METHOD OF RESEARCH

Both descriptive and normative method of research was employed in the study since the researcher conducted a survey and used historical data of the status and profile of a state college with respect to its application of computer and information technology and communication tools in computer science and computer engineering courses. According to Sanchez, it is gathering knowledge of facts concerning conditions desired or where one is at present, knowledge of conditions desired or where one wishes to be, and knowledge of how to get where one wishes to be are gained from studies that deal with causation. Through observation of coincidence of certain conditions and certain apparent consequences, survey study furnishes valuable clues as to the cause-effect relationships.

RESULTS AND DISCUSSION

The challenge of using information technology in instruction in the tertiary level is faced with lots of problematic issues and concerns. The introduction of technology sees the issues as ground up, as much as in the part of the faculty on the teaching methodologies/ approaches to use that impact knowledge and skills to the students; and importantly, appropriating technology and instituting initiatives to impact quality education.

The concerns, so far, is on gaining literacy media and information literacy, hence, the researcher in her desire to enhance technology instruction has designed and developed a Proposed Interactive Learning System (ILS) Model for a State College to ensure quality IT instruction.

It is in this view that this study is conducted since she believes, her proposed interactive learning IT instructional strategy will serve as a useful tool material for both faculty of technology and students of information communication technology, computer and electronic engineering course use interactive instructional approach.

This study is descriptive in nature where 7 college administrators and expert in the persons of vice-president, deans, coordinators; and 29 faculty of the colleges of IT, Computer and Electronic Engineering participated, and 271 students, or a total of 307 representing a State College, the Eulogio "Amang" Rodriguez Institute of Science and Technology (EARIST), in Manila as the venue of the study.

Using sets of validated survey questionnaire complemented by interviews and observations, the researcher gathered her data, summarized them and subjected to statistical computation.

The following are the findings of the study:

1.   The college administrators, faculty, and students of a State College assessed to high level of relevance the identified IT knowledge and skills required of IT, computer, and electronic engineering students as shown in the obtained overall means of X = 3.98, X = 3.77, and X – 3.53 (for the first, second and third groups) and where the relevance was highest in know how the system works with X = 4.04 composite mean; awareness of accepted standard and commonly – used language between systems like, other communication tools with X = 3.91; and web and web publication with X = 3.90, composite mean, and skills in the use of internet with X = 4.18, respectively.

2.   No significant difference exists among the assessments of the 7 college administrators, 29 faculty; and 271 students since the application of One-Way ANOVA or F-test ranges from highest obtained means from F = 2.266 relevant knowledge, to F = 1.344 in relevant skills which obtained computed F-values are all found in the acceptance region at 0.05 alpha level and at 306 degree of freedom. These values were drawn from sum of squares (SS) = 2.681; and mean squares (1.341) between groups; and within groups of SS = 179.844 and MS = 0.592, that the research hypothesis (Ho) raised is accepted.

3.   The three (3) groups of respondents perceived the limitations encountered by the State College as it addressed its education needs in appropriating technology (X = 3.85), source of knowledge (X = 3.77); require skills (X = 3.75); and in accessibility to technology (X = 3.73) which composite means all were under the highly limited level. These were supported by the individual perceptions as reflected in the overall obtained means of X = 3.71 (university administrators); X = 3.51 faculty; and X = 3.59 student respondents.

4.   All of the groups of respondents perceived the high level of limitations of the IT education needs of the University to be not significant in all the ten (10) requirements as evidenced by composite means of obtained F-values which were highest in appropriating technology (F = 2.077); inadequacy of facilities and equipment (F = 1.901); accessibility to technology (F = 0.969); technological capability of the institution (F = 0.733); utilization of IT and other communication tools (F = 0.585); source of knowledge (F = 0.454); limited infrastructure (F = 0.210); required skills (F = 0.175); and in technology-driven approach (F = 0.003), respectively all to the acceptance region at 0.05 alpha level and at 306 degrees of freedom.

5.   Based on the findings of the study and guided by the available data on survey, the accompanying Proposed Interactive Learning System (ILS) Model which is offered for the perusal of the State College hopes to address at the same time the needs of the Institution to further enhancing the utilization of IT and providing adequate facilities, equipment and tools designed to meet the education needs of its students enrolled in IT, computers and electronic engineering and other courses.

This Proposed Model is designed featuring special considerations to meet the education, science and technology needs of the State College.

It can be discerned from these findings that the Proposed Interactive Learning System (ILS) will help the students increased their knowledge, skills and competencies as well as gradually developed their interest in using the latest technology in the academe.

CONCLUSIONS

In the light of the findings of the study, the researcher arrived at the following conclusions:

1.   The college administrators, faculty and students assessed the relevance of the identified IT knowledge and skills to high level in the State College as shown in the overall obtained composite mean of X = 3.76.

2.   There exists no significant difference in the assessments of the groups of respondents as to the relevance of the identified IT knowledge and skills required in the study of the State College courses based on knowledge and skills in the use of technology since all the obtained F-values tested against its critical values are all in the acceptance region.

3.   There were limitations in the education needs met by the State College as it addressed its educational initiative in utilizing technology in its course offerings in IT, computer and electronic engineering courses and these limitations were highly met as evidenced by a composite mean of X = 3.59.

4.   All the identified limitations in the education needs of the State College were perceived to have been addressed by the College as reflected in the obtained F-values which are found in the acceptance at 0.05 alpha level and at dfs = 306. They all were of the views that these limitations have to be addressed.

5.   The Proposed Interactive Learning System (ILS) Model is offered to the State College if the College wants to innovate and address the strong felt need for the IT to produce productive and globally competitive graduates and professionals.

RECOMMENDATIONS

From the conclusions drawn, the following course of actions are offered:

1.   The College administrators and faculty should further explore other areas of the subject matter to make it more diversified and interesting to the students by using the different ICT tools in the teaching of engineering, computer and IT courses so as to afford both teachers and students novel and innovative approach in the teaching and study of their courses using technology.

2.   The College Administrators should provide adequate funding to possibility and opportunity for other faculty members of the Colleges to undergo training and development in the use of interactive approach in other academic disciplines to address the need to adopt technology as an integral part of instruction and improved course offerings.

3.   The following are some compelling reasons why this Proposed Interactive Learning System (LIS) Model is recommended for the use of the University:

     3.1   It is a syllabus-based tool and covers almost all the requirements of all the subject matters of the IT course requirements of the College;

     3.2   It is a skill-and knowledge building tool since the Proposed Model uses the "Learning Powered by Technology" instruction, well-organized and systematically presents the subject matter focusing on students and empowers them to take control of their own learning in the application of technology toward an independent study; and

     3.3   It develops self-awareness because the proposed interactive learning system actively focuses on independent study and enhancement of knowledge and skills of students.

4.   The State College should act its education goals in five (5) key result areas (KRAs) using IT in learning to engage and empower; measuring what matters; preparing and connecting; and accessing and enabling all educators and students to comprehensive technology instruction.

5.   The Proposed Interactive Learning System (ILS) Model using ICT should be endorsed by the State College for the use of all its faculty and students and serve as means of guiding them toward awareness on the use of ICT in Interactive teaching-learning process and update them as to communication and instructional tools very much needed in education.

Furthermore, the study may be replicated by other researchers to enrich various aspects in the study of science and technology and IT and other engineering subjects using other setting and variables.

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AUTOMATA MOBILE SIMULATION WITH IMAGE PROCESSING

Joevelyn W. Fajardo

INTRODUCTION

Mobile computing is becoming more and more popular and common. In the near future, people will be able to use mobile computers to do a various computing tasks and to access internet from anywhere and anytime at will. One of the positive features of our mobile phones is learning using an application and it should be taken into consideration that a mobile phone is still a phone which transmits audio text and even video between users

The purpose of this chapter is to provide the reader with an overview about machine learning. We will discuss some basic tools from statistics and probability theory, since they form the language in which many machine learning problems must be phrased to become amenable to solving. Finally, we will outline a set of fairly basic yet effective algorithms to solve an important problem, namely that of classification. More sophisticated tools, a discussion of more generation. Automata theory is closely related to formal language theory. An automaton is a finite representation of a formal language that may be an infinite set. Automata are often classified by the class of formal languages they can recognize, typically illustrated by the Chomsky hierarchy which describes the relations between various languages and kinds of formalized logic. Automata play a major role in theory of computation, compiler construction, artificial intelligence, parsing and formal verification.

In short, automation is a mathematical object that takes a word as input and decides either to accept it or reject it. Since all computational problems are reducible into the accept/reject question on words (all problem instances can be represented in a finite length of symbols).

STATEMENT OF THE PROBLEM

The main goal of the study is to let the user experience a real time experience of Automata Mobile Simulation with Image Processing.

1. What are the features to be considered in the development of Automata Mobile Simulation with Image Processing in terms of:

    a. Screen Lay-out; and

    b. System Capability?

2. How do the respondents assess the developed Automata Mobile Simulation with Image Processing in terms of:

    a. Screen Design of the Software;

    b. Effectiveness of the System; and

    c. Functionality of the System?

THEORETICAL FRAMEWORK

Automata are an exciting, theoretical branch of computer science. It established its roots during the 20th Century, as mathematicians began developing - both theoretically and literally - machines which imitated certain features of man, completing calculations more quickly and reliably. The word **automaton** itself, closely related to the word "automation", denotes automatic processes carrying out the production of specific processes. Simply stated, automata theory deals with the logic of computation with respect to simple machines, referred to as **automata.** Through automata, computer scientists are able to understand how machines compute functions and solve problems and more importantly, what it means for a function to be defined as *computable* or for a question to be described as *decidable.*

Automata simulators are pedagogical tools used to teach, learn and research automata theory. An automata simulator takes as input the description of an automaton and then simulates its working for an arbitrary input string. The description of the automaton can be entered in several ways. An automaton can be defined in a symbolic language or its specification may be entered in a predesigned form or its transition diagram may be drawn by clicking and dragging the mouse. Well known automata simulators include Turing's World, JFLAP, VAS, TAGS and SimStudies. Proficiency in a language does not expect one to know all the sentences of the language; rather with some limited information one should be able to come up with all possible sentences of the language. Even in case of programming languages, a compiler validates a program - a sentence in the programming language - with a finite set of instructions incorporated in it. Thus, we are interested in a finite representation of a language - that is, by giving a finite amount of information, all the strings of a language shall be enumerated / validated.

CONCEPTUAL FRAMEWORK

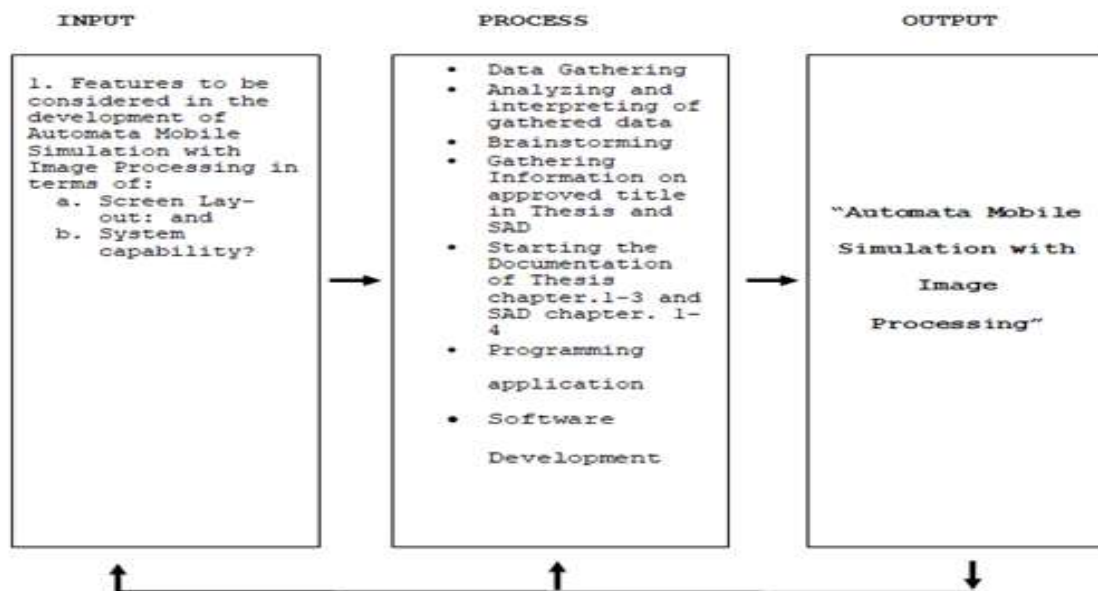The research paradigm showed the scope and direction of the study.

Figure 1. Input – Process – Output of Automata MobileSimulation with Image Processing

The input shows the features to be considered in leading the development of the study "Automata Mobile Simulation with Image Processing" with the use of the software programs needed, on how the system will be developed. It also shows the preparation and planning for the development of the Automata Mobile Simulation with Image Processing.

On the other hand, the process includes the data gathering, interviews, survey, statistical treatment of data and Software Development. The output shows the developed application titled "Automata Mobile Simulation with Image Processing".

REVIEW OF RELATED LITERATURE

Foreign Literature

Goswani (2010) Formal languages and Automata Theory language can be seen as a system suitable for expression of certain ideas, facts and concepts. For formalizing the notion of a language one must cover all the varieties of languages such as natural (human) and programming languages. Let us look at some common features across the languages. It is observed that a formal learning of a language has the following three stepshow he built a number of such devices including a band of mechanical musicians. These four, melodic automatons were positioned in a boat and were used for entertainment during royal gatherings. One may broadly see that a language is a collection of sentences; a sentence is a sequence of words; and a word is a combination of syllables. If one considers a language that has a script, then it can be observed that a word is a sequence of symbols of its underlying alphabet.Al-Jazari also writes about a clock in the shape of an elephant that included automata figures: A man who strikes a bell and a bird that chips to mark the passage of time.As stated Al-Jazari, MIT Press is credited with introducing many of the features that appeared in later automata and other mechanical devices. He often used the flow of water to power the machines and controlled their motion through the use of a camshaft. A camshaft is a rotating rod on which is mounted a series of cams. Cams are irregularly-shaped discs. As the camshaft turns, levers or pistons pressing against the cams move in and out in a pattern depending on how the cam is shaped.When automata did start showing up in Europe again it was often in the form of city clocks similar to Al-Jazari's elephant clock. One of the best known of these clocks was the *Prague Astronomical Clock* in the capital of the Czech Republic. It was installed in 1410 and still operates today. Legend has it that the maker, a man named Hanuš, was rewarded for his excellent work by the town fathers by being blinded so that he could never reproduce the device for another town. Fortunately, this is just a colorful myth. The clock was originally built by clockmaker Mikulášof Kada and Professor Jan Šindel, a teacher of mathematics and astronomy at Charles. When his writings on hydraulics, pneumatics and mechanics were translated into Latin in the sixteenth century, Hero's readers were amazed to discover descriptions of inventions which included vending machines, a water-pump, a wind-organ, and the aeolipile (the first recorded steam engine). Although today the only surviving example of such sophisticated ancient Greek mechanics is the Antikythera mechanism (right), it is clear that complex mechanical devices existed in ancient Greece.

Ismal (2010)Originally the clock had dials that showed the time and the position of the stars visible in the sky a calendar dial was added along with a number of automata figures. These included the twelve apostles and the figure of death in the form of a skeleton that strikes a bell to ring out the time. Mr. Skeleton was apparently a reminder of how short life is and to use your time well.

Local Literature

Meduna and Zemek (2014), the proponents gathered relevant literatures and itemized them in terms of its highlights, computational tools, methodologies and algorithms used. Based on the table of synthesis, it could be analyzed that past studies conducted make use of computational tools such as fuzzy logic, artificial neural network and its types i.e. back propagation, image processing, video processing, cloud computing, robotics, web-based application, wireless sensor network, embedded system and smartphone application. In terms of hardware, they make use of Arduino microcontroller, Raspberry Pi, Programmable Logic Controller (PLC), sensors, computer, smartphone, camera and so forth. Programming languages, on the other hand, includes but not limited to, Java, Python, C/C++, VB.Net and Matlab. Smart farm applications include the following: disease identification and classification, image databases for training and query images, automation of agriculture, irrigation system, optical sensing methods, real-time monitoring and alarming system, decision support system, control system and notification and so forth. The proponents of studied researches focused on limited and common plants such as tomato, apple, grapes and pomegranate. In this work, the proponents will make use of green leafy vegetables. Moreover, most of their researches focused only on single or limited smart farm application. In this work, the proponent will consider combining these smart farm applications to come up with a big system, which focuses on intelligent monitoring of green leafy vegetables, image processing, data management and decision support system. This will be made possible by implementing the concept of web-based data analytics in cloud computing. The usefulness of mobile devices has increased greatly in recent years allowing users to perform more tasks in a mobile context. This increase in usefulness has come at the expense of the usability of these devices in some contexts. We conducted a small review of mobile usability models and found that usability is usually measured in terms of three attributes; effectiveness, efficiency and satisfaction. Other attributes, such as cognitive load, tend to be overlooked in the usability models that are most prominent despite their likely impact on the success or failure of an application Image processing is gaining a larger importance in a variety of application areas. It requires extensive computational power to be able to operate in real time. For that reason, there has been an increasing interest in the development and the use of parallel algorithms in image processing. The emphasis in algorithm design has shifted from sequential algorithms to parallel algorithms as more computers have incorporated some form of parallelism. Designed and analysed parallel algorithms with the goal to get exact bounds on their speed-ups on real machines. They consider a basic problem in image processing, Connected Component Labelling for two and three dimensional images. Their algorithms are randomized and 2-optimal with high probability for a wide range of BSP* parameters where the range becomes larger with growing input sizes.

In year 2001 focused on the implementation of low level image processing for parallel active vision systems. Included image operator classes in his study were point operators, local operators, dithering, smoothing, edge detection, morphological operators, and image segmentation. Mathematical morphology is usually used as the basis for image processing. Aimed at speeding up some of the morphological image algorithms by means of improvements on the original algorithms, or by the use of parallel computing techniques.

Digital image processing is concerned primarily with extracting useful informations from images. Ideally, this is done by computers, with little or no human intervention. Image processing algorithms may be placed at three levels. At the lowest level are those techniques which deal directly with the raw, possibly noisy pixel values, with denoising and edge detection being good examples. In the middle are algorithms which utilise low level results for further means, such as segmentation and edge linking. At the highest level are those methods which attempt to extract semantic meaning from the information provided by the lower levels, for example, handwriting recognition.

METHODOLOGY

Methods of Research

To provide a detailed information and understanding of the study, the descriptive method of research was used:

Descriptive method of research is a process of gathering data, analyzing, classifying and tabulating for presentation, and making generalization regarding the data gathered. This method describes the prevailing conditions, trends and cause and effect relationship as they naturally occur. It provides relevant insights that give clear directions to have self-made questionnaires.

Sample and Sampling Technique Used

The researchers used simple random sampling technique in gathering the number of respondents of the study.

Locale of the Study

The locale of this study is the Student of Computer Science course who already taken the Automata subjects, from Eulogio "Amang" Rodriguez Institute of Science and Technology in Nagtahan, Sampaloc Manila.

Respondents of the Study

The respondents of the study will be the 4th year students of computer science course students who had taken Automata.

Data Gathering Procedure

In order to make sure that the gathered data was reliable, the following steps must be followed: First the researchers conducted observation and informal interviews with the computer science students. The researchers conducted surveys by distributing questionnaires to the respondents.

Instrumentation

In this study, the researchers made a survey questionnaire that provides relevant insights that give a clear direction towards action. With this survey questionnaire, the researchers had gathered information that can be considered in developing the study.

Construction of the Instrument

The researchers gathered the different comments and suggestions of the respondents based on the survey that was conducted. The first questionnaire was consisted of the features to be considered in creating a proposed android application. The Three-point Likert Scale was

used by the researchers to survey whether the feature to be considered is Necessary, Slightly Necessary, and Not Necessary in accordance to the application features.

The second questionnaire consisted of the assessment to be considered in creating a proposed android application. The Five-point Likert Scale was used by the researchers to survey whether the assessment to be considered is Extremely Important, Important, Less Important, Not Important and Extremely Not Important in accordance to the application assessment.

Statistical Treatment of Data

The study used the weighted mean to measure the respondent perceptions in the assessment of the system.

To compute for the weighted mean, below is the formula:

$$wm = \frac{\sum fx}{n}$$

Where:

wm   =   Weighted Mean

∑fx   =   Sum of the products of frequency of respondents and the weighted mean of respondents

N   =   Sample Size

Validation of the Instrument

The researchers made a questionnaire that underwent validation prior to its distribution to the respondents of the study. The adviser and IT experts gave their comments and suggestions. The adviser, IT experts, Statistician, and English Critique validated and checked the questionnaire in order to ensure the reliability of the instruments.

Table 1

The Three-point Scale

Scale	Range	Value Interpretation
3	2.50 – 3.00	Needed
2	1.50 - 2.49	Fairly
1	1.00 - 1.49	Not Needed

The researchers gathered the different comments and suggestions of the respondents based on the surveys that were conducted. The first questionnaire will be consisted of the features to be considered in creating a proposed android application entitled "Automation Mobile Simulation with Image Processing" and the second questionnaire consisted of question about the respondent's assessment of the application. The three-point scale was used by the researchers to assess whether the system used is Needed, Fairly, and not needed in accordance to the respondents' assessment.

PRESENTATION, INTERPRERTATION AND ANALYSIS OF DATA

Problem No. 1 Question: What are the features to be considered in the development of Automata Mobile Simulation with Image Processing in terms of?

A. Screen Layout

Answers to the questions came from the data gathered in the first survey. This was in connection with the features that must be considered in coming up with the proposed application. Weighted mean was used to interpret and analyze this data. This chapter gave a brief overview of how to analyze the survey. It did not discuss specific usage of the survey in conducting analysis as it was intended to provide a foundation of confidentially, conduct a survey, analyzed no matter what tool was used.

Table 2 shows the features to be considered in the Automata mobile simulation with image processing, in terms of Screen Lay-out.

Table 2

*Features to be considered in "Automata Mobile Simulation with
Image Processing" in terms of Screen Lay-out*

Variables	Mean	Rank	Verbal Interpretation
1. It can display notification error	2.01	8	Slightly Necessary
2. It can display recent scans	2.00	9	Slightly Necessary
3. It can display date and time.	2.11	4	Slightly Necessary
4. It can resize output.	1.93	12	Slightly Necessary
5. Application clearly capture the image.	2.70	1	Necessary
6. Shows simplified method.	2.68	2	Necessary
7. The application can turn on/off the flash of camera.	2.05	5	Necessary
8. The application display high quality image.	1.85	14	Slightly Necessary
9. The application has on screen instruction.	2.57	3	Necessary
10. The application can focus on the selected image.	1.83	15	Slightly Necessary
11. The screen has zoom in zoom out output.	1.86	13	Slightly Necessary
12. There is a date in every captured image.	1.97	10.5	Slightly Necessary
13. The application can let the user choose between portrait and landscape mode.	2.03	6	Slightly Necessary
14. The application has adjustable resolution of image.	2.02	7	Slightly Necessary
15. It detects the image using image target.	1.94	5	Slightly Necessary
Grand Mean	**2.34**		**Slightly Necessary**

And for the Top 3 of the survey, "The mobile application clearly capture the image" got the highest mean of 2.70 with the rank of 1 and verbal interpretation of "Necessary"; "Shows simplified method" got the highest mean of 2.68 with the rank of 2 and verbal interpretation of "Necessary"; "The mobile has on screen instruction" got the highest mean of 2.57 with the rank of 3 and verbal interpretation of "Necessary". Over the entire average mean for the screen design is 2.34. And for the least of the survey The top 3 are, "The mobile application can focus on the selected image." Got the lowest mean of 1.83 and verbal interpretation of "Slightly Necessary"; "The application display high quality image." with the mean of 1.85 and verbal interpretation of "Slightly Necessary"; "The screen has zoom in zoom out output." with the mean of 1.86 and verbal interpretation of "Slightly Necessary."

B.   System Capability

Table 3 exhibits the features to be considered in the Automata Mobile Simulation with Image Processing in terms of System Capability.

Table 3

Assessment of the developed "Automata Mobile Simulation with Image Processing" **for System Capability**

Variables	Mean	Rank	Verbal Interpretation
1. Having comment box	2.27	4	Slightly Necessary
2. The application can identify non-automata language	1.90	14	Slightly Necessary
3. Displays the input and its solution.	2.61	3	Necessary
4. The application will filter unnecessary description..	2.06	10	Slightly Necessary
5. The application has a camera setting.	2.12	6	Necessary
6. The application can direct the user to the gallery.	2.68	1	Necessary
7. The application can turn on/off the flash.	2.11	7	Slightly Necessary
8. The user can reset the previous image.	1.94	13	Slightly Necessary
9. The user allowed viewing the detail of the application.	2.15	5	Slightly Necessary
10. The volume can be used to capture the image	1.99	12	Slightly Necessary
11. The user can edit the output.	1.88	15	Slightly Necessary
12. The application categorizes the topics.	2.10	8	Slightly Necessary
13. The application can provide error message.	2.03	11	Slightly Necessary
14. The user allowed viewing the output image.	2.09	9	Slightly Necessary
15. The user allowed viewing the output GIF.	2.65	2	Slightly Necessary
Grand Mean:	2.34		Slightly Necessary

And for the Top 3 of the survey, "The application can direct the user to the gallery." got the highest mean of 2.68 with the rank of 1 and verbal interpretation of "Necessary"; "The user allowed to view the output GIF." got the highest mean of 2.65 with the rank of 2 and verbal interpretation of "Necessary"; "Displays the input and its solution" got the highest mean of 2.61 with the rank of 3 and verbal interpretation of "Necessary". Over the entire average mean for the screen design is 2.34. And for the least of the survey the top 3 are, "The user can edit the output." Got the lowest mean of 1.88 and verbal interpretation of "Slightly Necessary"; "The application can identify non-automata language." with the mean of 1.90 and verbal interpretation of "Slightly Necessary"; "The user can reset the previous image." with the mean of 1.94 and verbal interpretation of "Slightly Necessary".

Problem No. 2 Question: How the respondents assess the developed Automata Mobile Simulation with Image Processing in terms of?

A.   Screen Design

Answers to the questions came from the data gathered in the second survey. This was in connection with the assessment that must be considered in coming up with the created application. Weighted mean was used to interpret and analyze this data. This chapter gave a brief overview of how to analyze the survey assessment. It did not discuss specific usage of the survey is conducting analysis as it was intended to provide a foundation of confidentially confidently conduct a survey analyzed of no matter what tool was used. We used as verbal Interpretation in the assessment Extremely Important, Important, Less Important, Not Important, Extremely not Important. There will be a top 3 who gained the highest mean and considered to be needed in the mobile application.

Table 4

Assessment of the developed "Automata Mobile Simulation with Image Processing" in terms of Screen Design

Variables	Mean	Rank	Verbal Interpretation
1. The mobile application can capture clear and visible image.	4.96	1	Extremely Important
2. The mobile application can display the output clearly.	4.93	2	Extremely Important
3. The mobile application menu is easily located.	2.63	10	Less Important
4. The mobile application can display the text in the button.	2.84	5	Less Important
5. The mobile application has a readable font.	4.90	3	Extremely Important
6. The mobile application has a developer option.	2.79	7	Less Important
7. The mobile application can display visible buttons and other clikable tools.	2.73	9	Less Important
8. The mobile application can show simplified method.	2.83	6	Less Important
9. The mobile application display the instruction clearly.	2.87	4	Less Important
10. The mobile application display high quality image.	2.78	8	Less Important
Average Mean	**4.96**		**Less Important**

And for the least 3 of the survey, "The mobile application menu is easily located" got the lowest mean of 2.63 with the rank of 10 and verbal interpretation of "Less Imporant"; "The mobile application can display visible buttons and other clickable tools" got the lowest mean of 2.73 with the rank of 9 and verbal interpretation of "Less Important"; "The mobile application display high quality image" got the lowest mean of 2.78 with the rank of 8 and verbal interpretation of "Less Important". Over all the average mean for the screen design is 4.96 , "Extremely Important" for the verbal interpretation. The top 3 on the survey, "The mobile application can capture clearly and visible image." Got the highest mean of 4.96 and verbal interpretation of "Extremely Important"; "The mobile application can display the output clearly" with the mean of 4.93 and verbal interpretation of "Extremely important"; "The mobile application has a readable font" with the mean of 4.90 and verbal interpretation of "Extremely Important."

B.   Effectiveness of the System

Table 5

Assessment of the developed "Automata Mobile Simulation with Image Processing" in terms of Effectiveness of the System

Variables	Mean	Rank	Verbal Interpretation
1. The mobile application is usable without internet access.	4.86	1	Extremely Important
2. The mobile application provides information about the application.	2.82	8	Less Important
3. The mobile application has ability to use the volume to capture the image.	4.71	5	Extremely Important
4. The mobile application has ability to turn on/off the flash in camera setting.	4.78	4	Extremely Important
5. The mobile application is interesting and fun to use.	2.92	6	Less Important
6. The mobile application has ability to change the camera view.	2.81	9	Less Important
7. The mobile application has GIF output.	4.80	3	Extremely Important
8. The mobile application has information about automata.	2.83	7	Less Important
9. The mobile application has editable input.	4.82	2	Extremely Important
10. The mobile application has image processing.	2.80	10	Less Important
Average Mean	**3.33**		**Less Important**

Table 5 shows the assessment of the developed study entitled "Automata Mobile Simulation with Image Processing" in terms of "Effectiveness of the System". It shows that the feature "The mobile application is usable without internet access." has a weighted mean of 4.86 in rank 1 and has a verbal interpretation of "Extremely Important"; the feature "The mobile application has editable input." has a weighted mean of 4.82 in rank 2 and has a verbal interpretation of "Extremely Important"; the feature "The Mobile application has GIF output." has a weighted mean of 4.80 in rank 3 and has a verbal interpretation of "Extremely Important".

The least 3 criterion are "The mobile application has a image processing" got the lowest mean of 2.80 with the rank of 10 and verbal interpretation of "Less Important"; "The mobile application has ability to change the camera view" got the lowest mean of 2.81 with the rank of 9 and verbal interpretation of "Less Important"; "The mobile application provides information about the application" got the lowest mean of 2.82 with the rank of 8 and verbal interpretation of "Less Important".

C. Functionality of the System

Table 6

Assessment of the developed "Automata Mobile Simulation with Image Processing" in terms of Functionality of the System

Variables	Mean	Rank	Verbal Interpretation
1. The mobile application buttons are responsive.	2.93	8	Less Important
2. The mobile application is easy to use.	4.66	2	Extremely Important
3. The mobile application buttons are easy to click.	3.08	5	Important
4. The mobile application has a image processing.	2.89	9	Less Important
5. The mobile application can direct in the gallery.	4.67	1	Extremely Important
6. The mobile application can generate the captured image	2.95	6	Less Important
7. The mobile application exits easily.	4.65	3	Extremely Important
8. The mobile application image source is well function.	2.87	10	Less Important
9. The mobile application user control the volume to capture the image.	4.65	4	Extremely Important
10. The mobile application instruction is useful.	2.95	7	Less Important
Average Mean	**3.33**		**Less Important**

Table 6 shows the assessment of the developed study entitled "Automata Mobile Simulation with Image Processing" in terms of "Functionality of the system". It shows that the assessment "The mobile application can direct in the gallery" has a weighted mean of 4.67 in

rank 1 and has a verbal interpretation of "Extremely Important"; the assessment "The mobile application is easy to use." has a weighted mean of 4.66 in rank 2 and has a verbal interpretation of "Extremely Important"; the assessment "The mobile application exits easily." has a weighted mean of 4.65 in rank 3 and has a verbal interpretation of "Extremely Important". And for the least 3 criterion of the survey, the assessment "the mobile application image source is well function." got the lowest mean of 2.87 with the rank of 10 and verbal interpretation of "Less Important"; the assessment "The mobile application has a image processing." got the lowest mean of 2.35 with the rank of 9 and verbal interpretation of "Less Important"; the assessment "The mobile application button are responsive." got the lowest mean of 2.93 with the rank of 8 and verbal interpretation of "Less Important".

SUMMARY, CONCLUSION AND RECOMMENDATIONS

A.   Summary

After analyzing the data, the researchers came up with the following:

1.   The researchers used different tools such as survey questionnaires to gather necessary data and information for better development of the application. The survey questionnaires were distributed to a total of 133 respondents.

   A. For the main features to be considered according to the respondents in terms of Screen Layout, the top 3 are, "The application clearly capture the image." with a verbal interpretation of "Necessary"; "The application shows simplified method." with a verbal interpretation of "Necessary"; "The application has on screen instruction." with a verbal interpretation "Necessary".

   B. In the system capability, the top 3 are "The application can direct the user to the gallery." with a verbal interpretation of "Necessary"; "The user allowed to view the output GIF." with a verbal interpretation of "Necessary"; "Displays the input and its solution." with a verbal interpretation "Necessary".

2.   On how do the respondents assessed the Automata Mobile Simulation with Image Processing in terms of:

   A. In the Screen Design, it shows that the top three in the assessment are "The mobile application can capture clear and visible image." with a verbal interpretation of "Extremely Important"; "The mobile application can display the output clearly." with a verbal interpretation of "Extremely Important"; "" with a verbal interpretation of "Extremely Important".

   B. In the Effectiveness of the System, it shows that the top three in the assessment are "The mobile application is usable without internet access." with a verbal interpretation of "Extremely Important"; "The mobile application has editable input." with a verbal interpretation of "Extremely Important"; "The mobile application has GIF output." with a verbal interpretation of "Extremely Important".

In the Functionality and Usability of the System it shows that the top three in the assessment are "The mobile application can direct in the gallery." with a verbal interpretation of "Extremely Important"; "The mobile application is easy to use." with a verbal interpretation of "Extremely Important"; "The mobile application exits easily." with verbal interpretation of "Extremely Important".

B.   Conclusion

Based on the findings, the researchers came up with the following conclusions:

1.   The respondents agreed that the application have an introduction about the application and the respondents agreed that the application have clickable buttons to click. And has ability to pick the image that they want to scan.

2.   The application provides the respondents some idea of what automata is and how does it works and also got some idea on the topics, terms and lessons provides by the application. The respondents told us that the application is very useful for Computer Science Students that take Automata subject.

C.   Recommendation

Based on the summary of findings and the conclusions, the following recommendations were given.

1.   The suggested features in terms of screen layout and system capability of the study can be enhanced and developed by adding more topic about the automata and the application can be used in ios devices.

2.   The researchers can also add setting for the change color background, font and font size.

3.   The researcher should add setting that can clean noise of the image.

The future researcher should add label on the step by step output.

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ON FAREY SEQUENCE AND ITS APPLICATION

Raynald C. Redondo

SUMMARY

This study dealt on the properties and relationships of Farey sequence. In particular, the results of the study are summarized in the following accordingly.

1.   The Farey Sequence F_n of order n is defined as a sequence of proper and irreducible fractions $\frac{p}{q}$ of rational numbers in the set $[0, 1]$, which have denominators less than or equal to n, and arranged in ascending order. Moreover, each sequence has the initial term 0 or $\frac{0}{1}$ and the last term 1 or $\frac{1}{1}$.

2.   There were several properties that a Farey sequence have as follows:

   2.1.   Let $\frac{a}{b}$ and $\frac{c}{d}$ be some terms in a Farey sequence. If $\frac{a}{b} < \frac{c}{d}$ then their mediant $\frac{a+c}{b+d}$ lies between $\frac{a}{b}$ and $\frac{c}{d}$ or it can be written as $\frac{a}{b} < \frac{a+c}{b+d} < \frac{c}{d}$.

   2.2.   If $0 \le \frac{a}{b} < \frac{c}{d} \le 1$, then $\frac{a}{b}$ and $\frac{c}{d}$ are Farey neighbours in F_n if and only if $bc - ad = 1$.

   2.3.   If $\frac{a}{b}$ and $\frac{a'}{b'}$ are successive fractions in the nth row with $\frac{a}{b}$ to the left of $\frac{a'}{b'}$ then the $a'b - ab' = 1$.

   2.4.   If $\frac{a}{b}$ and $\frac{a'}{b'}$ are consecutive fractions in any row, then among all rational fractions with the values between these two, $\frac{a+a'}{b+b'}$ is the unique fraction with smallest denominator.

   2.5.   If $\frac{a}{b}$ and $\frac{c}{d}$ are Farey pair, then so are $\left(\frac{a}{b}, \frac{a+c}{b+d} \right)$ and $\left(\frac{a+c}{b+d}, \frac{c}{d} \right)$ that is, the two subintervals formed by the mediant into a Farey interval are also Farey interval.

3.   Farey sequence related to the following:

      3.1   Fibonacci Sequence: Any two neighbouring fractions in the sequence of Fibonacci fractions are neighbours in the Farey

sequence. That is for all $\dfrac{\varphi_n}{\varphi_{n+2}}$ and $\dfrac{\varphi_{n+1}}{\varphi_{n+3}}$ are Farey

neighbours where $\left|\varphi_{n+1}\varphi_{n+2} - \varphi_n\varphi_{n+3}\right| = 1.$

3.2   Ford Circles: The set of Ford Circles is a one-to-one correspondence with the Farey sequence.

3.3   Diophantine Equation: There exists a Farey pair in the solution of the Linear Diophantine equation $cx + dy = 1$, where $0 < c < d, \ (c, \ d) = 1.$

3.4   Euler Phi Function: Let F_n be the Farey sequence of order n. The number of the terms of F_n is $1 + \sum\limits_{m=1}^{n} \phi(m)$ where $\phi(m)$ is the Euler phi function.

4.   Farey sequence could be applied to approximate the value of irrational number in the following manner:

4.1.   Among all fractions $\dfrac{x}{y}$ lying strictly between the Farey fair $\left(\dfrac{a}{b}, \dfrac{c}{d}\right)$, the mediant is the only one with the smallest denominator.

4.2.   Let α an irrational number and $0 < \alpha < 1$. Let $\dfrac{a}{b}$ and $\dfrac{c}{d}$ be found fractions given at some step of the Farey process that are closest to α on the left and right respectively. Thus, $\dfrac{a}{b}$ and $\dfrac{c}{d}$ are respective best left and best right approximations.

4.3.   Every rational number $\dfrac{p}{q}$ written in lowest terms $0 < \dfrac{p}{q} < 1$, appears at some stage in the Farey process.

4.4.   Every best left or best right approximation to an irrational number α, with $0 < \alpha < 1$, appears as the closest fraction to α on either the left or right at some step in the Farey process.

4.5.   Let $\dfrac{a_n}{b_n}$ and $\dfrac{c_n}{d_n}$ be the sequence of respective best left and best right approximations to α produced by the Farey process. For a given n, let s be the largest nonnegative integer for which $\dfrac{c_n}{d_n} = \dfrac{c_{n+2}}{d_{n+2}}$. Then $\dfrac{a_{n+k}}{b_{n+k}}$ is a best approximation if

$\dfrac{s}{2} < k \leq s$. Similarly, if s is the largest nonnegative integer such that $\dfrac{a_n}{b_n} = \dfrac{a_{n+s}}{b_{n+2}}$,

then $\dfrac{c_{n+k}}{d_{n+k}}$ is the best approximation if $\dfrac{s}{2} < k \leq s.$

Conclusions

The following conclusions were drawn on the basis of the findings.

1.   The terms of the Farey sequence can be generated using mediant property.

2.   The properties of Farey sequence gave other conditions to describe the sequence.

3.   Farey sequence is related to Fibonacci sequence, linear Diophantine equation, Euler phi function and Ford circles.

4.   Farey process is a method to best approximate the value of irrational numbers.

Behavioral Research

STRATEGIES IN HANDLING COMPLAINTS IN SELECTED FAST FOOD RESTAURANTS IN SM DASMARIÑAS CITY CAVITE: FRAMEWORK FOR SERVICE ENHANCEMENT

Enrico Abasolo
Edzel G. Peña

INTRODUCTION

Restaurant is a place where you can find , purchase and eat an appetizing meal. Restaurateurs are the ones who own and manage the business. Employees and staffs are the persons who do the operation and welcome customers inside the business. It is important that a restaurant must recognize complaints as opportunities, so that they can retain their customers and will not spread a bad word-of-mouth. Managing customers complaints, problems, and issues is part of being in the business most especially in restaurants.

Feedbacks from customers are necessary, it should be dealt positively by food establishments for improvement and properly handled for business to grow and not lose the customers' patronage. Through these they give hints to restaurant or other food establishments to improve their services regarding the product, food, service, facility or maybe a combination of the three. Managing the complaints well and providing good customer service is about more than just keeping customers happy. Management must take care of the customers by listening to the complaints, and resolving it rapidly, to ensure that the customers are satisfied.

The researchers conducted this study in selected five (5) fast food restaurants in SM City, Dasmarinas, Cavite namely Jollibee Foods Corporation (JFC) or popularly known as Jollibee. Second is Chowking located at SM Dasma Unit 224-226 on the second floor. Third, is Mang Inasal, a Hiligaynon for Mr. Barbeque fast food restaurant chain in the Philippines established in Iloilo City in 2003. Mc Donalds the largest chain of hamburger fast food restaurants headquartered in the United States they are serving around sixty-eight (68) million customers daily in one hundred nineteen countries across thirty-five thousand (35,000) outlet and Burger King often abbreviated as BK, is a global chain of hamburger fast food restaurants headquartered in unincorporated Miami-Dade Country, Florida United States. The purpose of this research is to investigate how service employees handle customer's complaints and how do food establishment such as restaurants use their strategies in managing customer's complaints, and how they create impact in the management of restaurants. Therefore, this study would like to find out how do management give remedies and treat their customer's complaints rapidly.

MATERIALS AND METHODS

The descriptive type of research design was used in this study. This involved collection of data in handling customers complaints, food service and food preparations collected, also the common complaints raised by those customers, ways of handling of the personnel, those effects of the customers feedback on how restaurant managers and personnel handle complaints. It describes and interprets the effectiveness of the strategies they used in selected fast food restaurants in SM City, Dasmarinas Cavite. The study is composed of three (3) personnel and staff and thirty (30) customers in each fast food restaurants.

The research instrument used in gathering of data is the questionnaire formulated by the researchers and validated by the adviser to answer the specific sub-problems raised in the study. Survey questionnaire was used to gather data on the strategies use in handling customer complaints in selected five (5) fast food restaurants in SM City, Dasmarinas, Cavite. There are 2 sets of questions. The first one is for the assessment of the managers/staff and customers on the fast food restaurants. The questions include the concern about the services and the working area and the way they serve. The second set determines the assessment of managers/staff and customer in the strategies in handling customer complaints.

Statistical tools were used as basis of interpretation of data such as frequency, percentage, ranking and weighted mean.

RESULTS AND DISCUSSIONS

TABLE 1

Summary of the Assessment of Managers/Staff and Customers on the Service Rendered by the Fast Food Restaurants

SERVICE	Manager/Staff		Customer		Composite		Rank
	Mean	**Int.**	**Mean**	**Int.**	**Mean**	**Int.**	
1. Restaurant Operation	3.53	SO	3.59	SO	3.56	SO	4
2. Food	3.90	SO	3.95	SO	3.93	SO	1
3. Beverage	3.78	SO	3.66	SO	3.72	SO	2
4. Hygiene And Sanitation	3.53	SO	3.54	SO	3.54	SO	5
5. Personnel Behavior	3.56	SO	3.57	SO	3.57	SO	3
COMPOSITE MEAN	**3.66**	**SO**	**3.66**	**SO**	**3.66**	**SO**	

As shows in the Table 1 summary of the assessment of the managers/staff and customers on the service rendered by the fast food restaurants. The highest rank identified problem is given to the Food with its composite mean of 3.93 interpreted as sometimes practiced, while the lowest rank with its composite mean 3.54 interpreted as sometimes practiced is given to Hygiene and Sanitation.

Table 2

Assessment of the Manager/Staff and Customers on Strategies

Strategies	Manager/Staff		Customer		Composite		Rank
	Mean	Int.	Mean	Int.	Mean	Int.	
1. Immediately response to resolve any problem that might arise.	4.77	A	3.59	SO	4.18	SO	1.5
2. Listen empathetically to customer while stating the problems.	4.73	A	3.61	SO	4.17	SO	1.0
3. Do not argue with the customer.	4.81	A	3.58	SO	4.20	A	4
4. Patient in handling customer complaint.	4.79	A	3.56	SO	4.18	SO	1.5
5. Jot down important details about the problem.	4.71	A	3.65	SO	4.18	SO	1.5
6. Thank to the customer for complaining.	4.83	A	3.58	SO	4.21	A	2
7. Apologize to the customer of having bad experience.	4.81	A	3.58	SO	4.20	A	4
8. Offer a solution or remedy to the customer's problem.	4.79	A	3.57	SO	4.18	SO	1.5
9. Let the customer vent out about the problem without interruption.	4.79	A	3.61	SO	4.20	A	4
10. Assure the customer to fix their problem.	4.75	A	3.72	SO	4.24	A	1
Average weighted mean	**4.78**	**A**	**3.61**	**SO**	**4.19**	**SO**	

As shows in table 2 assessment of the manager/staff and customers on the strategies. The highest rank is given to the criteria Assure customer to fix their problem with the composite mean of 4.24 interpreted as always practiced while the lowest rank is given to the criterion Listen empathetically while stating the problem.

SCALE	RANGE	VERBAL INTERPRETATION	LEGEND
5	4.20 – 5.00	Always Practised	A
4	3.10 – 4.19	Sometimes Practised	So
3	2.60 – 3.39	Often Practised	OP
2	1.80 – 2.59	Seldom Practised	SP
1	1.00 – 1.79	Never Practised	NP

CONCLUSIONS

The highest identified problems encountered came from food served by the restaurant, followed by problems encountered on beverage, next is in terms of personal behavior of staff, then, problems in restaurant operation and lastly problems encountered in connection with hygiene and sanitation. The assessment given by the managers/staff and customers on the service rendered as to restaurant operation the common problem encountered by the two groups of respondents is give correct billing to the customer. As to food is the criterion give proper serving appropriate to its price. As to beverage is serve the drinks with fresh ingredients. As to hygiene and sanitation is wearing proper uniform like apron, hairnet and face mask. As to personal behavior greet and smile to the customers when entering the restaurant.

Assuring customer to fix their problem is the most important strategy to handle customer's complaints based on the assessment of the manager/staff and customers. This strategy may instantly relieve the tension between the customer and staff and avoiding greater argument and conflict. On the other hand, listening empathetically to the customer is the least among the strategy implemented in handling customer's complaints.

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NON-FORMAL TRAINING PROGRAM ON NUTRITION AND WELLNESS AMONG PDL DETAINEES

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1. INTRODUCTION

There is an urgent demand for Philippine jails and detention centers to explore a wide range of approaches to accommodate the growing number of inmate population across the country given the current context of the national government's aggressive campaign against illegal drug trade and fight against criminality. While there had already been a significant increase in prison population from 120,000 in 2014 to 140,000 in 2016, (IPCR World Prison Population Brief, 2018), figures continue to well up as local governments. This development may imply subsequent reduction in criminality incidences and an engaged citizenry. On the other hand, the looming inmate population as an immediate consequence of the intensified campaign against illegal drugs and criminality, if left unchecked and unmitigated may hatch a host of other issues in prison administration and management aside from the long-standing problem of jail congestion which is also a global concern.

In the Philippines, the Bureau of Jail Management and Penology(BJMP) and the Bureau of Corrections (BuCor) are the two major agencies in charge of prison administration, with the former in charge of pre-trial/remand inmates and those of short sentences while the latter is for convicted inmates sentenced for three years or more. The Department of Social Welfare and Development (DSWD) takes care of reforming/ rehabilitating children in conflict with the law. As of May 2018, total inmate population is 188, 278 with 144, 871 in BJMP and 43, 407 in BuCor in which inmates awaiting or undergoing trial comprise 75% of the total prison population distributed in 7 national prisons and 926 city, district and municipality jails.

1.1 Social Functions of Prisons

While prisons and jails are typically perceived as freedom-limiting facilities that lock away and sanction law offenders from the larger society, these also serve as venues for rehabilitation and reform to ensure a smooth and successful social reentry and reintegration of the inmates once they have served their sentences (Muzika, 2014). King (2012) posits that a prison is a social institution shaped by the interaction of prison workers and inmates regardless of the social and legal framework from which it operates. From this description, it can be deduced that rehabilitation and reform programs may render better results when regular social interaction is present.

1.2 Benefits of Non-Formal Training Programs in Prisons

Many reform initiatives have been introduced in the Philippine jails and corrections among which include the offering of non- formal trainings like the Skills Training of TESDA and Alternative Learning System (ALS) by the Department of Education to inmates wishing to finish basic education (ALS) or learn technical skills to seek employment or put-up a business once they are released back to the society. Non-Formal Training according to the Department of Education is an effective vehicle for providing and extending services particularly to inmates who are yearning to improve their lives and start anew. Moreover, participation in these NFT programs allows them to reflect on their current situations and look forward to a brighter life after incarceration. Likewise, Maximino (2014) claimed that non- formal programs play a vital role in assisting them to adjust to their new situation, ponder deeply and look beyond bars while waiting for their most awaited return to their families. Further, these training programs may also

prevent re-incarceration (Maximino 2014). Studies on the impact of training programs for PDL(Roundtree, Edwards & Dawson, 1982;) reveal their important role in the successful re-entry of PDL in the society from helping them regain their self-esteem (Roundtree, Edwards & Dawson, 1982) to equipping them with skills for successful reentry into the society (Gaes, 2008). In the Philippines, NFT programs are regularly provided and embraced (Tawatao, 2017) as these further enable the Bureau to perform its mandate of ensuring the welfare of PDL thru development programs and activities provided in preparation for their eventual return to the mainstream of society (BJMP Manual Revised Edition, S of 2007).

1.3   Prisons and Health

In 1995, 28 countries in the European Region of the World Health Organization formed a WHO network dedicated to improve health within prisons and in a span of 10 years, the network has made significant achievements among which include attempts to integrate prison health into the public health services of countries, and the identification of best practices from some of the member countries which guide policy makers and program implementers on prison health (Gatherer, Moller, & Hayton, 2005). Over decades, many studies on prison health had been undertaken on different subjects like quality of health care in prison, health status of prisoners, health care needs of prisoners (La Monaca, 2012; Condon, Hek & Harris, 2007) to specific health issues like tuberculosis and HIV incidences (Baussano et.al.2010; Todrys et.al., 2011; & Lines & Stover, 2006)) and gendered studies (Rutherford, 2009;Nowotny, 2017) , implying that prison health is drawing research attention and suggesting that efforts to address the problems may still be falling short or that new issues are cropping up with the continuing trend of overcrowding among prisons.

The World Health Organization(WHO) continues it advocacy for better health and reduction of health risks among persons deprived of liberty. In its publication Prison and Health (2014), it clearly elaborated essential suggestions and recommendations coming from international experts on how to improve health in prisons. Thus, the joint endeavor of providing a nutrition and wellness program for PDL clearly aligns with this global call for health protection in prisons.

1.4   The Philippine Context

Cases of disease outbreaks in city jails and national prisons recently caught the attention of the general public, particularly with the resulting deaths from skin diseases reported by media. In the Manila City Jail alone which can only accommodate 800 but currently has 5,400 -6,600 inmates, cases of upper respiratory tract infection, allergic rhinitis, hypertension, influenza, boils, irritant contact dermatitis, scabies, asthma, acute gastroenteritis and heat rash were reported, resulting from a 600% congestion rate, the highest among city jails (Tangpuz, 2018).

The Bureau of Jail Management and Phenology of General Mariano Alvarez, Cavite welcomes faith-based, civic and academic organizations who wish to conduct outreach programs for its PDL detainees. One among these is the Seventh-Day Adventist Church of G.M.A. Cavite which has been regularly doing prison outreach activities like gift-giving on Christmas, provision of psychosocial support and counseling and short talks on nutrition and wellness. In 2016, the Bureau jointly with the Seventh-Day Adventist Church of GMA launched the nutrition and wellness program patterned after a non-formal training program. The decision to formalize the short talks on nutrition and wellness came out from a desire to encourage PDL/ inmates to adopt and embrace a healthy lifestyle. This is a timely effort with the reported disease outbreaks and other emergence of health-related issues confronting a number of jails and prisons in Metro Manila.

1.5 Theoretical Framework

This study utilized two sociological theories in analyzing and interpreting gathered data. Pierre Bourdieu's emphasis on the development of habitus as a result of internalization and embodiment of experiences within an individual, acquired from social processes and in an informal rather than a formal setting (Dimitriadis & Kemeberelis, 2006). In this study, social interactions inherent in the delivery of the program will be analyzed in terms of their impact in the respondents' habits and disposition; likewise, the impact of holistic and lifestyle modeling as an embodied approach in effecting the desired change for the participants was explored. In both dimensions, the agentive potentials of the participants were also examined. Michel Foucault's technology of the self which asserts that individuals through adopting certain practices are capable of attaining a state of happiness and positive self-transformation will also be applied in the study. Likewise, his concept of the care of the self as ontologically prior based on the interpretation of Wong(2013) was also used to point out that a positive and caring relationship with the self should have been achieved before he or she can relate successfully with others.

1.6 Research Aims

This study sought to identify the results of the nutrition and wellness program of the BJMP and SDA of GMA, Cavite on the health habits and disposition of the participant inmates. A corollary objective is to explore the impact of using a holistic and lifestyle modeling approach to program delivery. Specifically, the study aimed to answer the following questions:

1. How has the nutrition and wellness program influenced the respondents'

    a. health habits;

    b. psychological disposition; and

    c. spiritual perspective?

2. What techniques did the respondents employ to practice healthy habits and maintain a positive disposition?

3. What is the assessment of the respondent participants on the implementation and benefits of the non-formal nutrition and wellness program?

4. What is the impact of the holistic and lifestyle modeling approach in program delivery?

2. Methodology

2.1 Research Design

This study used qualitative interviews and focus group discussions in identifying the results of the Non-Formal Training Program on Nutrition and Wellness among the respondent persons deprived of liberty (PDL) on their health habits and disposition and the use of holistic and lifestyle modeling approach in program delivery. A survey was also administered to determine their assessment of the nutrition and wellness program.

2.2   Research Participants

This study involved 60 PDL who have been detained for more than 2 years and whose age range from 18- 65 years old, majority of which (23%) are between 30-39 years old followed by those between 20-29, 40-49, 50-59 and 60 and above who each comprise 17% of the total sample. They come from different religious affiliations and regional orientations, while in terms of gender, 42 are male and 18 are female. Only 20% were unemployed prior to their detention and at least 11or 18% are college graduates. Majority of the respondents are still single (26 or 43%) followed by married (19 or 32%). They come from different cell classifications and most are on pre-trial, undergoing trial and awaiting resolution of their cases. These respondents voluntarily participated in the program and in the study.

2. 3   Instruments and Data Gathering Procedure

This research used the following data-gathering tools:

1.   **The Survey questionnaire**. The questionnaire has two parts; Part I- is the socio- cultural data covering a) personal data, b.) educational background, c.) Religious affiliation d.) Occupation e.) Family Income f.) Regional Orientation g.) Values in life h.) guiding principle i.) Lifestyle practices . Part II is an assessment of the nutrition and Wellness program covering a.) satisfaction of the program implementation, b.) relevanceof nutrition and wellness program, and c.) techniques they have improvised to apply the principles taught them. This questionnaire was used to obtain both quantitative and qualitative feedback from the PDL detainees, complemented with interviews and focus group discussions. Respondent BJMP personnel were also requested to answer the assessment survey. The researchers personally administered the survey questionnaire.

2.   **Focus Group Discussions (FGD) and Qualitative Interviews.** Focus group discussions were conducted per cell to validate and further probe into the answers given in the survey. Follow-up questions from the answers provided in the survey were asked, as well as related questions based on their personal experiences.

Data Analysis

Data gathered were initially analysed and based on the patterns that surfaced, appropriate sociological theories were applied to interpret data and answer the research questions. Program assessment focused on their level of satisfaction and felt benefits following the scale given below.

Scale	Range	Satisfaction	Benefits
5	4.20 – 5.00	Extremely Satisfied (ES)	Extremely Beneficial (EB)
4	3.40 – 4.19	Highly Satisfied (HS)	Highly Beneficial (HB)
3	2.60 – 3.39	Satisfied (S)	Beneficial (B)
2	1.80 – 2.59	Least Satisfied (LS)	Least Beneficial (LB)
1	1.00 – 1.79	Not Satisfied (NS)	Not Beneficial (NB)

3.   Results and Discussions

This study primarily sought to identify the results of the nutrition and wellness program on the health habits and disposition of the participant inmates. This section covers three parts: 1) the influence of the program on the participants' health habits, psychological disposition and spiritual disposition and the improvisations respondents made in order to apply the nutrition and wellness principles taught to them, 2) the respondents' assessment of the program as to its

implementation and the benefits gained from the topics discussed to them and 3) the impact of the holistic and lifestyle modeling approach in the program delivery.

3.1 Results of Nutrition and Wellness Program on the Health Habits and Disposition of the Respondent PDL Detainees and Improvised Techniques Employed

Results of the survey, interviews and focus group discussions show how the nutrition and wellness program influenced their health habits and disposition as well. The given responses show an astonishing shift in the health habits of the participants. They have become conscious of their health and determined to maintain a healthy lifestyle. Those who seemed to believe that they wasted their life away in the past felt regretful of the practices they engaged in. There was an obvious appreciation of the healing potentials of herbs and spices. The determination to apply the principles taught to them is evidenced by the following improvisation techniques employed by the participants:

☐ *I ask my visiting family or friends to bring me fruits instead of junk food.*

☐ *I ask my visiting friends and family to bring me natural medicines like ginger and garlic which I can use for curing headache, cough.*

☐ *I do regular exercise through correct breathing, stretching, jogging in place and laughing.*

☐ *I even ask my family to bring water for me when they visit me.*

☐ *I rest my mind by focusing on good memories and positive thoughts.*

Further, some self -reflexive responses indicate how the program is able to lead them to critical reflection of their habits and practices in the past, which may be attributed to the open, informal and practical discussions of topics. The participants' responses are also indicative of care of the self and a realization of their agentive capability; even when the structural context may appear to be limiting, they were able to improvise ways to really put into practice what was shared or taught to them. Worth-noting was the fact that they have also attempted to influence their family members and friends to be more caring of their bodies and to utilize natural plants and spices for illnesses by sharing what they have learned from the discussions whenever they would be visited.

It was observed that most of the respondents' descriptions of their prior lifestyle were typically the same with how the larger society regard their bodies and go about their daily routines. Using a Bourdiuean lens, it can be said their answers reflect the habitus of a society with a tendency to seek pleasure and relief immediately and to bury if not dismiss ideas about healthy living. Such practice may be attributed to consumerism which also leads to hedonism. However, as respondents have become sensitized in the importance of health and taking care of one's body, they have empowered themselves to leap from the impositions of the structure.

Disposition in this study refers to mental or psychological make up. As can be noted, there was a positive change in disposition among the participants based on the gathered responses. It can also be noted that disposition was not limited only to psychological but a new dimension, the spiritual emerged. It also shows that the participants are aware that it is not only by observing healthy habits that good health can be achieved. In fact, even when the respondents were only asked about their health habits initially, majority were able to relate their mental dispositions with their physical health.

Table 1

Results of Nutrition and Wellness Program on the Health Habits and Disposition of the Respondent PDL Detainees

Dimension	Components	Samples of Verbatim Responses		Resaults
		Prior Lifestyle	**Lifestyle After the Program**	
Health Benefits	Nutrition	I eat three times a day with delicious meat viand. I consume fruits and vegetables (2-3 times a week only) I eat fruits usually 2 pieces or more between meal snacks. I take energy drinks and drugs during working hours to be inspired and become enthusiastic in my heavy workload for long hours. I take over the counter medicines when I do not feel well (eg. pain reliever, for fever). I take herbal medicine only when we don't have money to buy over the counter medicine. I take energy drinks and drugs to keep me awake and strong.	I eat 3 times a day. Preferred viand with vegetables always; fruits instead of junk foods. I avoid junk foods. I ask my visiting family or friends to bring me fruits instead of junk food. I minimize consumption of too much sugar and coffee. I avoid fatty food (brought by relatives). I do not take energy drinks anymore. I regret having used drugs before. I utilize herb and food as medicine in lieu of over the counter drugs. I ask my visiting friends and family to bring me natural medicines like ginger and garlic. I regret that I did not take good care of my body before.	Shift to healthy eating habits Reliance on food and herb as medicines and source of wellness.
	Exercise & Sunlight	- Exercise twice a week through walking while going to work. - I exercise when I do not have money to pay for my fare.	I do regular exercise through: correct breathing, stretching, jogging in place and laughing. I become more conscious of my breathing.	Conscious exercise and improvised exercise techniques

		- I don't intend to have sunbath except when I work. - I get exposed to sun when I walk and shade is not possible. - Exercise is not a usual part of my daily routine as I consider work as exercise already.		
	Water	Drink at least 5 glasses of water a day I am not conscious of how many glasses of water I drink everyday. I drink only after a meal and when I feel thirsty.	I see to it that I drink 8 glasses or more water daily. I even ask my family to bring water for me when they visit me.	Sufficient water intake
	Rest & Sleep	I sleep 4 – 6 hours a day. I usually sleep late at night. I consider watching television a form of rest. I drink and smoke during rest day or day-off and every night before I sleep. I am not conscious of giving myself time to rest. I rest for a while whenever I feel tired.	I try my best to sleep 8 hours or even more. I sleep at least 8 hours a day. I avoid negative thoughts. I rest my mind by focusing on good memories and positive thoughts.	Valuing Sleep and Mindful Rest
Psychological Aspects	Temperance	I always complain about many things or the things that happened in my life in the past. I murmur about many things.	I try to maintain positive thinking. I say to myself that I still have a purpose in life. I always smile and try to be	Positive Disposition

			humorous. I encourage myself to be positive and look towards a bright future.	
	Living in the present and for the future	Enjoy life after work through drinking the night away especially when I am having problems. I just want to enjoy life. I have a happy go lucky attitude. I do not mind about the future at all.	I am hopeful. I look forward to being reunited with my family. Instead of feeling angry about my situation and the persons who have caused my incarceration, I choose to forgive them. I forgive myself and say to myself that life will get better. I seek forgiveness even just in my mind, from people I have hurt or done wrong.	Forward-looking perspective
Spiritual Aspect	Trust in God	I am arrogant. I am impulsive/ impetuous. I take control of everything. I do things on my own or by my own strength. I know God exists but I do not know Him. I seldom go to church. I only hear the words of God here in the prison.	I completely surrender my life to God. I pray whenever I have the tendency to get angry. I pray daily. I sing hymns and praises. I join Bible study. I recognize that I am a sinner and I need God (humility).	

3.2   Respondents' assessment of the program as to its implementation and the benefits gained from the discussed topics.

Results of the survey reveal that the participants were highly satisfied with the implementation of the program. Although some of them admitted that they only joined the program initially, because they can at least be allowed to go to the visiting area and have more air and try meals that are different from the usual food rations. However, as the program went on, they had always looked forward for the next sessions. Yet it is admissible that they were extremely satisfied with the feeding distribution, it is not the mere activity that they were extremely satisfied with but the kind of meals prepared for them, which they said were nutritious and simple but also delicious. They were extremely satisfied as well with the practicality and application of the nutrition and wellness principles in their lives. Because the topics are contextualized, they found the principles easily applicable.

Table 2

Degree of Satisfaction in the Implementation of Nutrition and Wellness Program Among PDL Detainees

Nutrition and Wellness Program Implementation	Mean	Interpretation
1. New Information & Insights	4.18	Highly Satisfied
2. Application of Nutrition & wellness principle	4.50	Extremely Satisfied
3. Delivery of information	4.12	Highly Satisfied
4. Interaction with listeners	4.00	Highly Satisfied
5. Practicality	4.33	Extremely Satisfied
6. Feeding distribution	4.52	Extremely Satisfied
7. Over-all Impression	4.34	Extremely Satisfied
Grand Weighted mean	**4.28**	**Highly Satisfied**

The participants believed that the nutrition and wellness program had been highly beneficial (4.11) as a whole and they considered as extremely beneficial the importance of water, emotional and mental wellness and air and environmental wellness. In fact they have taken steps to influence their family members to adopt the same. A striking observation is that most of them believed that their emotional and mental health play an important role in maintaining good health. From the perspective of evangelization or sharing about God which is an inherent component in most faith-based prison outreach activities, it can be said that the efforts of this organization is gaining grounds as respondents regarded emotional and mental wellness as extremely beneficial(4.58) and values, spirituality and beliefs as highly beneficial.

Table 3

Beneficial Effects of Nutrition and wellness Topics Among PDL Detainees

NEWSTART Topics	Mean	Interpretation
1. Nutrition	4.06	Highly Beneficial
2. Physical wellness & Exercises	3.82	Highly Beneficial
3. Importance of Water	4.83	Extremely Beneficial
4. Sunlight health principles	3.17	Beneficial
5. Emotional & mental wellness	4.58	Extremely Beneficial
6. Air and environmental Wellness	4.50	Extremely Beneficial
7. Rest and General Health	3.53	Highly Beneficial
8. Values, Spirituality & Beliefs	4.42	Highly Beneficial
Grand Weighted Mean	**4.11**	**Highly Beneficial**

3.3   Impact of the Holistic and Lifestyle Modelling Approach in Program Delivery

The basic framework of the program is called NEWSTART (Nutrition, Exercise, Water, Sunlight, Temperance, Air, Rest and Trust in God), based on the Laws of Health advocated by Seventh-day Adventists and is drawn from biblical principles but also strongly supported by research studies and scientific findings. The approach is holistic, as it is drawn from the laws that govern life and directed at achieving and maintaining a quality life. It is anticipatory, emphasizing that prevention is better than cure and enabling as it equips participants with knowledge and skills on natural remedies and steps to good health. The resource person or lecturer who is a teacher and also a Seventh-Day Adventist also embraces a healthy lifestyle being a vegetarian and a practitioner of natural remedies.

Respondents found the program highly beneficial because the topics are contextualized in their current situation and the resource person is able to relay many practical examples as she also models or at least approximates the principles she is sharing with the participants. This modality they say makes them feel that they can also embrace the principles because here before them is a living example of someone who was able to shift to and embrace a healthy lifestyle. This study therefore proved that the will to make dramatic shifts or transformations in life is strengthened when people know about or meet successful models of change.

That care of the self is ontologically prior to caring for others was also evident in the study because most of the respondents said that after beginning to adopt a healthy lifestyle, they began sharing what they have learned to their families and friends. Foucault believed that positive self-transformations have the potential to yield a new culture and ethics which was seen in the desire of the participants to influence their families and friends to embrace a healthy lifestyle too.

4. Conclusions and Recommendations

The study identified the results of the Non- Formal Nutrition and Wellness Program for PDL detainees in terms of its influence on their health habits and disposition. It also looked into the impact of the use of holistic and lifestyle modeling approach in program delivery.

For this study, the following conclusions were arrived at: 1) The program strongly influenced them to embrace healthy habits, follow a positive disposition and rely on and trust God; 2) The participants employed improvised techniques to apply the principles they learned as evidenced by their responses ; 3) The participants were extremely satisfied with the implementation of the program particularly the food distribution where meals were described as nutritious, simple and delicious, practicality and applicability of the nutrition and wellness principles in their lives; 4). The participants believed that the nutrition and wellness program was highly beneficial physically, mentally and spiritually; and 5). The use of holistic and lifestyle modeling approach convinced the participants that embracing a healthy lifestyle is simple, easy and doable and encouraged them to influence others to do the same.

The program being a joint endeavor between the BJMP and Seventh-Day Adventist Church in the municipality presents a collaborative approach to prison reform that can also be an enriching experience for all involved. Amidst the global trend on growing prison population and within the current context of intensified anti-crime operations in the Philippines, the study also provides an option for correction centres' in the local level in addressing continuing needs, launching reform initiatives and establishing productive linkages with agencies and organizations within the community. Policy inputs to improve the conditions of prisons can also be drawn from the study among which include on conducting collaborative projects for the PDL detainees, engaging local organizations and other government agencies for better health in prisons, and health standards in prisons. Projects that can support adopting and sustaining healthy lifestyle in prisons may also be initiated among which include vegetable gardening or medicinal planting, ordance or physical fitness programs which may also foster unity and promote friendship among the PDL.

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EFFECTIVENESS OF BRAINY GURU AS E-INSTRUCTIONAL MATERIAL (EIM) FOR ECC MILLENIAL STUDENTS

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INTRODUCTION

The 21st century has been the birth of technological innovation as the world. Educational institutions are witnessing a drastic change due to the use and integration of emerging technologies. No one can argue that the world is changing rapidly and the field of education is experiencing these changes.

Lucido (2012) stated that teachers must adopt a new mindset both for instruction and evaluation. This is justified by the fact that not only the new generation changed into digital corners, but also the traditional world has metamorphosed into digital world. Assessment needs to conform, not with the literacy of the past century but the new literacy of the 21st century that uses digital tools.

The first indication that the Millennial Generation may be different from previous generations is to consider how many different names we have for the generation and the people who belong to it. They're referred to as Generation Y, Nexters, Baby Boom Echo Generation, Echo Boomers, Digital Natives, Generation Next, Generation Me and, of course, Millennials'. A change in terms of learning varies as the generation ages. This means a different approach for every learner. A Psychologist became interested in millennial learners when she noticed a gap between students' expectation for success and the effort they put forth in the classroom. She learned regarding the characteristics of Millennials' ideal learning environments, their preferences regarding assignments and assessment, and the characteristics of their ideal professor. The idea here is student learning outcomes, and getting students to achieve learning outcomes is a persuasive endeavor as much as we might hate that," she said. "Students are going to be more likely to work toward achieving their learning outcomes if they have a positive rapport with us… You don't have to be their best friend. You just have to be perceived as being on their side according to Price, (2009).

Vega et. al. (2006) stressed that education is the key that opens doors to a range of possibilities for advancement, for the benefit of both the individual and the country. Technology has become an essential component of the teaching-learning process. The demands on the learners have increased substantially because they must acquire the knowledge, skills and attitudes required by the knowledge economy on a broader and deeper scale. Since the teacher is the key to these changes, the teachers are required to be in the frontline of innovation, continually seeking out new and better ways of teaching using modern technology. These changes brought about by globalization and technology integration bring also to the need to match the knowledge, skills, and attitudes learned in school with needs of industry.

These digital learners apt for a technology approach on learning where E-Instructional material will help them understand the lesson fully. Since their attention span is limited in terms of traditional lesson presentation, a Brainy Guru was conceptualized to assist slow performers on the subject of algebra.

Solijon (2009), in her study on the comparison of multimedia instruction, found out that based on the findings and conclusion, that students' exposure to the use of technology were factors that determined their level of performance.

The learning capabilities of students are enriched through the use of modern technology that stimulates motivation and educative experience. The game entitled Brainy Guru is a two-dimensional edutainment game that was created for those students having hard time in learning math specifically in Algebra. Moreover, it is a helping tool to those who wants to learn the basics of Algebra. It is in this light that the study was conceived. The assessment of learning regarding the subject was strengthened in using the E-instructional material.

Problem Statement

This study aims to propose a Brainy Guru as supplemental learning E-Instructional Materials (EIM) for first year college students of Eulogio "Amang" Rodriguez Institute of Science and Technology – Cavite Campus.

Specifically, this study answers the following sub-problems:

1.   What subject did the first year students find it most difficult?

2.   How effective is the use of E-Instructional Material Brainy Guru among the three groups of respondents in terms of:

>   2.1   effectiveness;

>   2.2   efficiency;

>   2.3   user interface design;

>   2.4   flexibility;

>   2.5   accuracy; and

>   2.6   availability of help menus?

3.   How do the students performed after using the E-Instructional Material?

METHODOLOGY

Research Design

The researcher used descriptive-developmental method type of research in assessing the effectiveness of Brainy Guru as E-Instructional Material. According to Jackson (2009), the descriptive method of research, participants answer questions administered through interviews and questions. After participants answer the questions, researchers describe the responses collected.

Participants and Sampling Plan

A total of seventy five (75) student-respondents were utilized coming from three different courses namely BS Computer Science, BS Computer Technology and BS Industrial Technology chosen through purposive non- random quota sampling. Three (3) faculty teaching Math major and five (5) IT experts. The research instruments used in gathering the data were questionnaire and interview.

Instrumentation

The research instruments used in gathering the data were questionnaire and interview.

The Likert scale was used to determine the computed value on the effectiveness of the E-Instructional Material, they were rated and interpreted as follows:

Scale	Range	Interpretation	Symbol
5	4.20-5.00	Highly Effective	(HE)
4	3.40-4.19	Very Effective	(VE)
3	2.60-3.39	Effective	(E)
2	1.80-2.59	Less Effective	(LE)
1	1.00-1.79	Not Effective	(NE)

Performance Level of the students in the pretest and posttest

MPS SCALE	VERBAL INTERPRETATIONS
96-100	Mastered (M)
86-95	Closely Approximately Mastery(CAM)
66-85	Moving Towards Mastery(MTM)
35-65	Average Mastery(AM)
15-34	Low Mastery (LM)
5-14	Very Low Mastery (VLM)
0-14	Absolutely No Mastery (ANM)

RESULTS AND DISCUSSION

1.   What subject did the first year students find it most difficult?

Table 1

Subject found most difficult by the First Year Students

Subject	Percentage	Rank
Study and Thinking Skills	26.67	2
Komunikasyon sa Akademikong Filipino	20.00	3
College Algebra	49.33	1
Gymnastics	4.00	4
Total	100.00	

Table 1 presents the Subject found most difficult by the First Year Students. College Algebra got the highest percentage with 49.33% followed by Study and Thinking Skills got 26.67%, Komunikasyon sa Akademikong Filipino got 20.00, and Gymnastics with 4.00%. Findings show that most of the respondents found College Algebra as the most difficult subject.

2. How effective is the use of E-Instructional Material Brainy Guru among the three groups of respondents in terms of:

         a.   effectiveness;

         b.   efficiency;

         c.   user interface design;

         d.   flexibility;

         e.   accuracy;

         f.   availability of help menus

Table 2

Effectiveness of the Use of E-Instructional Material Brainy Guru

Criteria	Weighted Mean			Combined Weighted Mean	Adjectival Meaning
	Students	**Faculty**	**IT Experts**		
Performance Effectiveness	3.10	2.84	3.73	3.22	Effective
Performance Efficiency	3.11	2.69	3.5	3.1	Effective
User Interface Design	3.13	2.73	3.39	3.08	Effective
Flexibility	3.10	2.83	3.58	3.17	Effective
Accuracy	3.10	2.72	3.41	3.08	Effective
Help Options	3.10	2.88	3.36	3.11	Effective
Composite Mean	**3.11**	**2.78**	**3.50**	**3.13**	Effective

As presented in the table, the respondents rated all variables as effective with overall mean values of: 3.22 as to performance; 3.10 as to performance efficiency; 3.08 as to user interface design; 3.17 as to flexibility; 3.08 as to accuracy; 3.11 as to help options.

In general, the students, faculty and IT experts rated the effectiveness of the Brainy Guru as effective with composite mean values of 3.11, 2.78 and 3.50 and overall computed mean value of 3.13.

The intervention signifies a positive effect among the millennial learners as the result shown above.

3. How do the students performed after using the E-Instructional Material?

Table 3

Students' Performance in the Pretest and Posttest

Respondents	Number of cases	Number of Items	Pretest			Posttest		
			Mean	PL	VI	Mean	PL	VI
First Year Students	75	120	53.0	72.08	MTM	92.9	88.71	CAM

As presented in table 3, the mean score of the students have improved from 53.0 to 92.9 with a performance level of 72.08 verbally interpreted as moving towards mastery (MTM) to 88.71 verbally interpreted as closely approximating mastery (CAM) , obtained higher performance level in the posttest than in the pretest. Therefore, the use Brainy Guru as E-Instructional Material had a positive effect on the learning of the students.

Conclusion

1. The effectiveness of the use of E-Instructional Material Brainy Guru was effective as assessed by the three groups of respondents.

2. The use of E-Instructional Material Brainy Guru improved the performance of the students from moving towards mastery to closely approximating mastery.

Recommendations

1. Similar E-instructional material should be created and administered specifically designed for math and science subjects.

2. Faculty handling college algebra are encouraged to utilize the E-Instructional Material Brainy Guru as supplemental aid in the presentation and carrying out the lessons.

3. For other researchers, the E-Instructional Material Brainy Guru needs further evaluation to elicit feedbacks and enhancement.

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A FEASIBILITY STUDY OF AYOSSASOYA CHAIN OF FOODCARTS IN ST. ANTHONY'S ARCADE, BRGY. G. MADERAN GENERAL MARIANO ALVAREZ, CAVITE

Jeanette T. Gabica
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INTRODUCTION

One of the businesses that the proponents thought which is easy to establish, a fast growing and a feasible one is the "SOYA." Soya, one of the unrecognized beans has a lot of benefits in which many don't know about it. Through the innovative skills, the proponents discover products in which people can't easily get out of it.

The Food and Drugs Administration of the Philippines has confirmed that foods containing soy protein may reduce the risk of coronary heart disease. Only people with soy allergy (about 0.5 percent of the population) should avoid eating food containing soy protein. Over the past years, there has been an increasing interest in the antioxidant effects of soya and in particular, the health benefits of isoflavones is very important for vegetarians and vegans. it has high protein content and rich in vitamins, minerals and fibers. We can't deny the fact that from the many health benefits coming from soya with proteins and from health promoting phytochemicals, such as isoflavones, phytates, saponins and polyphenols, people would be encouraged to patronize this product.

Earlier research proven and suggested that soy beans could help prevent heart disease and reduced the total cholesterol level. A Chinese study found that high dietary intake of soy isoflavones was associated with lower risk of recurrence among postmenopausal women with estrogens and proesterone positive breast cancer and those receiving the anti-cancer drug anastrozole. Isoflavones have antiangioenic activity, which means that they interfere with blood vessel growth, an important anticancer property.

With these, the proponents would like to introduce the three (3) new products which are: Soya Burger, Soya Siomai and Soya Lumpia. While choosing soya as the main source of raw materials, the proponents further choose food cart as a mean to market the products. a food cart-type of venting is a growing method where in a small capital is required ranging from P13, 000 to maximum of P300,000. According to Josm Rosuello, president of the Foodcart Association of the Philippines, each of set-ups, low capital requirement and hih chances of success are making food carts the business of choice to put up than restaurants. There's also no industry standard for cart size, material requirement, and design, although food cart must use certain basic food-service safety materials.

In putting up business using food cart, the first thing to consider is the product you are selling that's why the proponents chose what is exceptional, a family recipe not known to many, or what could be an innovative with variations of existing products, simply a very affordable product.

MANAGEMENT FEASIBILITY

This aspect will discuss the coordination of all people in the business through the process of planning, organizing, directing, staffing, controlling, recruiting, budgeting and other activities in order to attain stated goals and objectives. The partners will be automatically considered employees in the firm. They will occupy the following positions, three administrative

personnel and two service crews for the operation of the food carts. The administrative personnel include the general manager, operations manager and finance manager.

The proponents decided to run the administrative workforce under democratic type of management. This is to provide freedom and basic rights of the people in the firm for a better relation between employers and workers. This is wholly covered by the Management Theory "Y" that gives employees' motivation to seek for more opportunities, responsibilities, and self-development inside the organization. The proponents believe that workers would become participative in this style of management. Commitment of the organization's objective by the worker would be rewarded and associated by their achievements.

Management will carry out a continuing practical and positive program of training and development of its employees. This is to ensure the maximum efficiency in the performance of functions, duties and responsibilities and improve employee's morale. These are: orientation or induction of new employees; refresher training for the introduction of new methods and techniques; on-the-job training and; job rotation.

MARKETING FEASIBILITY

The marketing strategy encompasses the product or service offering, pricing, promotion and distribution - or delivery of the product or service to customers. The proponents conducted a survey in the preferred location of AYOSSASOYA CHAIN OF FOODCARTS. The survey asked 300 respondents regarding their preferences about the products related to what the business offers. As a conclusion, the survey clearly shows the feasibility of the business within the vicinity and the people's positive response to the business.

Competitors have established a recognizable brand in the market. Some of these competitors were sprouted one by one and surrounded the location of AYOSASOYA CHAIN OF FOODCARTS. Thus, the business is going to conduct its own extensive marketing program and focus in advertising and promoting the product. The business will provide quality products as the competitors does but in lower costs. To avoid the risk of unavailability of raw materials, the business will seek assistance on other supplier for resources and raw materials.

The proponents decided to follow market development strategy for a current product, and as the business expand the potential market through new users or new uses. Another way is to expand sales through new development of the product. The potential market must increase through this strategy, whereas the market size is "fixed: with a market penetration strategy. When the business reached the decline stage, the proponents will have remarketing of products. It will offer discounts on products and thorough promotions will be made. The business will maintain what the marketing strategies give it and focused on satisfying customer needs.

The marketing sales force of the business is made to be simple. It does not rely on expensive advertisement or ways on promoting the products. It was made to be low cost and efficient so that the business would maintain the good budget. The marketing sales force includes six ways in pushing in the market such as social media, relatives and friends, printed ads and packaging, quality products and customers.

PRODUCTION AND TECHNICAL FEASIBILITY

The products, utilities, equipment, machineries and all other important matters about the food cart business are detailed in this chapter. Their specific layouts are being illustrated also. No matter how complex would it be or simple as possible would it be, keen analysis and profound studies are still needed to create a more reliable result. Proponents must barely quote

"expect the unexpected" for this will tell them how AYOSSASOYA CHAIN OF FOODCARTS would be born and existed prolifically and technically established.

The proponents included the list of raw materials, the process in preparing the products and the processes before distributing it to final consumers. These also include standard operating procedures that the firm must observe in the preparation of the said product out of the soya pulp or which is commonly known as okara, three results could be seen and they are: Soya Burger, Soya Siomai and Soya Lumpia. They are closely different with the other related products because of pulp made up from beans unlike those that use meat and because of this; the processes became thorough and stiff.

SOCIO-ECONOMIC FEASIBILITY

The growth of the franchising industry, particularly the massive growth of the food cart franchise business Philippines, had created thousands of enterprises which then led to the generation of hundreds of thousands of jobs, making it one of important tool in the country's economic growth. It was also because of the rapid growth of the industry that the Philippines were later recognized as the franchising hub of Asia when it comes to the development of food cart concepts.

The reason why food cart business became a popular is because of its affordability and simplicity. Because of the growing popularity of food cart franchise businesses, the franchising industry of the country had also grown immensely and because of its affordability, food cart business had quickly spread all over the Philippines.

The proposed business would give benefit to the government and community in terms of employment. AYOSASOYA CHAIN OF FOODCARTS will help lessen the issue of unemployment by providing job opportunities in the Philippines. The proponents will be going to recruit, employ and train employees for them to perform the jobs needed. It helps to increase the employment because even high school graduate can be hired by the business.

The proponents are looking forward to help the municipality of Gen. Mariano Alvarez, Cavite. This proposed business would give a great contribution through the revenues of the government in the form of taxes, the permits and documents that the government required before and during the business operation. Paying proper and exact taxes will ensure the form of following the law.

CONCLUSION

The study of AYOSASOYA CHAIN OF FOODCARTS proves that the business, by using its own systems, strategies and techniques in business management, becomes feasible in terms of management, marketing, technical and financial aspect. Each aspect of the study analyzes and has been carefully researched to support each conclusion. The proponents have been confident to the study that they could say that this business would grow and become a well-known and generally popular to the market.

SELF-ESTEEM, SOCIAL SUPPORT, PERSONALITY TRAITS AS PREDICTORS OFHOPE: MILLENNIAL PERSPECTIVES

Ian I. llenares
Christian Ranche
Rhea Lowella Santillan Fiser

1.   Introduction

Mental health problems affect society as a whole, and not just a small and isolated segment. An estimated of 450 million people suffered from mental and behavioral disorder and nearly 1million committed suicide every year (WHO, 2003). Globally, depression and suicide were the major sources of the burden of disease (WHO, 2000, 2012). In the Philippines, depression, anxiety, and mood disorders were the common mental health problems among adolescents aged 10-24years old. Based on the World Health Organization (WHO) survey, 42% had felt sad or hopeless for two weeks or more in the past year, 17.1% had suicide attempt and 16.7% had suicidal ideation (WHO, 2007). In addition, the study on suicide trend and analysis in the Philippines from 1974-2005 (Redaniel et al., 2011) revealed that incidence of suicide in males increased from 0.23% to 3.59% per 100,000 between 1984 and 2005 while 0.12% to 1.09% per 100,000 in females. Suicide rates among males were similar in all age groups during the period of study while suicide among females was highest in 15to 24 years old.

Depression is a mental disorder that displays depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, poor concentration and with symptoms of anxiety. Chronic depression leads to individual's inability for self-care and suicide (WHO, 2012). The frequency and intensity or magnitude of life stressors and cognitive vulnerability domain (e.g. interpersonal) matched with the content domain of negative life events (e.g. breakup of the relationship) may increase the occurrence of depression (Abramson, Metalsky, & Alloy, 1989). Depressive symptoms and suicide risk were associated with frequency of smoking and drinking , absence of parents , dissatisfaction with financial condition (Lee, Sta Maria, Estanislao, & Rodriguez, 2013), quality of relationship (Consoli et al., 2013; Lee et al., 2013), and neuroticism and agreeableness (Leow, Lee, & Lynch, 2016; McCann , 2010).

Depressed adolescents' potential risk of suicide-related outcomes had resulted on the loss of hopeful trait. The absence of hope account for experiencing suicidal ideation and behavior (Abramson et al., 2002; Davidson et al., 2009). According to Beck et al., (2006) suicide is the main indicator of hopelessness and hopelessness mediates between negative inferential styles and the risk for suicide-related outcomes (Abramson et al., 2002).

Within the psychological concepts of depressed adolescents there are balancing psychological assets they can invest upon in order to build a resilient character. According to Snyder (2004), hope was a natural balancing force against depression . Hope trait was found correlated with depression (Davidson et al., 2009; Hedayati & Khazaei, 2014). Strengthening hope trait (Davidson, Feldman, & Margalit, 2012; Green, Oades, & Grant, 2006; Shin & Park, 2007) has been one of the goal of Positive psychology , which is to build positive emotion , virtue and resilient character (Seligman & Csikszentmihalyi, 2014) while giving equal emphasis on weaknesses (Snyder & Lopez, 2009). Strengthening the core of human strengths can Jessen depression (Gander, Proyer, Ruch, & Wyss, 2013; Sin & Lyubomirsky, 2009) and prevent pathologies (Seligman & Csikszentrnihalyi, 2000).

Hope Trait

Hope trait is a positive psychological strength. According to Snyder (1995), hope is defined as a cognitive set comprising of agency (the process of thinking about one's goal along with the motivation to move forward) and pathways (find ways to reach one's goal). Hope traits help individual adjust through the difficult time (Cheavens, 2000). According to Bailey et al., (2007), hope involves the ability to generate and implement the plan for the future. Higher hope trait creates positive mental mindset on the extreme environment (Snyder et al., 1991). However, hope trait does not mean an unconditional belief that everything will go well in someone's life for example; adolescents may have different views on how he or she sees specific life events, roles and activity he or she performs. An individual may hold strong hope trait but does not believe in himself or herself in a given situation. An individual with low hope tends to easily give up when dealing with loss or challenges in life. Snyder (1994) mentioned that hope trait dies early on person's life and thus he emphasized the need to boost hope. Nurturing hope trait will be beneficial to adolescents who encounter new and more challenging situations spanning the academic, sexual, political and interpersonal domains where they require improving their skills and resources.

There are several constructs that directly or indirectly contributes to the enhancement of hope trait like social support (Denewer, Farouk, & Elshamy, 2011; Moreland, 2012; Taei et al., 2015) particularly, positive peer approval (Paulhus, 1998) and parental support (McDermott & Hastings, 2000), and self-esteem (Frieson & Frieson, 1996a; Parvan et al., 2015). Thus, harmonizing these network of constructs (social support and self-esteem) potentially provide an effective and efficient strength - based program for adolescents specifically millennial generation.

Millennial and its characteristics

Millennial also known as "Net Generation" or "Me Generation" is defined as people born between 1982 to 2005 in the hype of digital age (Howe & Strauss, 2007). They are technologically savvy and wide users of e-games, smart phones, gadgets, the internet and social media as the major support system. They are raised in an environment where information, entertainment, and social interactions are unlimited (Zickuhr, 2011).

Typical of human nature, Millennials have positive and negative traits. Some of their distinct traits are special, sheltered, determined, goal-oriented, group oriented, pressured, and conformist (Howe & Strauss, 2003). They tend to be selfish, impatient, inconsiderate, hedonistic, and crave for immediate rewards and praise (Alexander & Sysko, 2011; Na' Desh, 2008). In school, they are considered multi-task oriented, graphically oriented, lack communication skills, expect immediacy, and don't respond well to lecture (Feiertag & Berge, 2008).

Perhaps, the changing political, social and economic climate and technological advancement are changing the behavior of millennials. Consequently, millennial adolescents become more vulnerable to mental health problems. Their uniqueness may bring an adjustment to educational and work environments. More importantly, they are the emerging workforce and will become the largest living generation (Fry, 2015).

Present Study

The relevance of present study in promoting mental health in nonclinical population (e.g. college student) is equally important with a clinical population (e.g. cancer patients, patients with depression and suicidal tendency, etc.). The review of the related literature provided insights to the researchers on the psychological constructs that relate to the high rates

of depression and suicide -related outcomes among adolescents which include social support, self-esteem, and big five personality traits.

We assumed that the changes on millennial adolescents brought by political, social and economic and technological advancement will make them more vulnerable to mental health problems. In addition, the review found out that hope plays a vital role in the prevention of depression and suicide.

This study aimed to explore the potential network of constructs (social support, self-esteem, and big-five personality traits) which are helpful on nurturing hope trait including the applicability of these constructs on Filipino context.

The present study has two main goals;

1. Describe perceived social support, self-esteem, personality traits, and hope of Filipino millennial college students based on their scale scores;

2. Determine which among the identified variables (social support, self-esteem, and big five personality traits) predicts hope among the Filipino college millennial sample.

2.   Method

Participants

Participants were 194 undergraduate psychology students, aged 15 to 25 years (M = 18.69; SD = 2.68) currently enrolled from the public and private colleges and universities in Metro Manila during the time of the survey. The respondents were the first year (n = 8), second year (n = 122), third year (n = 26) and fourth year (n = 20) college students.

Measures

Self Esteem

The 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to measure the respondent's global sense of personal worth using a scale from 1 'strongly disagree'

Social Support

The 12-item Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988; Zimet, Powell, Farley, Werkman, & Berkoff, 1990) was used to measure three sources of support, such as family, friends, and significant other using a scale from 1 'strongly disagree' to 7 'strongly agree' with Cronbach a= 0.95 on the present study. Specifically, significant others with Cronbach a = 0.90, family with Cronbach a= 0.92 and friends with Cronbach a= 0.94.

Big Five Personality traits

The Ten Item Personality Inventory (TIPI) (Gosling, Rentfrow, & Swann, 2003) was used to measure the big five personality model such as extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience (5 item -positive statement; 5 item - negative statement) using a scale of I 'strongly disagree ' to 7 ' strongly agree'

Hope

The 12 item Adult Hope Scale (Snyder et al., 1991) was used to measure cognitive model of hope specifically , (I) agency (4 items) e.g. goal-directed energy and (2) pathways (4 items) e.g. planning to accomplish goals with fillers (4 items) using Likert scale ranging from I 'definitely false' and 8 'definitely true' with Cronbach *a*= 0.88 for the present study.

Procedures

The instruments were administered through the use of an online survey . The participants were informed about the purpose and goal of research and confidentiality of data.

Data Analysis

We used SPSS version 21.0 at p <.05 to analyze the data. Demographic and inferential analysis methods were frequency, Shapiro Wilk test, reliability, correlation analysis, and stepwise multiple regressions.

3.   Results

The basic statistics for the various scales are summarized in Table 1. The three scales such as Adult Hope Scale, Rosenberg Self-Esteem Scale, and Multidimensional Scale of Perceived Social Support had adequate internal consistency statistics except for the personality traits . The researchers didn ' t include coefficient alpha for the Big Five Inventory because it is almost impossible to get high alpha value and good fit indices in instruments like TIPI, which are designed to measure very broad domains with only two items pP-r dimension and using items at both the positive and negative poles. For this reason, some researchers have pointed out that alphas are misleading when calculated on scales with small numbers of items (Kline, 2000; Woods & Hampson, 2005).

Findings showed most of the respondents have high level of hope (M = 50.92; SD= 8.26), perceived high level of social support specifically, significant others, M = 22.32; SD= 5.52, family, M = 20.59; SD= 5.96, friends, M = 21.89; SD= 5.81 while self-esteem (M = 25.52; SD= 1.84) with an average level. Also between personality dimension, respondents have average level on extraversion (M = 8.35; SD= 1.34) and openness to experience (M = 8.04; SD= 1.47) while low level on emotional stability (M = 6.64; SD= 1.74), agreeableness (M = 6.98; SD= 1.60) and conscientiousness (M = 7.48; SD= 1.69).

Table 1 shows the correlational matrix between independent and dependent variables, social support specifically significant others (r= 0.35), family (r= 0.30) and friends (r= 0.28) were positively related to hope while self-esteem (r = -0.18) was negatively associated with hope. No significant relationship was observed between big five factors (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience) and hope.

Table 1

**Mean, Standard Deviations, Coefficient Correlations
Between Variables and Cronbach Alpha**

	Variables	1	2	3	4	5	6	7	8	9	10
1	Hope	1									
2	significant others	.355**	1								
3	Family	.307**	.644**	1							
4	Friends	.282**	.636**	.615**	1						
5	Self-esteem	-.189**	-0.055	-.150*	0.018	1					
6	Extraversion	-0.053	0.021	0.052	0.065	-0.01	1				
7	Agreeableness	-0.011	0.051	0.031	0.045	-0.05	.252**	1			
8	Conscientiousness	-0.021	0.12	0.037	.156*	-0.021	.269**	.299**	1		
9	emotional stability	0.086	0.083	0.048	0.078	-0.034	.171*	.465**	.395**	1	
10	openness to experience	-0.086	-0.018	-0.013	0.028	-0.036	.265**	.366**	.245**	.326**	1
	M	50.92	22.34	20.59	21.89	25.52	8.35	6.98	7.48	6.64	8.04
	SD	8.26	5.52	5.96	5.81	1.83	1.33	1.6	1.69	1.73	1.47
	Cronbach α	0.88	0.74	0.92	0.94	0.90	-	-	-	-	-

Note: $p < 0.01$**, $p < 0.05$*

To further examine the relationship between social support, self-esteem, personality traits and hope, a stepwise multiple regression analysis was conducted. Hope was entered as the dependent variable and social support, self-esteem and big five personality traits were entered as potential predictors. Using stepwise model, it has been observed in the last step out of 9 independent variables, significant others and self-esteem were able to explain 39.30% of the variance in hope. On the first step, the variable of significant others are positively and significantly predicted 35.50 % of hope $F(l, 194)= 27.62$, $p < .001$. So that each of standard deviation change in significant others is associated with = 0.35 followed by a change in the variable of hope ($t = 5.26$, $p < 0.01$). In the last step, also with adding self-esteem to significant other model was successful in predicting hope and ability to predict increases about 3.70% $F(2,194) = 17.48$, $p < 0.01$ beta coefficient of a!!:l'eement inverselv and si!!Tiificantlv en11:a11:ed to predict hope ($t = -2.56$, $p < 0.05$). Accordinp tn th" l •t <t"n "v"rv ci"vi tinn th t changes in self-esteem with -0.17 was associated with changes i11 hnnP ($t = 5.18$; $p < 0.01$).

Table 2

**Summary of Multiple Regression Analysis for the Social Support,
Self Esteem and the Big Five Personality Traits Predicting Hope**

	Variables	B	Standard Error	Standardized Coefficients Beta	t	R^2	Adjusted R^2	F value
	First step							
1	significant others	0.53	0.10	0.35**	5.26	35.50	34.00	27.62
	second step							
1	significant others	0.52	0.10	0.35**	5.18	39.30	37.00	17.48
2	Self- esteem	-0.77	0.30	-0.17**	-2.56			

Note: $p < 0.01$**, $p < 0.05$*

4.   Discussions

The primary aimed of the study was to explore social support, self-esteem and personality traits as predictors of hope among psychology undergraduate students in Manila, Philippines. This study was unique for it involved a public and private Higher Education Institution (HEI) which comprises of varied socioeconomic status. According to (Park, Peterson, & Seligman, 2004), hopeful individuals tend to have a positive view of the future. These view and beliefs allow them to have a positive outlook about one' s self that would aid in the increase of their motivation (agency) and lead to culminate activities and means (pathways) that are directed towards actively pursuing personal goals (Hartley et al., 2008). Hence, Filipino millennial psychology students have strong willed and believe they can succeed despite the hardship they are facing, for example, student living in a depressed community, parents working abroad, broken families, and financial difficulties. Filipinos are known for the trait of 'matiisin' and believe that problems and challenges are justtemporary blockages on achieving their goal.

The study also found the relationship between the predictors; social support and self-esteem and the dependent variable hope. Results of bivariate correlation analysis showed that family, friends, and significant others have a significant relationship with hope. This indicates that those who have high social support from family, friends, and significant others tend to have high levels of hope. This is consistent with the findings of (Foote et al., 1990; Gibson, 1999) who found the significant correlation between hope and social support. For self-esteem, it is found out that hope is correlated with self-esteem. The present study confirmed the significant findings of (Frieson & Frieson, 1996b; Parvan et al., 2015) that hope was strongly correlated with self-esteem. However, the present study did not observe any relationship between five big personality traits and hope unlike with the previous findings of (Halama, 2010) that hope acts as a partial mediator between neuroticism, conscientiousness and life satisfaction. The lack of validity of a ten-item personality test is the possible reason for not being able to show that big five personality traits do not predict hope.

Furthermore, the study also provided that significant others and self-esteem were significant predictors of hope. Scholars like (Greenberger, Chen, Tally, & Dong, 2000) mentioned that emotional support from significant adults, health care provider etc. enhance well-being. In our case, significant others were positively connected with hope. One possible explanation is that the Filipino millennial college students become hopeful because of the strong emotional support (e.g. encouragement and positive affirmation) of significant others probably their teachers or significant adults (e.g. family relatives and or family friend - successful in their career). These people guide and motivate the Filipino millennial college students realize their goal and strive to achieve their goal.

Interestingly, self-esteem was regarded as an important aspect of one's social and cognitive development (Berndt, 2002; Pulkkinen, Nygren, & Kokko, 2002). Like hope trait, self-esteem helps individual adjust to adversity (Umafia-Taylor & Updegraff, 2007). Self- esteem was found positively correlated with hope (Parvan et al., 2015) however, the present study showed an inverse relationship between self-esteem and hope. The present findings suggest that as the college student self-esteem increases the lower their hope trait and a decrease on self-esteem resulted on increasing hope trait. One possible explanation, our student samples are adolescents and at the stage of understanding their self-identity including skills and abilities. There are Filipino millennial college students who do not realize their full potential and feel incompetent despite having high hope trait.

5.   Recommendations

Taken together, this study is valuable in providing an understanding the factors leading to positive well-being which is the hope among Filipino millennial psychology students. This confirms the applicability of hope scale in student samples and provides validity evidence for other predictor variables. However, this study is an attempt to explore well -being of millennial college students. One productive avenue for future research is to explore other constructs that predict hope trait (such as resilience, relationship harmony, faith, spirituality, etc.). The use of a more validated personality traits instrument should be considered for future research. Furthermore, the use of another methodological approach (e.g. mixed methods) to provide meaningful results is further encouraged.

Social support and self-esteem emerged as useful constructs for nurturing hope. These constructs will be useful for development of an effective strength -based program for the higher education institution.

6.   Limitation of the Study

The current research has several limitations; one of these is that it only focused on millennial undergraduate psychology students. All variables were assessed thru survey questionnaire and convenience sample. Furthermore, with a University student sample, one could not generalize for other generations and other age groups, considering the differences between the work values and experience.

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ROLE STRESS AND ROLE EMPOWERMENT AMONG THE EMPLOYEES OF NATIONAL FOOD AUTHORITY PACO, MANILA

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INTRODUCTION

In today's intense competition, organizations are constantly seeking new sources of competitive advantage. They need the knowledge, ideas, energy, and creativity of every employee. The best organizations accomplish this by role empowerment to take initiative to serve the collective interest of the company without being micro managed and act like owners of the business. It allows the employees to have input and control over their work and the ability to openly share suggestions and ideas about their work and organization as a whole. Role empowerment is a platform to demonstrate the employees' competence in decision-making abilities under pressure and will help a company gain the vital competence. It sounds good at all but there are potential challenges as well. One of this is role stress; it is the result when a workers job and related duties are ambiguous or structure in a way that lead to problems for the employees. It is stress caused by the occupation of an organization role depends on an individual's perception about situations, constraints, opportunities or threats encounter during role performance. Furthermore, role stress will be occurred when incompatibility exists between a person's perception of the characteristics of a specific role and the role expectations.

Role stress and role empowerment are interconnected. Role empowerment is one of the effective techniques for increasing productivity in employee and optimal use of their individual capacity in order to achieve organizational objectives. However, when it is done wrong, it can result in role stress. Role stress is detrimental to a large extent because employees feel uncertain about goals, expectation, and how they'll be evaluated. They assume a role based on the expectation of the self and others at the workplace. Role stress reduces or eliminates the performance of the employees. It can affect the job and interpersonal relationship of the employee.

The National Food Authority was created through Presidential Degree No.4 dated September 26, 1972 with the mission of promoting the integrated growth and development of the grains. Today, the National Food Authority is in charge of ensuring the food security of the country and the stability of supply and price of the staple grain-rice. The researchers discovered that the employees in National Food Authority Paco, Manila are experiencing role stress because of role empowerment. Since they are Government Company, they receive more paper works that lead to their role stress.

The reason why the researchers came up with this study is that they want to measure the knowledge, skills, and ability of the employees to prove that role empowerment may result in role stress. Furthermore, it would allow them to better understand the capability of the employees to handle role stress and role empowerment that gives employees skills, control, opportunity and motivation to be responsible for the outcomes of their actions.

MATERIALS AND METHODS

This part presents the methods and procedures utilized by the researchers. It concentrates on the method of research, sampling design, the description of the respondents, instruments, manner of gathering and treatment of data.

RESEARCH METHOD AND DESIGN

The study used descriptive method in order to describe the characteristics of population or phenomenon being studied. It can help to gather accurate, factual, systematic and adequate data. Specifically, the survey design was used to gather data on the level of role empowerment and role stress of the respondents.

POPULATION AND SAMPLE SIZE

Quota sampling technique was used to get the sample size of each department and utilized Slovin's formula to identify the sample of the respondents. The chosen respondents were limited to 130 employees.

Table 1

Distribution of the Respondents

Offices	Population	Sample	Percentage
Central District Office	109	74	57%
Regional Office	84	56	43%
Total	**193**	**130**	**100%**

RESEARCH INSTRUMENT USED

The researchers utilized a questionnaire as the main data gathering instrument. The instrument was adopted from Spreitzer's Psychological Empowerment (see appendix Q) and the other instrument is researchers-made (see appendix P).

The questionnaire is divided in three (3) parts as follows:

Part I Demographic profile of the respondents such as age, sex, length of service, and civil status.

Part II Role Stress. This part pertains to the situation being experienced by the employees in the organization namely:

     A.   Role Ambiguity
     B.   Role Conflict
     C.   Role Overload

Part III Role Empowerment. This part solicits information regarding the capability of the employees to handle their job as to:

A.   Meaning
B.   Competence
C.   Self-Determination
D.   Impact

The questionnaire has a five point Likert Scale ranging from 1(strongly disagree) to 5(strongly agree).

Upon the approval of this proposed study and proposed instrument, the researchers proceeded to the validation of the questionnaire. The questionnaire was presented to the expert for asking several comments and suggestions to further enhancement. The researchers considered all the suggestions and comments of the experts that were used for revision to its final form.

STATISTICAL TREATMENT OF DATA

The following statistical treatments were used as the tools for the analysis and interpretation of the data.

Sub-problem No. 1, **Frequency, percentage and ranking** were applied to quantify the demographic profile of the respondents.

Sub-problem No. 2 and 3, **Weighted Mean** was applied to measure the variables of role stress and role empowerment among employees.

Table 2

Likert Scale

Scale	Range	Description	Interpretation
5	4.50 – 5.00	Strongly Agree	This means that the statement is highly evident and highly experienced by the employees in the company
4	3.50 – 4.49	Agree	It is evident and experienced by the employees in the company
3	2.50 – 3.49	Slightly Agree	It is rarely experienced by the employees and vaguely evident in the company
2	1.50 – 2.49	Disagree	It is not evident nor experienced by the employees
1	1.00 – 1.49	Strongly Disagree	The statement is not highly evident nor highly experienced by the employees in the company

Sub-problem No. 4, to find the significant relationship of the profile variables with the Role Empowerment and Role Stress, the researchers used **Chi-square**.

Sub-problem, No. 5, the researchers used **ANOVA** to know the significant differences on the respondents assessments when they are grouped according to the demographic profile.

RESULTS AND DISCUSSION

This focuses on the analysis, interpretation and presentation of data. The data obtained from the survey questionnaire given by the respondents are the source of information for this research.

FINDINGS OF THE STUDY

The following are the salient findings of the study:

1.   Profile of the Respondents

There were about 46.16% of the respondents whose age rages from 21 to 40, 51.54% were male respondents, almost 40% of them rendered service for 16 years and above, while more than half or 64.62% are married.

2.   Role stress as experienced by the employees in terms of Role Ambiguity, Role Conflict and Role Overload

The role stress experienced by the employees of National Food Authority in terms of role ambiguity has the overall weighted mean of 1.88 with the descriptive interpretation of "Disagree", which means that it is rarely experienced by the employees. In terms of role conflict, it has overall weighted mean of 2.14 with the descriptive interpretation of "Disagree", which means that it is rarely experienced by the employees. Also, role overload has overall weighted mean of 1.95 with the descriptive interpretation of "Disagree" which means that it is rarely experienced by the employees.

3.   Role empowerment as assessed by the employees with respect to Meaning, Competence, Self-determination and Impact

The role empowerment as assessed by the employees of National Food Authority in terms of meaning has the overall weighted mean of 4.32, competence has overall weighted mean of 4.30, self-determination has the overall weighted mean of 4.09 and last, impact with overall weighted mean of 3.90. The descriptive interpretation of the four variables is "Agree" which means that it is evident and experience by the employees in the company.

4.   Relationship between Profile Variables and Role Stress

The P-value is greater than the level of significance that failed to reject the null hypothesis. Consequently, there is no significant relationship between role stress and demographic profile in terms of age, sex, length of service and civil status of the employees in National Food Authority.

4.1   Relationship between Profile Variables and Role Empowerment

There is no significant relationship between the profile variables and role empowerment assessed by employees of National Food Authority. Since the level of significance is less than the P-value, the variables age, sex, length of service and civil status failed to reject the null hypothesis; only factors of role empowerment such as self-determination and impact found significant differences with the demographic profile.

5.   Significant difference on the respondents' assessment when grouped according to the demographic profile

There is no significant difference on the respondents' assessment to the factors such as role conflict, role overload, meaning, competence, self-determination and impact when grouped according to age, sex and length of service. When grouped according to age and civil status, the respondents' assessment to role ambiguity has significant difference.

CONCLUSIONS

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

1.   The majority of the employees in National Food Authority are male, under the age of 51 years and above. The employees rendered maximum of 16 years and above service in the company and most of them are married.

2.   The employees rarely experienced role ambiguity, role conflict and role overload in the company. It means that employees are clearly informed about their responsibilities, can manage conflicting demands and expectations from two or more people and control excessive workloads.

3.   Role empowerment is evident and experienced by the employees. It means that employees have the ability to execute and manage the given added responsibility of their own primary tasks.

4.   The demographic profile such as age, sex, length of service and civil status have nothing to do with the role stresses experienced by the employees. There is no significant relationship between role empowerment as to meaning and competence and the demographic profile of the respondents. However, there is significant relationship between the demographic profile and role empowerment as to self-determination and impact. It means that the higher the age of the employees, the higher they have the impact in the company. Also, when the employees are getting older their freedom to make own choices about how they do their work increases.

5.   There are significant differences on the respondents assessment to role ambiguity when grouped according to age and civil status. This implies that the different age groups have different points of view when they encounter role ambiguity.

RECOMMENDATIONS

Based on the conclusions presented, the following recommendations are suggested:

1.   The managers can maintain clearly outlined of responsibility and communicate its expectations, provide opportunity to develop employees career model to allow them to move to higher positions in the organization.

2.   The National Food Authority may continue to empower their employees by placing them in charge of their own performance and give them the responsibility to improve their work because empowered employees produce higher quality of work, are more willing to share information, become more productive and satisfied in their work.

3.   The company may give fair and square treatment to all their employees whether old or young ones by allowing them to be part of decision making because the outcomes of their works can influence or contribute to the organizational success.

4.   The managers may consider team building activities for all the employees regardless of their age, in that way, they are much less likely to experience feelings of ambiguity.

5.   The company may keep up the involvement of the employees to the company in order to increase their self-confidence and to build up a sense of usefulness and belongingness.

6.   Other researchers may also conduct similar research in role stress and role empowerment that focus on other causes and outcomes of role stress. In addition, they may also focus on other ways on how to empower the employees.

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MARKETING STRATEGIES OF CRUISE PRODUCTS BY SELECTED TRAVEL AGENCIES

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I.   INTRODUCTION

Marketing strategies explain how the marketing function fits in with the overall strategy for a business. The objective depends on several factors including the type of business, its operations and the purpose of the existence or vision of the organization. The heart of business success lies in its marketing. Most aspects of business depend on how marketing strategy implemented. Marketing is now defined as the process by which a product or service is introduced and promoted to potential customers. It covers advertising, public relation, promotions, and sales. Travel Agencies are the companies that operate cruise ships and markets cruises to the public. Unit ravel markets and distributes a portfolio of hotel booking solutions through its Web portals and contact center, the travel agency, and corporate channels as well as a network of partner Web sites. The company operates on a global level of distribution with a wide selection of product that includes Unitravel.com, its staple product, an affiliate program and a program for travel agents, it also proposes on a local level of distribution a ring of specialized Web portals and collection of online travel guides. They are distinct from passenger lines which are primarily concerned with transportation of their passengers. The travel agency is a private retailer or public service that provides travel and tourism related services to the public on behalf of suppliers such as activities, airlines, car rentals, cruise lines, hotels, railways, travel insurance, and package tours. They use different marketing strategies to attract guests and to keep up with travel trends.

Attracting customers is not easy among travel agency because of the tough competition; they need to exert efforts to succeed. It needs marketing efforts to succeed. Most of them focus on standard quality service to meet the satisfaction of the guest. They develop their product and service being offered. They have to make plans and strategies to attract customers and patronize their product and services so that the guest will visit them more often. The business should put its effort into those market segments to develop marketing strategies that out with other competitors.

Local and International travel agency only differ in their target market. Travel agencies in the Philippines focus only on the guest traveling within the country, offering standard prices and packages for the guest. The target audiences are veterans and their relatives, students, (average ages 30-35), the youth, the corporate market, team-building, barkadas (buddies) and families. They also produced two attractive brochures which highlight the historical sites, as well as the fun sites and the varied activities.

The Marketing Strategies is often crucial when determining a product or services offered, and is often associated with the four P's: Price, Product, Promotion, and Place.

The study conducted because they want to know the marketing strategies implemented by travel agencies both in metro manila and international. The study promotes a strategy to satisfy the guests, develop a marketing strategy to be used and implemented in the shipping line industry.

II. METHODOLOGY

Dealing with what was designed for the investigator to gather information about the present conditions, status, or trend, and dealing with what is prevailing are generally descriptive research. The main objective of the study was to describe the nature of a situation as it exists at the time of the study and to explore the causes of a particular phenomenon. Descriptive researchers seek "what is" of data and not "why is it so." One can only describe what was prevailing and develop inferences, but cannot explain the "why" of the dynamics of the variable; otherwise, there was no point of research, since he knows the answers. The researchers used the purposive sampling in the selection of forty (40) respondents needed in the study, purposive because the respondents are chosen on the basis of their knowledge and information desired. There were 40 respondents that compose of employee and guest of selected travel agencies by the researchers for this study to answer the questionnaires.

III. RESULTS AND DISCUSSION

Sub Problem No. 1: How do the employees and guests assess the Cruise Products Marketing Strategies by selected Travel Agencies in terms of:

1.1 Product

Table 1

**Assessment of Cruise Product Marketing Strategies by
Selected Travel Agencies as to Product.**

Criteria	Employees		Guests		Composite		Rank
	WM	VI	WM	VI	WM	VI	
1. Services and Accessibility	4.55	E	4.50	E	4.53	E	1
2. Accommodation	4.40	E	4.20	E	4.30	E	2
3. Entertainment	3.75	VS	3.85	VS	3.80	VS	3
Overall Weighted Mean	**4.23**	**E**	**4.18**	**VS**	**4.21**	**E**	

Legend:

5	4.20-5.00	Excellent	E
4	3.40-4.19	Very Satisfactory	VS
3	2.60-3.39	Satisfactory	S
2	1.80-2.59	Fair	F
1	1.00-1.79	Poor	P

Table 1 portrays the assessment of Cruise Product Marketing Strategies by Selected Travel Agencies As to Product rated as Excellent with an overall weighted mean of 4.21. Two (2) items rated Excellent, such as Services and Accessibility with a composite weighted mean of 4.53 as rank 1; and Accommodation with a composite weighted mean of 4.30 as rank 2. One (1) item rated Very Satisfactory which was Entertainment with a composite weighted mean of 3.80 as rank 3.

As to the groups of respondents' assessment on the Cruise Product Marketing Strategies by Selected Travel Agencies As to Product are as follows: Employees rated as Excellent with an overall weighted mean of 4.23, and Guests rated as Very Satisfactory with an overall weighted mean of 4.18.

1.2   Promotion

Table 2

**Assessment of Cruise Product Marketing Strategies by
Selected Travel Agencies as to Promotion**

Criteria	Employees		Guests		Composite		Rank
	WM	VI	WM	VI	WM	VI	
1. Personal selling	4.00	VS	3.65	VS	3.83	VS	2
2. Advertising	4.50	E	4.55	E	4.53	E	1
3. Sales promotion	3.20	S	3.80	VS	3.50	VS	4
4. Direct Marketing	3.45	VS	3.95	VS	3.70	VS	3
5. Publicity	3.25	S	3.50	VS	3.38	VS	5
Overall Weighted Mean	**3.68**	**VS**	**3.89**	**VS**	**3.79**	**VS**	

Table 2 manifests the assessment of Cruise Product Marketing Strategies by Selected Travel Agencies As to Promotion rated as Very Satisfactory with an overall weighted mean of 3.79. One (1) item rated Excellent which was Advertising with composite weighted mean of 4.53 as rank 1; Four (4) items rated Very Satisfactory, such as Personal Selling with composite weighted mean of 3.83 as rank 2; Direct Marketing with composite weighted mean of 3.70 as rank 3; Sales promotion with composite weighted mean of 3.50 as rank 4; Publicity and with composite weighted mean of 3.38 as rank 5. As to the groups of respondents' assessment on the Cruise Product Marketing Strategies by Selected Travel Agencies As to Promotion are as follows: Guests rated as Very Satisfactory with an overall weighted mean of 3.89, and Employees rated as Very Satisfactory with an overall weighted mean of 3.68.

1.3   Process

Table 3

**Assessment of Cruise Product Marketing Strategies by
Selected Travel Agencies as to Process**

Criteria	Employees		Guests		Composite		Rank
	WM	VI	WM	VI	WM	VI	
1. Shore excursion	3.85	VS	3.90	VS	3.88	VS	2.5
2. Pre-cruise planner	4.30	E	4.35	E	4.33	E	1
3. Itinerary updates	3.80	VS	3.95	VS	3.88	VS	2.5
Overall Weighted Mean	**3.92**	**VS**	**4.07**	**VS**	**4.03**	**VS**	

Table 3 exhibits the assessment of Cruise Product Marketing Strategies by Selected Travel Agencies As to Process rated as Implemented with an overall weighted mean of 4.03. One (1) item rated Highly Implemented which was a Pre-cruise planner with a composite weighted mean of 4.33 as rank 1. Two (2) items rated Very Satisfactory, these are: Shore excursion and Itinerary updates have both composite weighted mean of 3.88 as rank 2 and 3.

As to the groups of respondents' assessment on the Cruise Product Marketing Strategies by Selected Travel Agencies As to Process are as follows: Guests rated as Very Satisfactory with overall weighted mean 4.07, and Employees rated as Very Satisfactory with an overall weighted mean of 3.92.

1.4   Price

Table 4

Assessment of Cruise Product Marketing Strategies by Selected Travel Agencies as to Price

Criteria	Employees		Guests		Composite		Rank
	WM	VI	WM	VI	WM	VI	
1. Unexpected opportunities	3.70	VS	4.05	VS	3.88	VS	3
2. Identical service	3.55	VS	3.85	VS	3.70	VS	4
3. Non-fare discounts	3.80	VS	4.25	E	4.03	VS	2
4. Deep discounts	4.20	E	4.40	E	4.30	E	1
Overall Weighted Mean	**3.81**	**VS**	**4.14**	**VS**	**3.98**	**VS**	

Table 4 presented the assessment of Cruise Product Marketing Strategies by Selected Travel Agencies As to Price rated as Very Satisfactory with an overall weighted mean of 3.98. One item rated Excellent which was Deep discounts with a composite weighted mean of 4.30 as rank 1. Three (3) items rated Very Satisfactory, such as Non-fare discounts with a composite weighted mean of 4.03 as rank 2; unexpected opportunities with a composite weighted mean of 3.88 as rank 3; and identical service with a composite weighted mean of 3.70 as rank 4.

As to the groups of respondents' assessment on the Cruise Product Marketing Strategies by Selected Travel Agencies As to Price are as follows: Guests rated as Very Satisfactory with overall weighted mean 4.14, and Employees rated as Very Satisfactory with an overall weighted mean of 3.81.

1.5   Place

Table 5

Assessment of Cruise Product Marketing Strategies by Selected Travel Agencies as to Place

Criteria	Employees		Guests		Composite		Rank
	WM	VI	WM	VI	WM	VI	
1. Facilities	4.00	VS	4.25	E	4.13	VS	1
2. Types of room	4.25	E	3.90	VS	4.08	VS	2
3. Gaming and amusement	3.60	VS	3.30	S	3.45	VS	3
Overall Weighted Mean	**3.95**	**VS**	**3.82**	**VS**	**3.88**	**VS**	

Table 5 showed the assessment of Cruise Product Marketing Strategies by Selected Travel Agencies As to Place rated as Very Satisfactory with an overall weighted mean of 3.88. All items rated Very Satisfactory; these are Facilities with a composite weighted mean of 4.13 as rank 1; Types of the room with a composite weighted mean of 4.08 as rank 2; and Gaming and amusement with a composite weighted mean of 3.45 as rank 3.

As to the groups of respondents' assessment on the Cruise Product Marketing Strategies by Selected Travel Agencies As to Place are as follows: Employees rated as Very Satisfactory with overall weighted mean 3.95, and Guests rated as Very Satisfactory with an overall weighted mean of 3.82.

Table 6

**Summary of Cruise Products Marketing Strategies by
Selected Travel Agencies**

Criteria	Employees		Guests		Composite		Rank
	WM	**VI**	**WM**	**VI**	**WM**	**VI**	
1. Product	4.23	E	4.18	VS	4.21	E	1
2. Promotion	3.68	VS	3.89	VS	3.79	VS	5
3. Process	3.92	VS	4.07	VS	4.03	VS	2
4. Price	3.81	VS	4.14	VS	3.98	VS	3
5. Place	3.95	VS	3.82	VS	3.88	VS	4
Overall Weighted Mean	**3.92**	**VS**	**4.02**	**VS**	**3.98**	**VS**	

Table 6 summarizes the overall assessment of Cruise Products Marketing Strategies by Selected Travel Agencies rated as Very Satisfactory with the overall weighted mean of 3.98. One (1) item rated Excellent which was Product with a composite weighted mean of 4.21 as rank 1. Four (4) items rated Very Satisfactory, namely: Process with a composite weighted mean of 4.03 as rank 2; Price with a composite weighted mean of 3.98 as rank 3; Place with a composite weighted mean of 3.88 as rank 4; and Promotion with a composite weighted mean of 3.79 as rank 5.

Likewise, the groups of respondents' assessment on the Cruise Products Marketing Strategies by Selected Travel Agencies are as follows: Guests rated Very Satisfactory with an overall weighted mean of 4.02, and Employees rated as Very Satisfactory with overall weighted mean 3.92.

Sub Problem No. 2: Is there a significant difference on the assessment of the two groups of respondents as to the Cruise products Marketing Strategies in selected Travel agencies?

Table 7

Significant Differences on Cruise Products Marketing Strategies by Selected Travel Agencies

Variable	WM	SD	t-value	Decision	Interpretation
1. Product	4.23 4.18	0.18 0.11	0.02985	Accept Ho	Not Significant
2. Promotion	3.68 3.89	0.31 0.16	0.1478	Accept Ho	Not Significant
3. Process	3.92 4.07	0.07 0.06	0.0509	Accept Ho	Not Significant
4. Price	3.81 4.14	0.77 0.06	0.2305	Accept Ho	Not Significant
5. Place	3.95 3.82	0.11 0.23	0.0828	Accept Ho	Not Significant
Overall	**3.92 4.02**	**0.04 0.02**	**0.0701**	**Accept Ho**	**Not Significant**

Legend: cv = 1.684, df = 38 @0.05 level of significance

As depicted in Table 7, the computed t-values on the Cruise Products Marketing Strategies in Selected Travel Agencies as assessed by employees and guests are as follows: Product (0.02985); promotion (0.1478); process (0.0509); price (0.2305); and place (0.0828) were lower than the critical value of 1.684 with the degree of freedom of 38 at 0.05 level of significance.

On the other hand, the overall computed t-value on the Cruise Products Marketing Strategies in Selected Travel Agencies as assessed by employees and guests was 0.0701 which was lower than the critical value of 1.684 with the degree of freedom of 38 at 0.05 level of significance. Hence, there is no significant difference on the assessment of Cruise Products Marketing Strategies in Selected Travel Agencies as assessed by employees and guests. Therefore, the hypothesis was accepted.

Sub Problem No. 3: **What are the Problems Encountered by the respondents?**

Table 8

**Problems Encountered in Cruise Products Marketing Strategy by
Selected Travel Agency**

Criteria	Employees		Guests		Composite		Rank
	WM	VI	WM	VI	WM	VI	
1. Ships are not really safe	4.65	E	4.21	E	4.43	E	2
2. Too regimented	4.35	E	4.23	E	4.29	E	4
3. Too expensive	4.89	E	4.12	VS	4.51	E	1
4. Not enough time in ports	4.35	E	4.32	E	4.34	E	3
5. Worried about getting sick	4.19	VS	4.00	VS	4.10	VS	5
Overall Weighted Mean	**4.49**	**E**	**4.18**	**VS**	**4.33**	**E**	

Table 8 showed the Problems Encountered in Cruise Products Marketing Strategies in Selected Travel Agency rated as Highly Encountered with an overall weighted mean of 2.86. Four (4) items rated Excellent, these are: Too expensive with composite weighted mean of 4.51 as rank 1; Ships are not really safe with composite weighted mean of 4.43 as rank 2; Not enough time in ports with composite weighted mean of 4.34 as rank 3; and Too regimented with composite weighted mean of 4.29 rank 4. One (1) item rated Very satisfactory which is worried about getting sick with a composite weighted mean of 4.10 as rank 5.

As to the groups of respondents' assessment on the Problems Encountered in Cruise Products Marketing Strategies by Selected Travel Agencies are as follows: Employees rated as Excellent with an overall weighted mean of 4.49, and Customers rated as Very Satisfactory with an overall weighted mean of 4.18.

IV.   CONCLUSIONS AND RECOMMENDATIONS

In the light of the above finding, in the relation to the major and specific problem address with the study, the following conclusions were derived.

1.   The two group of respondents assessed Cruise Products marketing strategies as Satisfactory.

2.   The employees and guests have similar views on the Cruise Products Marketing Strategies in Selected Travel Agencies.

3.   There were problems identified in the Cruise Products Marketing Strategies by Selected Travel Agencies are as follows: Too expensive, ships are not really safe and not enough time in ports.

From the findings and conclusion, the following are the recommendations of the study:

1. Ensure the continuous offer of cruise ship products which has quality and affordable price to the customer.

2. Provide the travel insurance of the passengers. Small clinic or medical assistance should also be provided and is always available.

3. Ensure the safety of all the guests/passengers boarding the ship.

4. Sustain the needs and wants of customers to avoid encountering problems in the future.

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PERSONALITY TRAITS, ORGANIZATIONAL COMMITMENT AND WORK VALUES AMONG NON-TEACHING PERSONNEL IN SELECTED STATE UNIVERSITIES AND COLLEGES (SUC's): BASIS FOR A TRAINING PROGRAM

Dolores A. Nieto

INTRODUCTION

Non-teaching personnel perform a vital role in ensuring the smooth operations in any institution. They should also be engaged and dedicated to the overall mission of the university. It is necessary to value their strength to enable them to achieve maximum productivity. They are serving in academic departments or in student service units, and usually the first point of contact for numerous students who need assistance in one form or another.

Over the past years, the study of commitment has advanced in many different directions. A variety of disciplines have adopted the topic as a theme in their research, and these have offered fresh and significant insights. Organizational commitment is the Psychological attachment of an employee to the organization. Many Psychologists have tried to find out whether a personality affects the behavior of the people in organization. A personality trait is present and carried throughout the lifespan, but still changes in varying degrees depending upon the individual's attitude towards the things around him.

Understanding personality traits, organizational commitment and work values of employees would be useful to human resource management to better manage various positions in today's workforce. It is important for every organization to assess the various factors on how employees view their jobs, their attitude and beliefs, and their practices on the job they are performing.

The effective functioning of an organization highly depends on the commitment of its employees. In fact, this may be a key factor that determines the success of a company in a modern world since there is a growing competition and the constant implementation of a new technologies that a company needs to have a well-qualified and reliable personnel to maintain its position in the market. At the same time, the effectiveness and work productivity of employees still remain the major factor that can contribute to the progress of the company. Understanding the work values and personality traits of employees would be useful to determine how they are committed to the organization. On the other hand, it is obvious that financial stimuli solely can hardly motivate employees to work more effectively and productively.

The study aims to determine the relationship of personality traits, organizational commitment and work values among non-teaching personnel in selected universities and colleges. The researcher chose this study to investigate some factors affecting the attitude that employees give importance to, and whether they are committed to the organization. The researcher chose Eulogio "Amang" Rodriguez Institute of Science and Technology, Polytechnic University of the Philippines and Technological University of the Philippines as the locale of the research study. The interest of the researcher is to be able to determine how personality traits and work values affect the work commitment of the different SUC's employees.

METHODOLOGY

Research Design

The researcher used the descriptive survey method in order to recognize and to achieve the purpose and goals of this study. It is the most appropriate method to be used for it is designed to analyze the relationship between personality traits, organizational commitment and work values of non-teaching personnel in selected state universities and colleges. Descriptive research design is a scientific method which involves observing and describing the behavior of a subject. The researcher used this type of design to better define the personality traits, organizational commitment and work values of the non-teaching personnel in selected state universities and colleges.

Population and Sampling

The respondents are the permanent non-teaching personnel of Polytechnic University of the Philippines (PUP), Technological University of the Philippines (TUP) and Eulogio "Amang" Rodriguez Institute of Science and Technology (EARIST). Purposive sampling was used in selecting the respondents in the conduct of this study because it was a technique where the researcher selected his respondents on the basis of defined criteria so that data can be elicited, (Bernardez, 2011).

Research Instrument

The instrument used in this study is standardized test. For Personality Traits fifty-item pool (50) scale from the widely used public domain: International Personality Item Pool (IPIP): Goldberg, 1990: International Personality Item Pool (2004). The big five factors markers consist of ten items for each factor. The five-factor model from John P. Meyer and Natalie J. Allen entitled Employee Commitment Survey 16 items with a 5-point scale ranging from Strongly Agree to Strongly Disagree. For Work Values the researcher adopted from Arciniega, L. and Gonzales Fernandez, L. entitled Work Values Questionnaire (EVAT30). These instruments are designed to measure the personality traits, organizational commitment and work values of the respondent.

The questionnaire had the following parts:

Part I – Demographic Profile

This part of the questionnaire elicited the personal information of the respondents. The data that was gathered form this part were used to describe the profile of the respondents.

Part II – Personality Traits

This part is divided into five categories; Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism.

Part III - Organizational Commitment

This part is divided into three categories; Affective commitment, Continuance Commitment and Normative Commitment.

Part IV - Work Values

This part is divided into four categories; Openness to Change, Self – Enhancement, Self – Transcendence and Conservation.

The Personality Traits, Organizational Commitment and Work Values survey used a Likert scale depending on what it measures.

RESULTS AND DISCUSSIONS

The salient findings of the study are as follows:

1.   Personality Traits of the permanent non-teaching personnel in selected SUC's in terms of:

The non-teaching personnel's assessment on the Openness to Experience obtained an average of 3.16 with a verbal interpretation of Moderately Agree while the non-teaching personnel's assessment on Consciousness obtained an average of 3.30 with a verbal interpretation of Moderately Agree. On the other hand, the non-teaching personnel's assessment on the Extroversion obtained an average of 3.34 with a verbal interpretation of Moderately Agree. Furthermore, the non-teaching personnel's assessment on the Agreeableness obtained an average of 3.34 with a verbal interpretation of Moderately Agree. Last, the non-teaching personnel's assessment on the Neuroticism obtained an average of 3.40 with a verbal interpretation of Moderately Agree. Overall, the verbal interpretation of non-teaching personnel of SUC's is Moderately Agree.

2.   Organizational Commitment of the non-teaching personnel in selected SUCs as to:

The non-teaching personnel's assessment on the Normative Commitment obtained an average of 3.61 with a verbal interpretation of Agree while the non-teaching personnel's assessment on Continuance Commitment obtained an average of 3.59 with a verbal interpretation of Moderately Agree. On the other hand, the non-teaching personnel's assessment on the Affective Commitment obtained an average of 2.76 with a verbal interpretation of Moderately Agree. Overall, the verbal interpretation of non-teaching personnel of SUCs as of Organizational Commitment is Moderately Agree.

3.   Work Values of non-teaching personnel in selected SUC's in terms of:

The non-teaching personnel's assessment on the Openness to Change obtained an average of 3.81 with a verbal interpretation of Agree while the non-teaching personnel's assessment on Self-enhancement obtained an average of 3.79 with a verbal interpretation of Agree. On the other hand, the non-teaching personnel's assessment on the Self-Transcendence obtained an average of 3.83 with a verbal interpretation of Agree. Last, the non-teaching personnel's assessment on the Conservation obtained an average of 3.84 with a verbal interpretation of Agree. Overall, the verbal interpretation of non-teaching personnel of SUCs in terms of their Work Values is Agree.

4.   Correlation of Personality Traits, Organizational Commitment and Work Values.

The Personality Traits and Organizational Commitment have a computed P-value of 0.736 at 0.05 level of significance which failed to reject the null hypothesis while Personality Traits and Work Values have a computed P-value of 0.956 at 0.05 level of significance which failed to reject the null hypothesis. On the other hand, Organizational Commitment and Work Values have a computed P-value of 0.129 at 0.05 level of significance which failed to reject the

null hypothesis. It indicated that there is no significant relationship among the Personality Traits, Organizational Commitment and Work Values of the non-teaching personnel in selected SUC's.

5.   Based on the findings of the study, a training program was proposed entitled "Seminar on Organizational Commitment and Work Values".

6.   Based on the respondents' assessment, the training program "A Seminar on Work Values and Organizational Commitment" is acceptable.

CONCLUSIONS

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

1.   Majority of the respondents rated the personality traits openness to experience, conscientiousness, extraversion, agreeableness and neuroticism with moderately agree. This means that these personality traits are somewhat evident and manifested by the respondents.

2.   The non-teaching personnel of PUP, TUP, and EARIST, assessed their organizational commitment in terms of affective, continuance and normative as "moderately agree" which means that these are fairly evident that the organization makes them feel the value of belongingness, happiness and enjoyment and they have moral obligations to perform their job.

3.   The non-teaching personnel of PUP, TUP and EARIST assessed their work values as "agreed" in terms of openness to change, self-enhancement, self-transcendence and conservation, which means they considered their work as meaningful, responsible and they have use their ability to contribute to the sense of personal growth and attainment directly from the nature of their experiences to work.

4.   There is no connection between the non-teaching personnel of SUCs and its variable.

5.   Based on the findings of the study, a training program for the non-teaching personnel titled "Seminar on Organizational Commitment and Work Values" was proposed to enhance their commitment to the organization through appropriate work values.

6.   The respondents assessed the acceptability of the training program as acceptable.

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PERSEPSYON NG MGA GURO SA PAGTUTURO SA ASIGNATURANG FILIPINO SA BAGONG KURIKULUM SA TAONG-ARALAN 2017-2018 SA PILING PAARALAN NG MAYNILA

Rowena M. Villadolid
Sofia A. Dela Cruz

I.   Panimula

Kasabay ng pagbabago ng ating bansa ay ang pababago ng ating Edukasyon. Naipatupad ang makabagong kurikulum ng edukasyon na ayon sa DepEd ay mas epektibo sa mga mag-aaral ang bagong kurikulum upang mas mapaunlad pa ang edukasyon sa bansa, Ayon sa pag-aaral na ang 12-taong basic education curriculum ay nagreresulta ng mas mainam o mas maging mahusay ang mga mag-aaral.

Ang batayan ng bagong kurikulum ay ang estratehiya ng ibang bansa na matagal nang ginagamitang ganitong edukasyon. Maraming komento ang natanggap ng mga namumuno sapagkat marami sa ating mamayan ang di sang ayon sa pagbabago ng kurikulum dahil sa paghaba ng taon sa pag-aaral, pagbabago ng mga tuntunin sa pag-aaral at pagdagdag ng mga asignatura sa Senior High. Ang mga nakagisnan ng mga mag-aaral ay nagbago dahil na rin sa pagbabago ng pamamalakad ng ating bagong gobyerno.

Sa pagbabago ng edukasyon ay maaring positibo o negatibo sa bawat nasasaklawan nito. Marami man ang tutol pero mas marami ang sang- ayon dahil sa magandang dulot nito sa pag-abante ng antas sa edukasyon ng isang mag-aaral. Ang pag-aaral na ito ay upang mabatid ang kahandaan at hamon sa pagtuturo sa bagong kurikulum sa asignaturang Filipino.

A.   Paglalahad ng Suliranin

     1.   Gaano kalaki ang hamon sa mga guro sa pagtuturo ng bagong kurikulum sa asignaturang Filipino.

     2.   Gaano kahanda ang mga guro sa pagtuturo ng asigntaurang Filipino sa bagong kurikulum?

     3.   Gaano katanggap ang mga teknik na ginamit sa pagtuturo sa asignaturang Filipino sa bagong kurikulum?

B.   Balangkas Konseptwal

Input	**Proseso**	**Awtput**
▪ Gumawa ng talatanungan. ▪ Nangalap ng mga impormasyon.	▪ Namahagi ng isan daang talatanungan sa piling kolehiyo sa kalakhang Maynila. ▪ Pinagbuklod ang mga impormasyong nakalap.	Epekto sa performans ng mga mag-aaral na kumukuha ng asignaturang Filipino.

Pidbak
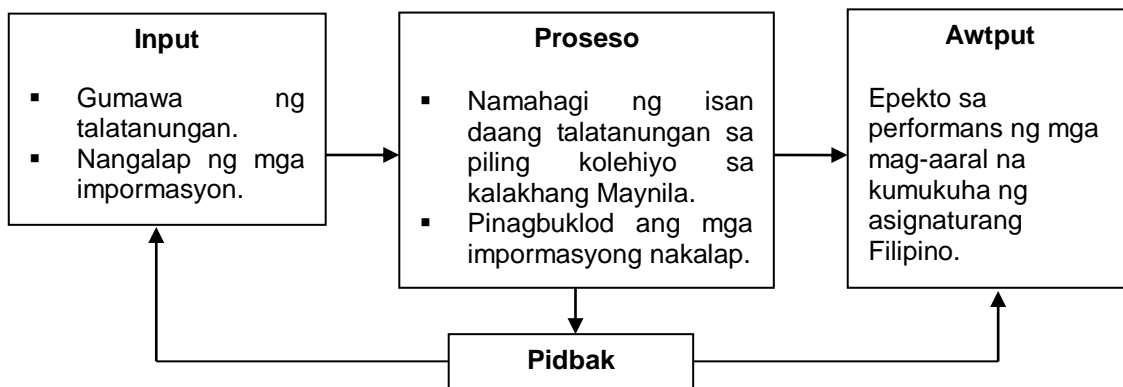
C. Kaligirang Kasaysayan ng Pag-aaral

Ang paksa ng pag-aaral ay **"Persepsyon ng mga Guro sa Pagtuturo sa Asignaturang Filipino sa Bagong Kurikulum sa Taong-Aralan 2017-2018 sa Piling Paaralan ng Maynila"**

Saklaw ng pag-aaral na ito ang mga propesor na nagtuturo ng asignaturang Filipono. Ipinokus ng mananaliksik ang paksa sa iba pang assignaturang Filipino at ang mga hamong kakaharapin sa bagong kurikulum at hindi sa iba pang asignaturang itinuturo ng mga guro. Mahalaga ang paksa ng pag-aaral sapagkat dito malalaman ang mga pagbabagong kakaharapin ng mga guro sa bagong kurikulum, anong pag-aayos ang kailangan nilang gawin at kung paano nila ituturo sa mga mag-aaaral.

II. Mga Kaugnay na Literatura at Pag-aaral

Ayon kay Anthony Vargas , isandaaang porsiyento ng 400,000 public school teacher sa bansa ang nakakumpleto sa pagsasanay para sa Restructured Basic Education System (RBEC) na may layuning lumikha ng highly skilled, competitive students sa pagbago sa curricula sa primary at secondary levels.

Ayon kay Dr. Roldan, ang reading abilities ng mga estudyante ay nagsisimula sa sa mababang antas at buma-baba sa intermediate level o sa 4th grade capacity. Bagamat ang antas na ito ay higit nang kaunti sa simple literacy, hindi ito maituturing na functional literacy. Ang higher-order reading at critical reading skills ay madalang na nakakamit sa Grade 5, at mayroong panganib na mabalik sa illiteracy kung ang mga estudyante ay tumigil sa pag-aaral bago ang pagtatapos sa Grade 6.

Sa bagong administrasyon nagkaroon ng linaw ang mga suliranin sa edukasyon, ipasok dito ang Libreng Tuition fee para sa Kolehiyo. Pinirmahan na ni Pangulong Rodrigo Duterte ang panukalang batas na nagbibigay ng libreng tuition sa state universities at colleges (SUC). Ayon kay Senior Deputy Executive Secretary Menardo Guevarra. Isinagawa ni Duterte ang pagpirma sa kabila ng pag-aalangan ng ilang miyembro ng economic team niya sa gagastusin ng gobyerno upang pasanin ang libreng tuition.Nauna nang sinabi ni Budget Secretary Benjamin Diokno na maaaring hindi kayanin ng gobyerno na pasanin ang libreng tuition sa SUCs, at maaaring maglabas ng P100 bilyon ang gobyerno kada taon para rito sakaling maging batas ang panukala.

Isinaalang-alang naman umano ng pangulo ang pangmatagalang epekto at benepisyo na idudulot ng libreng tuition sa publiko, ayon kay Guevarra. Dagdag pa ni Guevarra, maaaring ibinase ni Diokno ang kanyang kalkulasyon sa pag-aakalang ipatutupad nang sabay-sabay ang lahat ng aspekto ng batas, kasama na ang mga non-mandatory provision.

Base sa datos ng Commission on Higher Education, kakailanganin ng inisyal na halagang P16 bilyon upang maipatupad ang mga kondisyon ng batas, gaya ng libreng tuition at miscellaneous fees, ani Guevarra. Ngayong pirmado na ang libreng tuition, nasa Kongreso na ang hamon para hanapan ng pondo ang implementasyon ng batas. Tiniyak din ni House committee on appropriations chair Rep. Karlo Nograles na may lugar para rito sa isinumiteng P3.7 trilyon na proposed budget para sa susunod na taon. Tinatantiya pa ng Department of Budget and Managementkung magkano ang gagastusin ng gobyerno para malaman kung magkano ang maaaring pondohan mula sa 2018 budget.

Ang mga bibigyan ng tulong-pinansiyal sa pag-aaral maliban sa libreng tuition ay iyong mga 'bottom 20 percent' ng mga estudyante, o iyong mga nasa pinakamababa ang estado sa buhay.

Malaking hakbang din para sa pag-unlad ang puhunang inilaan ng gobyerno sa mga kabataan, ayon sa isang estudyante ng Polytechnic University of the Philippines.

Sa pagpupulong naman ng mga lider-estudyante kanina, nais na sana ng mga estudyante na ipatupad agad ang bagong batas dahil hanggang ngayon ay maraming estudyante pa rin ang nagbabayad ng tuition.

Dahil din kailangan pang hanapan ng Kongreso ng pondo ang bagong batas, naghahanap na rin ng paraan ang unibersidad upang hindi na pagbayarin pa ang mga estudyante ng kanilang tuition ngayong semestre, ayon kay Jose Dalisay, Vice President ng Public Affairrs ng UP Diliman.

Mayroon ding mga tanong kaugnay sa implementasyon ng batas. Sa isinagawang rally kaninang umaga, bagama't nagpapasalamat sila sa naging hakbang ng pangulo, kailangan pa ring bantayan ang pagpapatupad nito dahil kuwestiyonable kung saan kukuha ng pondo, lalo't wala sa 2018 budget allocation ang libreng edukasyon. Nangangamba silang baka kinalaunan ay hindi ito masustentuhan. Magsasagawa pa rin ng kilos-protesta ang mga estudynate at militanteng grupo sa UP Diliman ngayong Biyernes ng gabi para ipagbunyi ang pagkakapasa ng bagong batas na naglilibre sa matrikula at iba pang bayarin sa mga pampublikong unibersidad at kolehiyo.

III.   Disenyo at Paraan ng Pananaliksik

A.   Disenyo ng Pananaliksik

Ang paraan na ginamit ng mga mananananaliksik sa pagbuo ng disenyo ng pananaliksik ay diskriptibong pamamaraan upang mailarawan at maipakita ng maayos ang mga nakahandang tanong sa pananaliksik.

B.   Pamamaraang Ginamit sa Pananaliksik

Ang mga mananaliksik ay gumamit ng pamamaraang pagsurbey, namahagi ng talatanungan ukol sa **Mga Hamon sa Pagtuturo ng Asignaturang Filipino sa Bagong Kurikulum** ito ang teknik sa pagkuha ng sampol o kalahok sa pag-aaral.

C.   Ginamit na Teknik sa Pagkuha ng Sampol ng Populasyon

Ang teknik sa pagkuha ng sampol na mga ginamit ng mga mananaliksik ay Qouta Sampling o pagkota ng tatlong pung (30) respondante sa piling kolehiyo ng Maynila.

D.   Instrumentong Ginamit sa Pananaliksik

Talatanungan ang instrumentong ginamit ng mga mananaliksik sa pagkalap ng impormasyon upang malaman ang mga sagot ng mga respondante sa hamon ng pagtuturo sa bagong kurikulum sa asignaturang Filipino.

E.   Paraan sa Pangangalap ng mga Datos

Ang paraan sa pangarap ng mga datos na ginamit ng mga mananaliksik ay libro at internet upang makadagdag sa impormasyon ng pag-aaral.
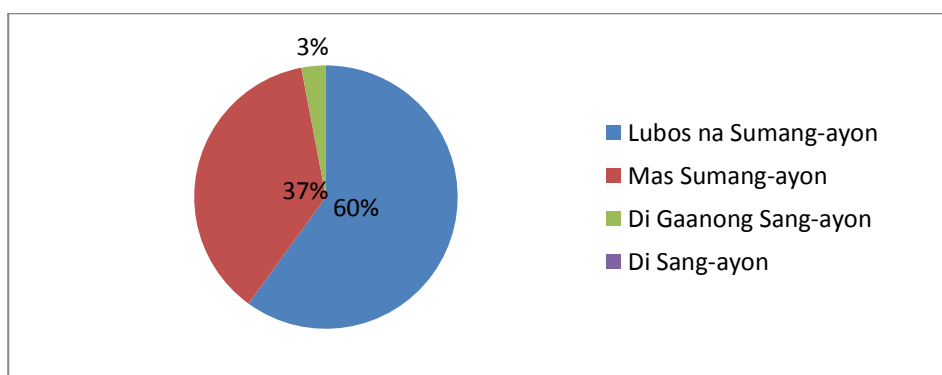
F.   Kompyutasyong Istadistika

$$n = \frac{Bilang\ ng\ Sumagot}{Kabuuang\ Bilang\ ng\ mga\ Respondente}\ x\ 100$$

IV.   Paglalahad, Pagsusuri at Interpretasyon ng mga Datos

Grap I

**Maliwanag na nailahad ang layunin ng bagong kurikulum sa Filipino**

Animnapu't Porsyento (60%) o anim na katao ang lubos na sumasang-ayon at tatlongpu't pito (37%) o tatlong katao ang mas sumasang-ayon na maliwanag na nailahad ang layunin ng bagong kurikulum sa Filipino. Tatlong porsyento (3%) o isang katao ang ang di gaanong sang-ayon dito.

Lubos na sumasang-ayon na Maliwanag na nailahad ang layunin ng bagong kurikulum sa Filipino dahil may sapat na silang karanasan at kaalaman sa pagtuturo ng asignaturang Filipino.

Grap II

**Naunawaang Mabuti ang Bagong Kurikulum na Naituro sa Filipino**
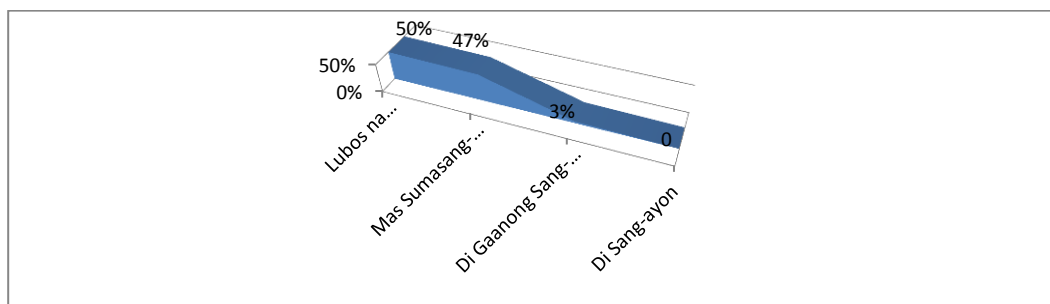
Limangpung porsyento (50%) o Labing walong katao ang lubos na sumasang-ayon at apatnapu't pito porsyento (47%) o labing apat na katao ang mas sumasang-ayon na naunawaang mabuti ang bagong kurikulum na naituro sa Filipino. Tatlong porsyento (3%) o isang tao ang hindi gaanong sang-ayon ditto.

Lubos na sumasang-ayon na naunawaang mabuti ang bagong kurikulum na naituro sa Filipino dahil napag-aralan na nila ito.

Grap III

May Sapat na Kaalaman sa Bagong Kurikulum
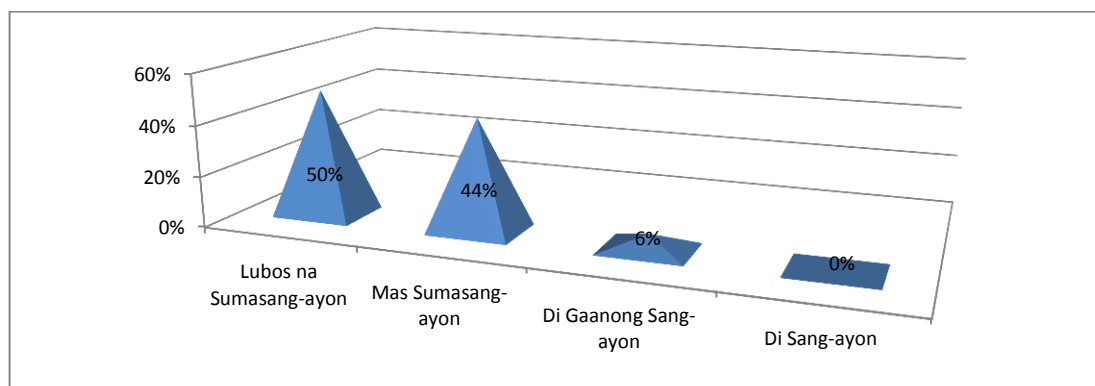
Limangpung porsyento (50%) o labing walong katao ang lubos na sumasang-ayon at apatnapu't porsyento (40%) o labing tatlong katao ang mas sumasang-ayon o may sapat na kaalaman na sa bagong kurikulum. Anim na porsyento (6%) o dalawang katao ang di gaanong sang-ayon o hndi gaanong sapat ang kaalaman.

Lubos na sumasang-ayon na may sapat na kaalaman na sa bagong kurikulum dahil napag-aralan na nila ito.

Grap IV

Lubos na May Kaalaman sa Paksang Itatalakay
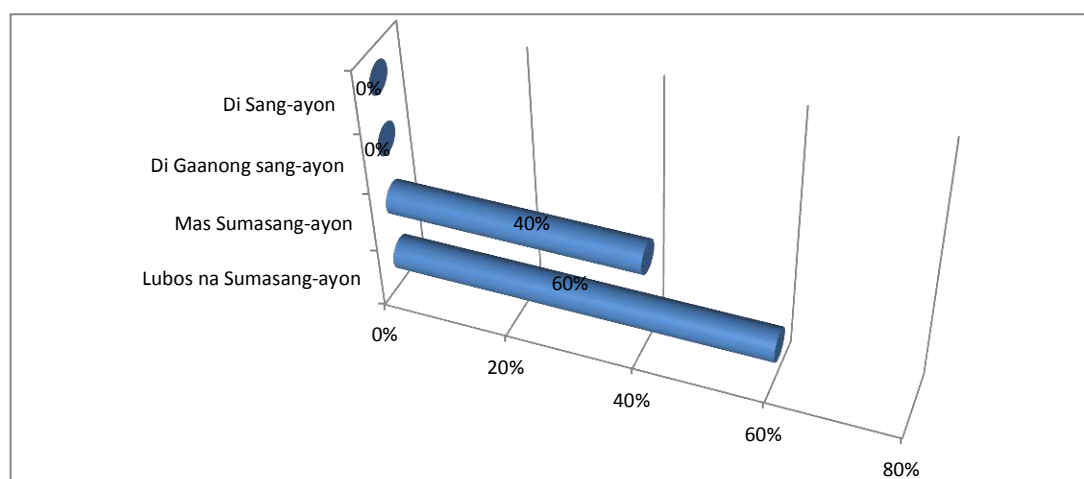
Animnapu't porsyento (60%) o labing walong katao ang lubos na sumasang-ayon at apatnapu't porsyento (40%) labing dalawa katao ang mas sumasang-ayon na lubos silang may kaalaman sa paksang kanilang itatalakay.

Lubos na sumasang-ayon na lubos silang may kaalaman sa paksang kanilang itatalakay dahil sapat ang panahon na inilaan upang mapag-aralan ang paksang ito.

Grap V

Nakadalo sa mga Seminar o Training Ukol sa Asignaturang Ituturo
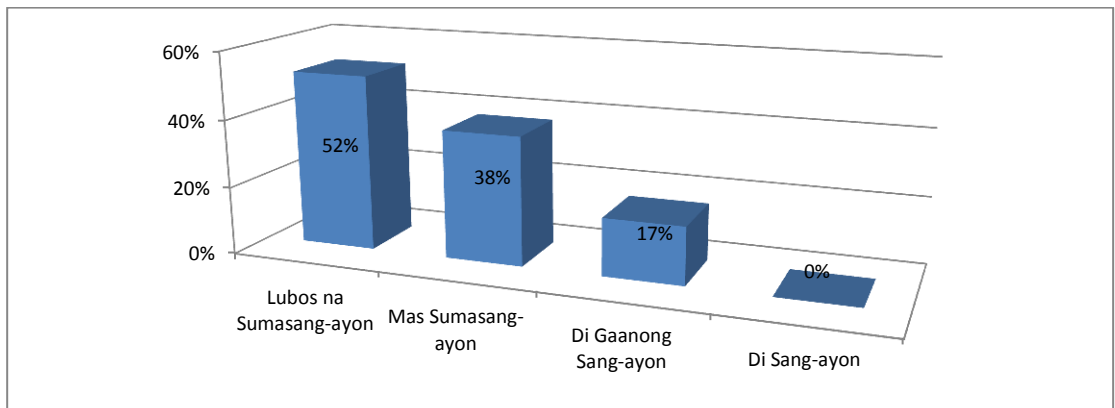
Limangpu't dalawang porsyento (52%) o labing anim na bilang ng respondente ang lubos na sumasang-ayon at tatlongpu't walong porsyento (38%) o siyam na katao ang mas sumasang-ayon o nagsasabing nakadalo sila sa mga seminar o training ukol sa asignaturang ituturo. Labing pitong porsyento (17%) o limang katao naman ang di gaanong sang-ayon o hndi nakadalo sa nasabing seminar o training.

Lubos na sumasang-ayon na nakadalo na sila sa mga seminar o treyning ukol sa asignaturang Filipino dahil kailangan ito sa pagtuturo sa bagong kurikulum.

Grap VI

Batid ang Deskripsyon na Gagamitin sa Bawat Asignatura
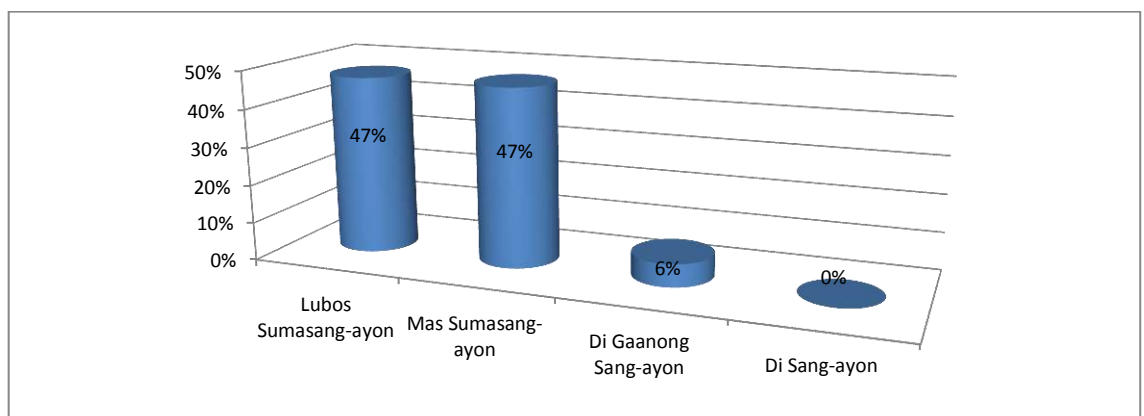
Apatnapu't pitong porsyento (47%) na respondante o labing apat na katao ang lubos na sumasang-ayon at apatnapu't pitong porsyento (47%) naman ang mas sumasang-ayon o batid ang deskripsyon na gagamitin sa bawat asignatura. Dalawang katao o Anim na porsyento (6%) ang di gaanong sang-ayon dito.

Lubos na sumasang-ayon at mas sumasang-ayon na batid ang deskripsyon na gagamitin sa bawat asignatura dahil ibnibigay ito upang kanilang pag-aralan at malaman ang nakapaloob dito.

Grap VII

Batid na ang mga Teknik na Gagamitin sa Pagtuturo
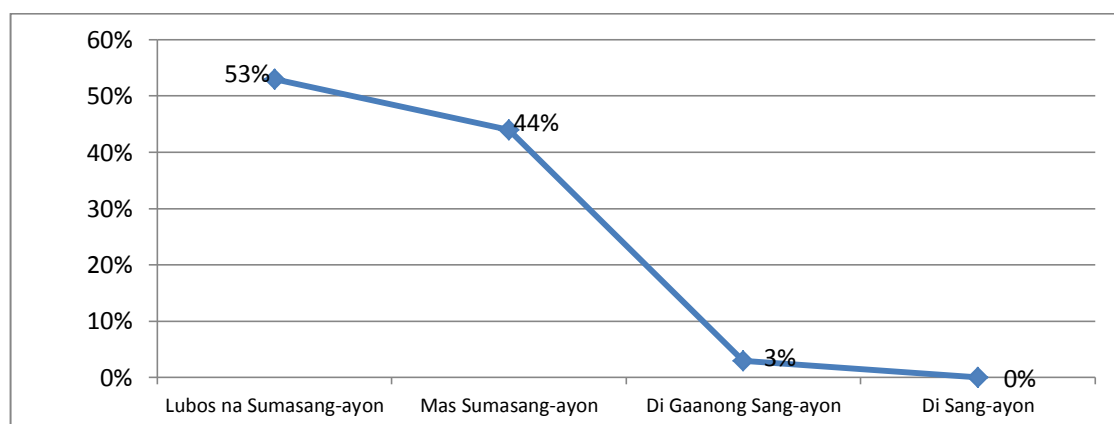
Labing anim na katao o limangpu't tatlong porsyento (53%) ng respondent ang lubos na sumasang-ayon at apatnapu't apat na porsyento (44%) o labing tatlong katao ang mas sumasang-ayon o batid na ang mga teknik na gagamitin sa pagtuturo. Tatlong porsyento (3%) o isang katao ang di gaanong sang-ayon ditto.

Lubos na sumasang-ayon na batid na ang mga teknik na gagamitin sa pagtuturo dahil sa tagal at sa dami na ng karanasan nila sa pagtuturo.

Grap VIII

May Kagamitan Panturo na Nakahanda sa Pagtuturo ng Bagong Kurikulum
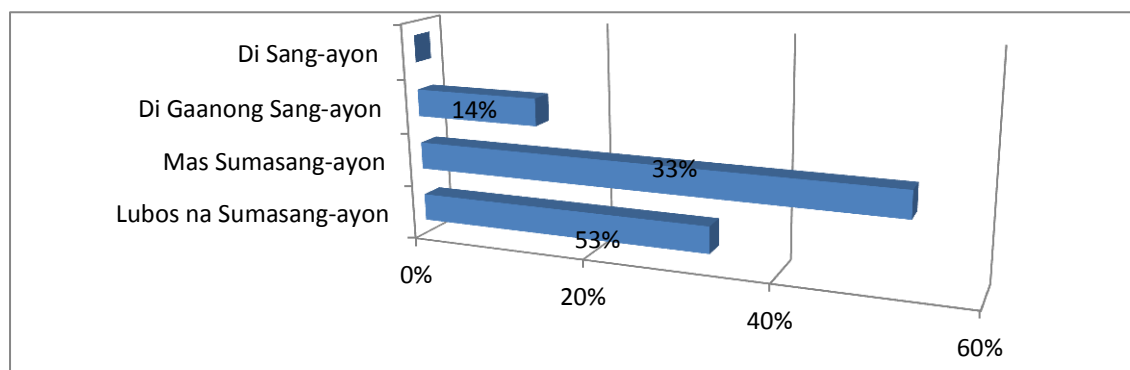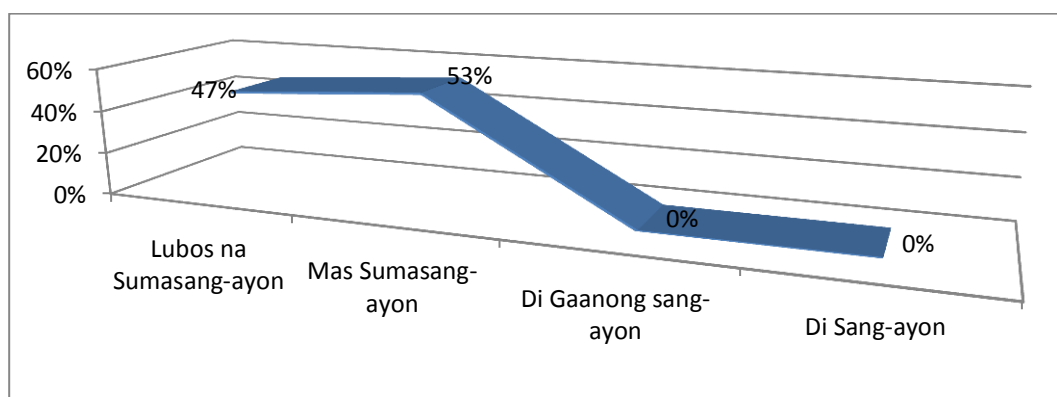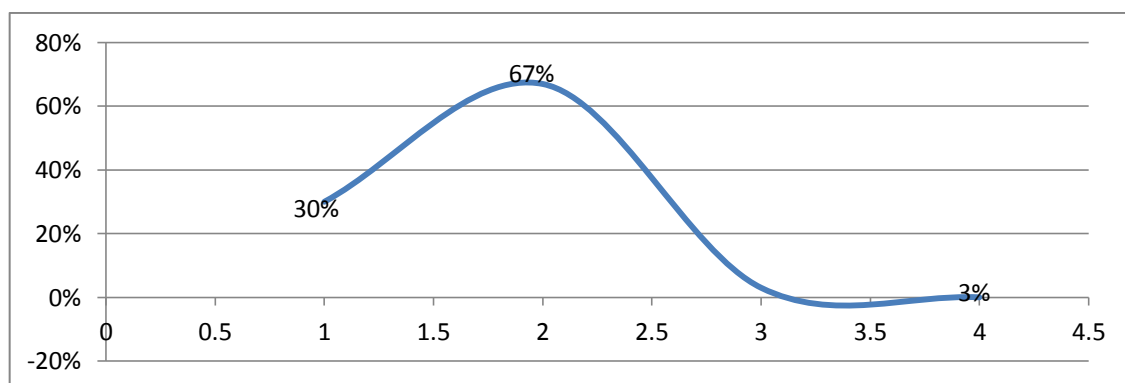
Tatlongpu't tatlong porsyento (33%) ng respondent o sampung katao ang lubos na sumasang-ayon at may limangpu't tatlo na porsyento (53%) o labing anim na katao ang mas sumasangayon-ayon na may sapat na kagamitang panturo na nakahanda sa pagtuturo ng bagong kurikulum. Labing apat na porsyento (14%) o apat na katao naman ang di gaanong sang-ayon dito.

Mas sumasang-ayon na may sapat na kagamitang panturo na nakahanda sa pagtuturo ng bagong kurikulum dahil nakapagtuturo o naituturo na ng maayos ang bagong kurikulum.

Grap IX

May Sangguniang Aklat na Pagbabatayan para sa Pagtuturo

Apatnapu't pitong porsyento (47%) ng respondente o labing apat na katao ang lubos na sumasang-ayon at labing anim na katao o limangpu't tatlong porsyento (53%) ang mas sumasang-ayon o nagsasabing mayroon silang sangguniang aklat na pagbabatayan para sa pagtuturo.

Mas sumasang-ayon na mayroon silang sangguniang aklat na pagbabatayan para sa pagtuturo dahil naiintindihan na nila ang paksang tinatalakay.

Grap X

Sapat ang mga Kagamitan ng Paaralan na Gagamitin sa Pagtuturo

Tatlongpung porsyento (30%) o siyam na katao ang lubos na sumasang-ayon at animnapu't pitong porsyento (67%) ng respondente o dalawangpung katao mas ang sumasang-ayon o nagsasabing sapat ang mga kagamitan ng paaralan na gagamitin sa pagtuturo. Isang katao naman o tatlong porsyento (10%) ng respondante ang di gaanong sang –ayon.

Mas Sumasang-ayon na sapat ang mga kagamitan ng paaralan na gagamitin sa pagtuturo dahil hindi nahihirapan ang mga mag-aaral na maintindihan ang paksang tinatalakay.

V. Lagom ng mga Natuklasan, Konklusyon at Rekomendasyon

Lagom ng Natuklasan

Ang mga mananaliksik ay gumamit ng pamamaraang deskriptibo at gumamit ng pankota (30) ng mga guro bilang respondente at namahagi ng talatanungan sa piling Unibersidad sa Maynila.

Mga Natuklasan

1. Lubos na Sumasang-ayon ang mga guro ng senior high na maliwanag na nailahad ang layunin, naunaawaang mabuti, may sapat na kaalaman sa bagong kurikulum at sa paksang itatalakay, nakakadalo sa mga seminar, batid ang mga deskripsyon at teknik sa pagtuturo ng bagong kurikulum na may 53.19 na bahagdan.

2. Lubos na sumasang-ayon na handa ang mga guro pagtuturo ng asigntaurang Filipino sa bagong kurikulum na may 53 na bahagdan.

3. Lubos na sumasang-ayon na batid ang mga teknik na ginamit sa pagtuturo sa

4. asignaturang Filipino sa bagong kurikulum na may 53 na bahagdan.

Konklusyon

May sapat na kaalaman sa bagong kurikulum at sa paksang itatalakay, nakakadalo sa mga seminar, batid ang mga deskripsyon at teknik sa pagtuturo ng bagong kurikulum.

1. Handa ang mga guro pagtuturo ng asigntaurang Filipino sa bagong kurikulum.

2. Batid ang mga teknik na ginamit sa pagtuturo sa asignaturang Filipino sa bagong kurikulum.

Rekomendasyon

Guro – Gamitin ang mga makabagong kagamitang panturo batay sa bagong kurikulum at lumikha pa ng iba pang kagamitang panturo upang mapasigla at magkaroon ng malalim na pagkatuto ang mga mag-aaral.

Administrador – Suportahan ang bagong kurikulum at bigyan ng mga pagsasanay ang mga guro hinggil sa bagong kurikulum sa pagtuturo ng asignaturang Filipino.

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