The Official DepEd-NCR Research Journal

manyuskrip

Vol. 1. No. 1 Series. 2017

Theme:

"Transforming Pedagogy through Action Research"

manyuskrip

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EDITORIAL BOARD

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Vol. 1. No. 1 Series. 2017

DepEd Vision

We dream of Filipinos who passionately love their country and whose values and competencies enable them to realize their full potential and contribute meaningfully to building the nation.
As a learner-centered public institution, the Department of Education continuously improves itself to better serve its stakeholders.

DepEd Mission

To protect the right of every Filipino to quality, equitable, culture-based, and complete basic education where:

- Students learn in a child-friendly, gender-sensitive, safe, and motivating environment;
- Teachers facilitate learning and constantly nurture every learner;
- Administrators and staff, as stewards of the institution, ensure an enabling and supportive environment for effective learning to happen; and
- Family, community, and other stakeholders are actively engaged and share responsibility for developing life-long learners

Core Values

Maka-Diyos

Makakalikasan

Maka-tao

Makabansa

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Editorial Policy

This policy describes guidelines in the publication process of our journals in the Department of Education-National Capital Region (DepEd-NCR). Specifically, Academic Journals adopt and strive to adhere to the following standards and requirements based on the DepEd issuances.

Review is an important aspect of the publication process of a scholarly research paper. It helps the editors in making decisions on an article and also enables the author to improve the manuscript. The research journal at DepEd NCR operates a bureaucratic review process.

First, the research proposal is presented to the School Research Committee (SRC). If approved, the SRC will give a recommendation to continue the proposal. When necessary, the SRC may recommend a coach to monitor and assist the researcher/s until the completion of the research. The SRC may endorse the proposals for funding and submits it to the Division Office Research Committee (DORC) in the Schools Division Office (SDO). For the accomplished researches submitted in the DORC, the author's identity is removed from the manuscript and shielded from the appointed DORC reviewers during the review process. The reviewer is left without any information that may affect the decision. Information removed includes the author(s) name, address/affiliation, country, phone/fax and email. The same process is done prior to sending it to the reviewers. The DORC may use the research assessment tools attached in the DO No. 6, S. 2016 and in DepEd Research Journal 2015 Edition or their own evaluation tool, provided that, the researchers were informed by the SDO on how the research will be evaluated and what tools will be used.

The DORC returns the paper if there are corrections (Summary of Corrections signed by the head of the committee). Then, the researcher submits the revised paper to the DORC to check if the necessary corrections were applied based on the summary. If the recommendation was complied with, the DORC endorses it to the DepEd-NCR Research, Innovation and Development Committee (RRIDC)- signed by DORC head and Schools Division Superintendent (SDS).

In the Regional Level, the RRIDC subjects the paper to the final review process by the associate editors using the rubrics. If there are no corrections, this will be submitted to the layout artist. After which, the Editorial Board, together with the RRDIC, decides on the article for publication. The first draft of the printed journal will be quality assured by an external partner. Prior to the printing of the second draft, the Memorandum of Agreement (MOA) will be submitted by the authors to ensure that high ethical considerations were observed. Upon submission of MOA, the author will receive a certificate of publication. Finally, the Research journal is published in print and online for dissemination.

Retraction

The *"manyuskrip"* editorial board has the right to remove a published article from the journal due to post publication discovery of fraudulent claims by the research, plagiarism or serious errors of methodology which escaped detection in the quality assurance process. Any complaints that the Regional Office may receive from a third party, on any grounds, validated by the editorial office results to the retraction, but only after the writer is notified and allowed to present his/her side in compliance with the due process.

Conflict of Interest

The Journal will only publish articles after the author (s) have confirmed through Memorandum of Agreement that they have disclosed all potential conflicts of interest.

Guide for Authors

1. Organize the manuscript following these major headings: Endorsement of SRC/DRC, Title, Author/s, e-mail address, Abstract, Introduction, Methods, Results and Discussion, Conclusions & Recommendations and References.
2. Spell out acronyms in the title and the first time such were mentioned in the article.
3. Spell out numbers from one to ten, except when used in tables and lists, and when used in units of measurement, mathematical and statistical units.
4. Manuscript, in MS Word format, must be submitted electronically to pprd.ncr@deped.gov.ph.
5. It should be concise and generally not to exceed is 7,000 words, single-space.
6. All pages, including tables and references, should be serially numbered in Roman numerals, except for subsections.
7. Specifications of the research are: Page size: 8.5" X 11" (letter size), Side margins: Top and bottom 1.75" and right 2.00",Abstract work count is 200-250 words and single-space, there must be at least five key words- discipline of the study, concepts of the study, methods, key performance indicator/ key result area, and data analysis.
8. Introduction section of the research must contain the rationale of the study-trends, issues, gaps statement of the problem, scope and limitations, literature review and theoretical/conceptual framework.
9. For the Methods section, the research design must be clearly described such as the participant/respondents, population and sampling, locale of the study, instrument used, data gathering procedures, ethical considerations and data analysis.
10. Conclusions should briefly answer the statement of the problem or the objectives of the study. They are not repetitions of the result and discussions but are the decisions made from the findings of the study.
11. Recommendations must contain the actions that future researchers should take as a result of the study. A well-thought-out set of recommendations that are stated in the rationale or significance of the study section, should be aligned to the benefactor's agenda.
12. Appendices shall include the endorsement letter from Schools Division Superintendent, Principal, Sample research instrument/s, Financial statement and statistical matrix (if there is any),
13. For citing references or literature, use the American Psychological Association Manual (APA) latest edition format.

Note: A revised policy shall be issued for 2018 release.

Secretary's Message

Being the largest bureaucracy and dynamic agency responsible for governing the formal and non-formal system of basic education in the country, the Department of Education (DepEd) recognizes the paramount role of research in the formulation of policies, plans, programs and projects that will contribute to the attainment of national development goals. Through evidence-based research, we are able to systematically and critically probe on ways toward the advancement of our mandate.

This is why I sincerely appreciate and applaud the efforts of the people behind the success of the "Manyuskrip" - DepEd—National Capital Region's Research Journal. Despite the laborious process entailed in conducting researches, you all persevered, and even published a compendium of validated studies which will be of great help in continuously improving the education system.

My special congratulations go out to the classroom teachers and officials from the school, division , and regional levels who took the time to engage in research work not only to carry out their performance commitment, but also to respond to the clamor for quality, accessible, relevant, and liberating basic education, all for the benefit of the Filipino learners.

Our various reforms call for breakthroughs and innovations, and these researches have the potential to contribute to the betterment of the various aspects of education including curriculum and instruction, administration, governance and operations, among others.

I hope that the contents of the "Manyuskrip" will not remain imprinted solely on its pages; but that the positive impacts of each researches will resonate the Department of Education's vision and mission amidst the challenges of the 21st century, especially now that the K to 12 Basic Education Program is at full throttle.

Thank you, and may you continue to strive for excellence!

LEONOR MAGTOLIS BRIONES
Secretary

Director's Message

Greetings!

Proud of its extraordinary roster of former researchers and its past successes in the research arena, ***manyuskrip*** *is unequivocally very much focused on the strategic directions of the Department of Education: advancing knowledge and exploring new fields of practice in teaching-learning, child protection, human resource and development, governance, etc. DepEd-NCR through Regional Research, Innovation and Development Committee (RRIDC) has a long tradition of engagement with their colleagues and Schools Division Offices (SDOs) to work across disciplines for intensive research activities. It is known regionwide for its truly remarkable research programs that reflect the expertise, creativity and initiative of the entire DepEd family that set the research agenda.*

It is believed that research and innovation are the crucial precursors of the country's development as they define its pace towards modernization in terms of technological growth. RRIDC through the Policy, Planning and Research Division (PPRD), keeping this overarching thought at its backdrop has remained resilient in playing its fundamental role in improving the access, quality and governance of DepEd through its high level research activities and innovative approaches.

This new issue of ***manyuskrip*** *familiarizes its teacher-researchers, students and potential researchers with the evolution in the development agenda; the research entity in the DepEd-NCR that works zealously to support the research activities taking place in it. It also acquaints researchers on their relevant departments, areas of research and most importantly the research groups' operating in every SDO.*

Let us take interest on the different programs, projects and activities of the Region and expand the community of leaders and teacher-researchers. Get a copy of our new Research Management Guidelines as stipulated in DepEd Order No. 16, S. 2017 to be guided accordingly.

Finally, I encourage you to browse over the ***manyuskrip*** *and discover for yourself the tremendous contributions to education in all the learning areas and delivery modes.*

I seek blessings for all towards the successful journey of the Region.

PONCIANO A. MENGUITO
Director IV

Chairman's Message

Greetings!

Congratulations to all our DepEd employees who made a significant contribution in the production and distribution of ***manyuskrip,*** *the official Research Journal of DepEd-NCR.*

There is no doubt that this Research Journal with the theme ***Transforming Pedagogies through Action Research*** *is a fruit of hardwork, dedication, and love of teachers for their learners and further reflects the living theories in pedagogy which were collaboratively developed by the teachers, school heads, SDO personnel and Regional personnel through the Regional Research, Innovation and Development Committee (RRIDC) and Policy, Planning and Research Division (PPRD).*

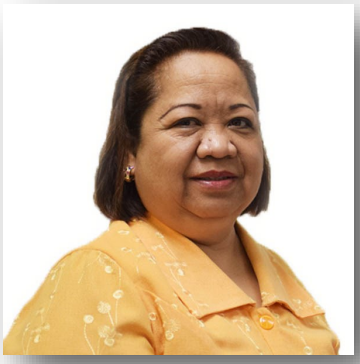
This year, the issuance of D.O. 16 ,S. 2017 also known as the Research Management Guidelines will ensure that the findings of your research will be utilized by the Region, Division and its Schools towards evidenced-based interventions. The utilization of these researches will trigger its cycle towards continuous improvement towards the realization of our Vision, Mission and new Strategic Directions.

Hence, it is my fervent hope that this upgraded compendium will inspire other Divisions to produce a more localized action research as a tool in their continuing professional development, localizing teaching and learning of students, and improving quality of education in the National Capital Region.

To the editorial board, contributors of this Research Journal, keep up the good work and God bless you all!

WILFREDO E. CABRAL
Office of the Assistant Regional Director
Chairman, Regional Research, Innovation and
Development Committee (RRIDC)

Editor-in-Chief's Message



People become really remarkable whenever they start thinking that they can accomplish things. When they believe in themselves, when they get inspired to start on something, they usually end up successful. A researcher, like a writer, needs to be inspired to be able to create a masterpiece.

I would like to think that your researches have been triggered by your desire to improve the day to day situation in your classrooms. You were motivated by the fact that there is a better way of doing what you used to do. And that the results become rewarding, not only because your students are performing better, but more importantly, you feel good about accomplishing your duty as a teacher. Nothing else is more rewarding than achieving the feeling of self-satisfaction, self-worth that comes due to the realization that you are into fulfilling your life's purpose here on earth.

The ***Manyuskrip*** is an attestation for the kind of teachers you all are, teachers who are passionate about their work, teachers whose competencies contribute towards building this nation.

Stephen Hawking said, *"No one undertakes research with the intention of winning a prize. It is the joy of discovering something no one knew before." O*ur Regional mantra says, "***Play to Win!",*** although there is actually no price to be won when your research gets to be published; just an extra point for promotion, the joy that you have reached a higher level of fulfilment as an educator counts the most.

Let this be just a beginning of more discoveries, for "at the end of the rainbow is a pot of gold waiting,"--- your prize, at the end of the day.

VICTORIA R. MAYO
Chief, Policy, Planning and Research Division
Vice-Chairman, Regional Research, Innovation and Development Committee (RRIDC)

BERF Funded *Researches*

ANTAS SA MAUNAWANG PAGBASA SA MATAAS NA PAARALAN NG CANUMAY EAST: BATAYAN SA KAGAMITANG PANG - INTERBENSYON

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ABSTRAK

Naganap ang pananaliksik sa Canumay East National High School sa ikasiyam na baitang na may bilang na 43 na mag-aaral sa taunang panuruan 2015-2016.

Ang pag-aaral na ito ay ginamitan ng Descriptive Comparative Research Design na kung saan pinaghambing ang kabuuang average G-iskor na una at ikalawang pagbasa. Napatunayang sa pag-aaral na ito na bagamat nakapasa ang mga mag-aaral ay hindi sapat ang kanilang nakuhang marka upang masabi na sila ay mahusay sa pagbasa na may pang-unawa.

Naipakita rin ng pag-aaral na ito na mabagal ang naging pag-unlad ng mga mag-aaral mula sa una at ikalawang pagsubok.

Sa kabuuan kinakailangan ng matinding pagsasanay sa pagbasa upang malinang ang kanilang kakayahan sa pagbasa na may pang-unawa.

Mga Susing Salita: *Maunawang Pagbasa, Story Map*

ANG SULIRANIN AT KAPALIGIRAN NITO

Panimula

Ang pagbasa ay isang mahalagang aspekto sa pagkatuto. May malaking bahagi sa pagpapaunlad ng pakikipagtalastasan ng mga mag-aaral. Ang pagbasa na may pag-unawa ay susi na magbubukas sa pinto ng karunungan at kaalamam.

Ayon kay Austero (2007) ang pagbasang may pag-unawa ay nakakakilala ng mga titik na binubuo sa mga salita, sa iba pang mga salita at sa kalagayan nito, nagrereak sa bagong kaalaman na may relasyon sa kanyang mga nakaraang karanasan, at nagagamit ang kanyang mga kaalamang natamo mula sa pagbasa sa iba't ibang karanasan, at nagagamit ito sa iba't ibang sitwasyon..

Paglalahad ng Suliranin

1. Ano ang antas ng komprehensyon ng mga mag-aaral sa Ikasiyam na baitang sa una at ikalawang pagsubok sa pagbasa?
2. Mayroon bang makabuluhang pagkakaiba sa antas ng pag-unawa sa pagitan ng dalawang pagsubok sa pagbasa?
3. Ano ang mga sanhi ng kahinaan sa pagbasa ng mga mag-aaral?

Haypotesis

1. Walang makabuluhang pagkakaiba sa antas ng pag-unawa sa pagitan ng dalawang pagsubok sa pagbasa.

Batayang Teyoretikal

Pinili ng mananaliksik ang schema theory sinasaad ng teoryang ito na mayroong interaksyon sa pagitan ng sariling kaalaman ng mambabasa at ng tekstong binabasa niya na nagreresulta sa maunawang pagbasa. Sa paglalayon na maunawaan ang tekstong binabasa ng mga mag-aaral at maiugnay sa bagong impormasyong kinakailangan maisaayos sa isipan ng mag-aaral at magamit sa araw araw na pamumuhay. Base rin sa Schema Theory na nakabatay ang antas ng pag-unawa sa iba't – ibang tekstong binabasa.

Kaugnay na Literatura

Pinagtibay ni Marbella (2009) ang natuklasan sa isinagawang pag-aaral ng kasalukuyang mananaliksik na sadyang may mga mag-aaral na nasa literal na antas ng pag-unawa dahil natuklasan din nito na nasa literal na lebel ng komprehensyon din ang mga mag-aaral sa ikaapat na taon sa Probinsya at Lungsod ng Sorsogon.

Ayon kay Marquez-Francisco (2001) kadalasan ang alam ng iba ang bata ay natututong magbasa sa pamamagitan ng kanilang mata. Ngunit ang totoo ang bata ay natututo sa pakikining. Sa pamamagitan ng pakikipag-usap sa bata, pagbabasa

ng mga kwento at paglalaro ng mga auditory games ay makakatulong upang magkararoon ng magandang pundasyon ang bata sa pagbasa.

METODOLOHIYA

Disenyo ng Pananaliksik

Ang mananaliksik ay gumamit ng Descriptive Comparative Research Design. Ang disenyong ito ay naglalayon upang paghambingin ang mga datos kung paano nagkakaiba ang naging mga resulta. Sa pag-aaral na ito paghahambingin ang una at ikalawang resulta ng pagbasa ng mag-aaral sa ikasiyam na baitang.

Populasyon ng Pananaliksik

Mga mag-aaral sa ikasiyam na baitang, isa sa limang pangkat na may kabuuang bilang na 43 na mag -aaral, kung saan 29 ang lalaki at 14 ang babae sa paaralan ng Canumay East National High School taong panuruan 2015-2016.

Paraan ng Pagpili ng Respondente

Ang Cluster Sampling Technique ang ginamit ng mananaliksik upang piliin ang mga respondente ng pag-aaral na ito. Sa paraang patas, nagkaroon ng palabunutan at napili ang isang pangkat na magsasagawa ng una at ikalawang pagbasa.

Instrumentong Ginamit sa Pananaliksik

Ang unang teksto ay umiikot sa kwento ng kakaibang zoo at mabangis na buwaya, na kung saan ang mga hayop ay may kakaibang kakayahan. May pitong tanong na nakalaan sa tekstong ito.

Samantalang ang ikalawang teksto ay tungkol sa kakaibang ingay sa gabi. Ito ay mayroon ding pitong tanong na may kinalaman sa akda.

At ang ikatlo naman ay kwento ng isang lalaking na napagkamalang pulubi, kung saan mayroon ding pitong tanong na masusukat ang pag-unawa ng mga mag-aaral sa binasa.

Paraan ng Pagsasagawa

Sa unang pagbasa ay naganap sa huling lingo ng Hulyo na kung saan binigyan ng dalawangput apat na minuto ang bawat mag-aaral upang basahin ang tatlong teksto at sagutan ang pitong katanungan na nakalaan sa bawat teksto.

Samantala sa ikalawang pagbasa ay naganap noong ikalawang linggo ng Marso na kung saan binigyan ng labingwalong minuto ang bawat mag-aaral upang basahin muli ang tatlong teksto at sagutan din ang pitong katanungan na nakalaan sa bawat teksto.

Sa huli ang mananaliksik ay tinala, sinuri at binigyan ng kahulugan ang mga datos na nakalap.

Pagsusuri sa Datos

1. Mean upang malaman ang antas ng pag-unawa ng mga mag-aaral sa Ikasiyam na baitang sa una at ikalawang pagsubok sa pagbasa.

2. Dependent t-test upang malaman kung may makabuluhang bang pagkakaiba sa antas ng pag-unawa sa pagitan ng dalawang pagsubok sa pagbasa.

RESULTA AT PAGTALAKAY

Antas ng Pag-unawa ng mga Mag-aaral sa Ikasiyam na Baitang sa Una at Ikalawang Pagsubok sa Pagbasa

Makikita sa talahanayan 1 na ang kabuang G -iskor ng mga mag-aaral sa unang pagbasa ay 11.02 na may deskripsyong kwalitatib na nakapasa. Ganun din sa ikalawang pagbasa na kung saan ang kabuuang G-Iskor na 11.31 ay may deskripsyong kwalitatib na nakapasa.

Pinapakita ng mga datos na ang mga mag-aaral ay nakakuha lamang ng pasadong marka ngunit hindi nakakitaan ng mataas na antas sa maunawang pagbasa.

Maaaring mangailangan pa ng karangdagang pagsasanay upang mas lalo pang mapaunlad ang kasanayan sa maunawang pagbasa..

Talahanayan 1

Paghahambing ng Antas ng Pag-unawang Pagbasa Makabuluhang Pagkakaiba sa Antas ng Pag-unawa sa Pagitan ng Dalawang Pagsubok sa Pagbasa

Pagbasa	Mean Iskor	Pagka-kaiba	Compt	Criti-cal t	Decision	Remark
Una	11.02	0.29	0.32	1.99	Accept Ho	Not Signifi-cant
Ikalawa	11.32					

Pinapakita ng talahanayang 2 ang pagsusuri sa pagitan ng mean iskor sa una at pangalawang pagbasa. Ang 0.29 na puntos na pagkakaiba ay napatunayang walang makabuluhang pagkakaiba sa antas ng pagsusuri sa kadahilanang ang computed t na 0.32 ay mas mababa sa critical t na 1.99 kung kaya't tinatanggap ng mananaliksik ang Null haypotesis (Ho). Samakatuwid, magkahalintulad ang ipinakitang kasanayan ng mga mag-aaral sa una at pangalawang pagbasa.

Talahanayan 2
Pagsusuri ng Antas ng Pag-unawang Pagbasa
Sanhi ng kahinaan sa Pagbasa ng mga Mag-aaral

Pagbasa	Unang Teksto	Ikala-wang Teksto	Ikatlong Teksto	Ka-buuang G-Iskor	Deskripsy ong Kwalitatib
Una	3.16	3.44	4.42	11.02	Nakapasa
Ikalawa	3.41	3.46	4.44	11.31	Nakapasa

Sa pamamagitan ng tseklist natuklasan na tatlo ang pangunahing sanhi ng kahinaan sa pagbasa ng mga mag-aaral. Ito ay ang kakulangan ng mga babasahing kawili-wili na may average na 2.51, limitadong oras na nakalaan sa pagbabasa na may average na 2.52 at kawalan ng interes sa mga babasahin na may average na 2.61. Isinasaad ng mga datos na nakalap na kailangan ng mga mag-aaral ng mga babasahin na pupukaw sa kanilang interes at kawilihan.

Talahanayan 3
Resulta ng Tseklist

Suliranin	Average	Rank
Kakulangan ng mga babasahing kawili -wili	2.51	3
Limitadong oras na nakalaan sa pagbasa.	2.52	2
Kawalan ng interes sa mga babasahin	2.61	1

KONGKLUSYON AT REKOMENDASYON

Ang mga mag- aaral ay may kakayahang umunawa sa kanilang mga binabasa napatunayang ito sa nakuhang kabuuang G-iskor ngunit hindi ito sapat upang masabi na may mataas na pag-unawa ang mga mag-aaral sa kanilang mga binabasang teksto. Dagdag pa rito pinatunayan ng pananaliksik na ito mabagal ang pagtaas ng kasanayan ng mga mag-aaral sa pagbasa na may pang-unawa.

Mula sa tseklist na sinagot ng mga mag-aaral, tatlo sa mga ito ang lumalabas na pangunahing sanhi ng kahinaan sa pagbasa. Ang pangatlo sa mga suliranin ay kakulangan ng mga babasahing kawili-wili, pangalawa ang limitatong oras na nakalaan sa pagbasa at ang una ay ang kawalan ng interes sa mga babasahin.

Upang mas mahasa ang kasanayan ng mga mag-aaral sa pagbasa ng may pag-unawa iminumungkahi ng manananaliksik na magkaroon ng karagdagang pagsasanay o interbensyon kagaya ng paggawa ng Story Map, Stoy Timeline at magkaroon ng maliit na bahagi o puwang sa bawat silid-aralan na kinalalagyan ng samu't saring babasahing angkop sa pangangailangan at interes ng mga mag-aaral. mainam din kung maglaan ng oras sa pagbabasa ng mga napapanahong babasahin bago magsimula ang klase.

TALASANGGUNIAN

Austero, C.S, et.al (2007). Komunikasyon sa akademikong filipino. Pasig City: Unlad Publishing House.

Ander,K . (2006). The efficacy of a reading remediation program of Ethnically and economically diverse at risk readers.

Marbell, F.D. (2009). Lebel ng komprehensyon sa pagbasa ng mga mag-aaral sa ikaapat na taon sa lungsod at probinsya ng sorsogon. Legaspi City: Di – Limbag na Disertasyon.

ENGLISH PROFICIENCY TEST OF INTERMEDIATE TEACHERS: ITS IMPLICATION TO SCHOOL MANAGEMENT IN THE DIVISION OF VALENZUELA

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ABSTRACT

School-based Management has the primary aim to improve school performance and student achievement through instructions. As a leader, the major function of the principal includes supervisory plan and strategies. Hence, the principal provides the teachers with adequate information and risk-taking opportunities that will encourage them to create, produce, innovate or modify teaching-learning materials, methods and techniques to improve instruction and to enrich the curriculum and so this action research helped the school heads and DepEd officials to utilize the information to improve the level of practice through teaching English structure, written expression and Reading Comprehension. The researchers tabulated and analyzed the data with statistical treatment such as weighted Mean. The result revealed that there was a significant difference in reading comprehension of all teachers who took the test after the conduct of this study.

Keywords: *Curriculum and Instruction, School Governance, Teachers English Proficiency Test*

INTRODUCTION

The school is a social institution in which nearly all aspects of life are framed and created by those involved, particularly by those in a position and in the teaching and learning process. School Management is different and much more challenging than it was a few years ago. School-based Management has the primary aim to improve school performance and student achievement through the concerted efforts of the school head, teachers, students, parents, local government units and the community at large. (Quilbio, 2012)

With the transition to more rigorous achievement standards and better student assessments, a focus on data to drive instruction, and the use of technology to personalize learning, teachers are carrying an incredible amount of responsibility. The state of teaching is stronger because teachers everywhere are leading from their classrooms and taking new roles to improve education for students. And we all know, when teaching is stronger, students benefit with increased engagement and achievement.

Background of the Study

Today the result of different assessments challenge administrators as well as teachers. The study is very timely because the administration of the TEPT to teachers nationwide is significantly meant to identify baseline information on the training needs of the said teachers to lead in the implementation of the K to 12 Program of the Department especially in the use of English as a medium of instruction in teaching major subjects. The study focused on the need to determine the proficiency level of public school teachers in performing their functions in English. In addition, the researchers strongly believed that the conduct of this study will motivate teachers and administrators to focus on the teaching competencies of Public Intermediate teachers in the Division of Valenzuela using the Result of Teachers English Proficiency Test (TEPT) given by the Bureau of Educational Assessment **(BEA)** formerly known as the National Education Testing and Research Center **(NETRC).** Competencies such as Structure, reading comprehension and written expression may be used as basis to perform a more effective learning environment for the learner and better school management for the administrators.

Statement of the Problem

Specifically, the study sought answers to the following questions:

1. What are the competencies of teachers in relation to:

   1.1 Structure;

   1.2 Reading Comprehension; and

   1.3 Written Expression

2. Is there a significant difference toward the teachers' performance on the aforementioned competencies?

3. What are the Implications of the findings to the School-Based Management?

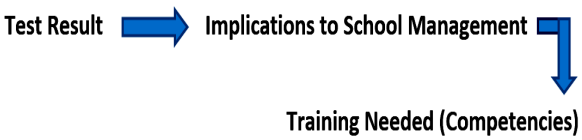
Hypothesis

There is no significant difference toward the performance of the teachers on the aforementioned competencies.

Conceptual Framework

This study will evaluate the result of the Teachers English

Proficiency Test and find out what are the implications to school management. After the researchers' validation, training matrix will be developed in order to track what competencies are needed in the training. The result training matrix will be executed and will be forwarded to Education Supervisors to conduct such trainings needed in the need competencies of the teachers.



Related Literature

Based on the different management theories, there are two models of educational management (Keith, 1991). The superintendency model of school administration is characterized by a strong leadership who acted alone in dealing with problems in the school. He is also solely responsible for instructional supervision and staff development. The school head uses most of his time in the practice of oversight. He personally motivates the teaching staff and is also responsible for goal setting, planning and evaluation functions. In addition, the school head also exercises key public relation functions with outside school groups. He also engages in acquiring additional resources for the school supplement government funding. On the other hand, participatory model of school management is based on systems and behavioral theories. It is characterized by school-level planning and decision making.

The administrator is a facilitator, organizer, listener/communicator, resource person, and organizational leader. The teachers are involved in goal-setting and development of strategies as well as the resolution of problems in the implementation of goals. They also help in identifying their professional needs, and they even help to train and develop one another.

The theory of competence-based management (Sanchez and Heene, 2004) defines competence as: "the ability to sustain the coordinated deployment of resources in ways that helps an organization achieve its goals (creating and distributing value to customers and stakeholders)". This definition embodies essential aspects of the ''four cornerstones'' of the theory of competence-based strategic management, which aspires to recognize and capture the dynamic, systemic, cognitive and holistic nature of organizational competences. Each of these four aspects of the nature of the competent organization deserves further comment.

Scope and Limitations

The study focused on the result of English Proficiency Test of Grade 5 and Grade 6 teachers school year 2015-2016 and its implications to school management in the Schools Division of Valenzuela. Respondents are the eight hundred thirty-six (836) test takers from public elementary schools in Valenzuela.

Significant of the Study

The findings of the study are considered prime importance to the schools responsible in providing basic education.

Teachers. The results will benefit the teachers in the sense that they will be motivated to perform their job well if their school heads are skillful in managing the school and its personnel. With highly satisfied teachers, they will be able to perform their duties and responsibilities effectively, thus, enabling the students to have high academic achievement. Teachers will be able to exert more efforts and make sacrifices if they are dealt with consideration and understanding.

Research Design

The study employed the descriptive evaluative research method to describe and evaluate the result of English Proficiency Test of Grade 5 and Grade 6 teachers school year 2015-2016 and its implications to school management in the Schools Division of Valenzuela.

Descriptive Evaluation research was utilized to appraise carefully the worthiness of the current study. In addition, evaluation research was designed so that the findings will provide information useful in for decisions about public policy or private issues.

Respondents of the Study

The respondents of the study were the eight hundred thirty-six (836) test takers of English

Proficiency Test of Grade 5 and Grade 6, teachers school year 2015-2016.

Sampling Plan

The researchers used the census method, which refers to data collection that provided the opportunity to the researchers to have intensive study about a problem study. In this method would be higher degree of accuracy in data.

Locale of the Study

The study was conducted in the Schools Division of Valenzuela.

Instrument Used

The main instrument used was the English proficiency test which is administered for one hour and thirty minutes. It is a multiple-choice type of test comprising of 90 items distributed in three subtests as follows: Structure (15 items), Written Expression (25 items), and Reading Comprehension (50 items)., It measures the general or basic knowledge and ability of the teachers in Science and Mathematics.

Data Process Collection

The researcher asked permission and approval first to the Chief-Education Supervisor of the School Governance and Operations Division and to the OIC- Schools- Division Superintendent of the Division of City Schools-Valenzuela to allow conduct the study.

The organized data were statistically treated through descriptive statistic.

Statistical Treatment of Data

The following statistical tools were used in this study.

Mean was used with the following formula:

$$M = \frac{TS}{N}$$

Where:

M = Mean
TS = Total score
N = Number of respondents

One-way Analysis of Variance (ANOVA) to determine if there is a significant difference toward the teachers' performance of the respondent schools on the aforementioned competencies.

RESULT AND DISCUSSION

Competencies of teachers

Table 1 reveals the competencies of teachers in each school in relation to structure, written expression and reading comprehension. Based on the results, written expression was classified as moderately good with a weighted mean of 69.6. While structure and reading comprehension both got a weighted mean of 44.0 described as low of teacher's competency in written expression the (WM= 69.6) was classified as moderately good while structure got (WM=44.00) and reading comprehension with (WM= 44.0) interpreted as the lowest mean level of competencies.

The data tells that all the elementary schools have the same needs of refresher course in terms of improvement in structure and reading comprehension.

Table 1
Level of English Proficiency Test of Grade V and Grade VI Teacher

	Mean	Qualitative Descriptive
Structure	44.0	Low
Written Expression	69.6	Moderate
Reading Comprehension	49.6	Low

Legend: Qualitative Descriptive; 0-25 Very Low, 26-50 Low, 51-75 Moderate, 76-100 High.

Significant difference toward the teachers' performance of the respondent schools on the given competencies.

Table 2 shows that there was no significant difference in the performance of the grade 5 and grade 6 teachers in the Division of City Schools-Valenzuela, interns of structure with (0.311) and written expression (0.060) competencies, but with regards to reading comprehension, the results revealed that was a significant difference, with mean score of 0.028 hence rejecting the all hypothesis

This implied that elementary schools categorically need different approaches of trainings to be implemented by the division and the schools.

Table 2
Comparison of Teachers English Proficiency Test

Competencies	R Value	Decision	Remark
Structure	0.311	Accept Ho	Not Significant
Written Expression	0.060	Accept Ho	Not Significant
Reading Comprehension	0.028	Reject Ho	Significant

Legend: Significant at P< 0.05

Implications of the findings to the School-Based-Management

Based on the result of the Teachers English Proficiency Test for grade 5 and grade 6 conducted by Bureau of Educational Assessment in the Division of City Schools- Valenzuela, as the basis of this study, researchers strongly believed that each school head must put his/her priority to the professional development of their teachers as the key element in strengthening their School-Based Management particularly curriculum and learning.

CONCLUSIONS AND RECOMMENDATION

The level of competencies of the grade 5 and 6 teachers based on the Teachers English Proficiency Test conducted by Bureau of Educational Assessment merely explained that school heads must strengthen their School-Based Management targets particularly in Governance and Curriculum-Learning which directly affect educational performance of their pupils.

This is, by providing technical assistance through school based training of DepEd officials on how they will be able to address low competencies of teachers.

Research is creating new knowledge.

Neil Armstrong

REFERENCES

Heene, A;Sanchez R.(2004).The New Strategic Management

Keith, S; Girling, R.H. (1991). Educational Management and Participation: New Directions in Educational Administration. Allyn and Bacon.

Quilbio,S. (2012). Management Competencies of Public Secondary School Principals in the Division of Valenzuela, Doctoral Dissertation,De la Salle Araneta University

Result of Teachers English Proficiency Test by the Bureau of Education Assessment http:// www.rci.rutgers.edu/~judithjf/kinds%20of%20research.htm

http://www.studylecturenotes.com/

MGA ESTRATEHIYA SA PAGTUTURO NG FILIPINO SA PAGBASANG MAY PAG-UNAWA NG MGA MAG-AARAL SA BAITANG 10

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ABSTRAK

Ang pag-aaral na ito ay nauukol sa mga estratehiya sa pagtuturo ng Filipino sa pagbasang may pag-unawa ng mga mag-aaral sa baitang 10. Ang layunin nito ay ang mga sumusunod: (1) alamin ang mean score sa pre-test at posttest ng mga mag-aaral na hindi ginamitan at ginamitan ng mga estratehiya sa pagbasang may pag-unawa at (2) tuklasin ang makabuluhang pagkakaiba ng iskor sa pretest at post ng mga mag-aaral na hindi ginamitan at ginamitan ng mga estratehiya sa pagbasang may pag-unawa.

Ang mananaliksik ay gumamit ng ekperimental na pamamaraan. Ang mga kalahok sa pag-aaral ay mula sa Baitang 10 sa Mataas na Paaralang Pambansa ng Mapulang Lupa sa Taong Panuruan 2015-2016. Pinili ang limang pangkat sa pamamagitan ng cluster sampling o fish bowl method- ang pangkat A na hindi ginamitan ng estratehiya habang ang pangkat B (Ibahagi ang Buod), pangkat C (Aysuin ang Kaisipan), pangkat D (Ipasa ang Kaalaman) at pangkat D (Iguhit ang Damdamin) na ang bawat isa ay may tatlumpung (30) kalahok. Binuo ang pretest at pos-test na hinango sa araling saklaw ng ikatlong markahan na naging instrumento sa pangangalap ng datos. Ang resulta ay tinuos sa pamamagitan ng mean at ANOVA.

Lumabas sa pag-aaral na 3.39 ang mean score sa pretest ng limang pangkat. Natamo naman ng pangkat A ang 3.17, pangkat B ang 4.5, pangkat C ang 5.17, pangkat D ang 4.97 at pangkat E ang 4.43 ang mean score sa posttest.

Walang makabuluhang pagkakaiba ang iskor sa pretest ng mga mag-aaral sapagkat ang f value na 0.33 ay higit na mababa sa f critical value na 2.43. May makabuluhang pagkakaiba namanang iskor sa posttest ng mga mag-aaral dahil ang f value na 7.39 ay higit na mataas sa f critical value na 2.43.

Batay sa kinalabasan, iminumungkahi na gamitin ng mga guro sa kanilang pagtuturo ang lahat ng estratehiyang ginamit ng mananaliksik at magkaroon ng iba pang pananaliksik upang malaman ang iba pang estratehiyang maaaring gamitin para sa pagpapaunlad sa pagbasang may pag-unawa.

Mga Susing Salita: *Estratehiya, Pagtuturo, Pagbasa, Pag-unawa*

ANG SULIRANIN AT ANG KAPALIGIRAN NITO

Panimula

Isa sa mga pangunahing mithiin ng Kagawaran ng Edukasyon ang makalikha ng mga mag-aaral na may sapat na kakayahan sa pagbasang may pag-unawa. Upang malinang ang kakayahang ito, masasalamin ang adhikain ng kagawaran sa iba't ibang tekstong tinatalakay sa paaralan sa pamamagitan ng paggamit ng mga estratehiya. Sa kabila nito, kapansin-pansing maraming mag-aaral ang tila walang hilig sa pagbabasa at hindi ganap ang pagtatamo nila ng sapat na kakayahan sa pagbasang may pag-unawa.

Sa hangaring malinang ang kasanayan sa pagbasa, napakahalaga kung ganoon na piliin nang mabuti ng isang guro ang angkop na estratehiya na kanyang gagamitin sa pagtuturo. Ito ang dahilan kung bakit naisipan ng mananaliksik na magsagawa ng ganitong pag-aaral sapagkat malaki ang kanyang paniniwala na sa pamamagitan ng paggamit ng angkop na estratehiya ay magkakaroon ng sapat na kasangkapan sa pagpapaangat ng kakayahan ng mga guro sa paglinang ng kasanayan ng mga mag-aaral sa pagbasang may pag-unawa.

Paglalahad ng Suliranin

1. Ano ang *mean score* sa *pretest* ng mga mag-aaral na hindi ginamitan at ginamitan ng mga estratehiya sa pagbasang may pag-unawa?
2. Ano ang *mean score* sa *posttest* ng mga mag-aaral na hindi ginamitan at ginamitan ng mga estratehiya sa pagbasang may pag-unawa?
3. May makabuluhan bang pagkakaiba ang iskor sa *pretest* ng mga mag-aaral na hindi ginamitan at ginamitan ng mga estratehiya sa pagbasang may pag-unawa?
4. May makabuluhan bang pagkakaiba ang iskor sa *posttest* ng mga mag-aaral na hindi ginamitan at ginamitan ng mga estratehiya sa pagbasang may pag-unawa?

Haypotesis

1. Walang makabuluhang pagkakaiba ang iskor sa *pretest* ng mga mag-aaral na hindi ginamitan at ginamitan ng mga estratehiya sa pagbasang may pag-unawa.

2. Walang makabuluhang pagkakaiba ang iskor sa *posttest* ng mga mag-aaral na hindi ginamitan at ginamitan ng mga estratehiya sa pagbasang may pag-unawa.

Batayang Teyoretikal

Ang pag-aaral na ito ay nakasalig sa Teoryang Interaktib na binanggit ni Badayos (1999) sa kanyang aklat na "Metodolohiya sa Pagtuturo ng Wika." Ang teoryang ito ay naniniwala na ang teksto ay kumakatawan sa wika at kaisipan ng awtor at sa pag-unawa nito, ginagamit ng mambabasa ang kanyang dating kaalaman sa wika at sariling konsepto o kaisipan.

Kaugnay na Literatura

Sadyang may mahalagang papel na ginagampanan ang mga makabagong estratehiya sa ikatatagumpay ng proseso ng pagtuturo at pagkatuto kaya nararapat lamang itong pagtuunan ng pansin (Alcantara, 2013).

Binanggit sa isang artikulo sa internet ang ilan sa mga estratehiyang maaaring gamitin sa pagtuturo ay ang *Weave a Webof Understanding*, *Gallery Images* at *Pass Around Retells. Binanggit* naman ni Bouchard ang *Reconstructed JumbledText* bilang isa sa animnapung (60) estratehiyang magagamit sa pagtuturo ng pagbasang may pag-unawa.

METODOLOHIYA

Disenyo ng Pananaliksik

Ang pag-aaral na ito ay gumamit ng eksperimental na uri ng pananalikisik. Sinabi ninaLartec, J. et al (2011) na isinasagawa ang uring ito upang makita ang bisa ng isang bagay o kaisipang maaaring gamitin sa panghinaharap na buhay.

Populasyon ng Pananaliksik

Limang pangkat na may tigtatatlumpung mag -aaral mula sa Baitang 10 sa Mataas na Paaralang Pambansa ng Mapulang Lupa, Taong-Panuruan 2015-2016, ang mga kalahok sa pag-aaral na ito. Sa kabuuan, isang daan at limampung mag-aaral (150) ang kalahok sa isinagawang pag-aaral.

Paraan ng Pagpili ng Respondente

Sa pagtatakda kung aling pangkat ang hindi gagamitan at mga pangkat na gagamitan ng estratehiya sa pagbasang may pag-unawa, ginamit ng mananaliksik ang *cluster sampling* sa pamamagitan ng *fish bowl method*.

Instrumentong Ginamit sa Pananaliksik

Gumamit ng *pretest* at *posttest* na may tigsasampung aytem na may mga pagpipilian *(multiple choice)* mula sa isang araling saklaw ng ikatlong markahan-ang Nelson Mandela: Bayani ng Africa (Sanaysay mula sa South Africa).

Paraan ng Pagsasagawa

Ang konsepto ng apat na estratehiyang ginamit ay hinango sa *Reconstructed Jumbled Text* (Ayusin ang Kaisipan)*, Pass Around Retells* (Ibahagi ang Buod)*, Weave a Web of Understanding* (Ipasa ang Kaalaman) *at Gallery Images* (Iguhit ang Damdamin). Nilagyan ng kaunting pagbabago ang konsepto ng mga nabanggit na estratehiya gayundin sa proseso ng pagsasagawa ng mga ito. Matapos na maisagawa ang pagbabago, hiningi ang pahintulot ng Puno ng Kagawaran sa Filipino at Punong-guro upang maisagawa ang pag-aaral. Nang makuha ang pagsang-ayon ng kinauukulan, siya ay nagtakda ng mga araw sa pagsasagawa ng pag-aaral.

Pagsusuri sa Datos

Ginamit ang *mean* upang malaman ang kabuuan iskor bawat pangkat at ANOVA upang masuri kung may makabuluhang pagkakaiba ang kanilang iskor sa *pretest* at *posttest*. Itinakda ang 0.05 *level of significance* upang malaman kung ang haypotesis ay tatanggapin o tatanggihan. Ginamit din ang *ranges* upang matukoy ang antas ng iskor ng mga pangkat.

Mean Score	***Deskripsyong Kwalitatib***
8.50 - 10.00	*Pinakamataas*
6.50 – 8.49	*Mataas*
4.50 – 6.49	*Katamtaman*
2.50 – 4.49	*Kasiya-siya*
0.00 – 2.49	*Mababa*

RESULTA AT PAGTALAKAY

Ang Mean Score sa Pretest ng mga Mag-aaral na Hindi Ginamitan at Ginamitan ng mga Estratehiya sa Pagbasang may Pag-unawa

Ipinakikita sa talahanayan 1 na ang pangkat C ang nakapagtamo ng pinakamataas na *mean score* na 3.57 habang ang pangkat Eang nakakuha ng pinakamamababang *mean scor*e na 3.20. Makikita rin na ang lahat ng pangkat ay nakakuha ng kasiya-siyang *mean score* na nangangahulugang halos magkakalapit o magkakatulad ang lebel ng kanilang kasanayan sa pagbasang may pag-unawa.

Talahanayan 1
Mean Score sa Pretest ng mga Mag-aaral

Pangkat	Ginamit na Estratehiya	Mean Score	Diskripsyong Kwalitatib
A	Wala	3.53	Kasiya-siya
B	Ibahagi ang Buod	3.23	Kasiya-siya
C	Ayusin ang Kaisipan	3.57	Kasiya-siya
D	Ipasa ang Kaalaman	3.43	Kasiya-siya
E	Iguhit ang Damdamin	3.20	Kasiya-siya
Kabuuan		3.39	Kasiya-siya

Ang Mean Score sa Posttest ng mga Mag-aaral na Hindi Ginamitan at Ginamitan ng mga Estratehiya sa Pagbasang may Pag-unawa

Ipinakikita sa talahanayan 2 na sa limang pangkat na kalahok sa pag-aaral, lumabas na tatlo ang nakapagtamo ng katamtamang *mean score*- ang Pangkat B, Pangkat Cat Pangkat D habang dalawa naman ang nakakuha ng kasiya-siyang *mean score*–ang pangkat Aat pangkat E. Ipinahihiwatig nito na tunay na nakaaapekto ang paggamit ng mga estratehiya sa paglinang ng kasanayan ng mga mag-aaral sa pagbasang may pag-unawa.

Talahanayan 2
Mean Score sa Posttest ng mga Mag-aaral

Pangkat	Ginamit na Estratehiya	Mean Score	Diskripsyong Kwalitatib
A	Wala	3.17	Kasiya-siya
B	Ibahagi ang Buod	4.53	Katamtaman
C	Ayusin ang Kaisipan	5.17	Katamtaman
D	Ipasa ang Kaalaman	4.97	Katamtaman
E	Iguhit ang Damdamin	4.43	Kasiya-siya

Ang Makabuluhang Pagkakaiba ng Iskor sa *Pretest* ng mga Mag-aaral na Hindi Ginamitan at Ginamitan ng mga Estratehiya sa Pagbasang may Pag-unawa

Batay sa kinalabasan ng pagtutuos gamit ang ANOVA, 0.33 ang *f value*, higit na mababa sa *f critical value* na 2.43, kaya walang makabuluhang pagkakaiba ang kanilang mga iskor. Ipinahihiwatig nito na halos magkakapantay ang antas ng kaalaman ng lahat ng mag-aaral.

Makabuluhang Pagkakaiba ng Iskor sa *Posttest* ng mga Mag-aaral na Hindi Ginamitan at Ginamitan ng mga Estratehiya sa Pagbasang may Pag-unawa

Batay sa kinalabasan ng pagtutuos gamit ang ANOVA, 7.39 ang *f value*, higit na mataas sa *f critical value*na 2.43, kaya may makabuluhang pagkakaiba ang kanilang mga iskor. Ipinahihiwatig nito na may mabuting epekto ang paggamit ng mga nasabing sa pagtuturo ng guro at pagkatuto ng mga mag-aaral.

Talahanayan 3
Makabuluhang Pagkakaiba ng Iskor sa *Pretest* ng mga Mag-aaral
Talahanayan 4
Makabuluhang Pagkakaiba ng Iskor sa *Posttest* ng mga Mag-aaral

Pangkat	Mean Score	F	F crit	Desisyon	Remark
A	3.53				
B	3.23				
C	3.57	0.33	2.43	Pagtanggap sa Ho	Walang makabuluhang pagkakaiba
D	3.43				
E	3.20				

KONGKLUSYON AT REKOMENDASYON

Kasiya-siya ang *mean score* sa *pretest* ng mga

Pangkat	Mean Score	F	F crit	Desisyon	Remark
A	3.17				
B	4.53				
C	5.17	7.39	2.43	Hindi pagtanggap sa Ho	May makabuluhang pagkakaiba
D	4.97				
E	4.43				

mag-aaral. Kasiya-siya rin ang *mean score* sa *posttest* ng pangkat na hindi ginamitan ng estratehiya at pangkat na ginamitan ng estratehiyang Iguhit ang Damdamin. Katamtaman naman ang naging *mean score* sa *posttest* ng mga mga mag-aaral na ginamitan ng Ayusin ang Kaisipan, Ipasa ang Kaalaman at Ibahagi ang Buod. Walang makabuluhang pagkakaiba ang iskor sa *pretest* ngunit may makabuluhang pagkakaiba ang iskor sa *posttest* ng mga mag-aaral.

Iminumungkahi na gamitin ng mga guro sa kanilang pagtuturo ang lahat ng mga estratehiyang ginamit ng mananaliksikat magkaroon ng iba pang pananaliksik upang malaman ang iba pang estratehiyang maaaring gamitin para sa pagpapaunlad sa pagbasang may pag-unawa.

TALASANGGUNIAN

Alcantara, C. F. (2013). *Epekto ng mga Istratehiyang Motibasyunal sa Pagbasang May Pag-unawa*. Di-nalathalang Tesis. Meycauayan College, Meycauayan City.

Badayos, P. B. (1999).*Metodolohiya sa Pagtuturo ng Wika*. Makati City: Grandwater Publications and Research Corporation.

DonBouchard. *60 Reading Strategies and Activities*. Nakuha mula sa https://www.sde.idaho.gov/elmigrant/el/files/classroom/activities/60-Content-Reading-Strategy-Activities.pdf. (Disyembre 8, 2015).

Lartec, J. k. et al (2011). *Instruksiyong Modyular sa Pananaliksik* Mandaluyong City: Anvil Publishing Inc.

NSW Department of Education and Training. (2010). *Teaching ideas to Support Comprehension Strategies*. Nakuha mula sa http://wwwcurriculumsupport.education.nsw.gov.au/literacy/assets/pdf/packages/combook.pdf. (Disyembre 8, 2015).

THE USE OF PROBLEM SOLVING MAPS IN TEACHING GEOMETRY AFFECTING THE ACADEMIC PERFORMANCE OF GRADE 8 STUDENTS

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ABSTRACT

The purpose of this study was to determine the effect of the use of Problem Solving Maps in teaching Geometry on the academic performance among Grade 8 students. The researcher utilized the experimental design of research. The seventy-five students from Caruhatan National High School were taken as respondents. Statistical tools used were weighted mean, sample standard deviation, and z-test. The researcher used the Problem Solving Maps in teaching Geometry to8 improve the Mathematics learning of the respondents. The researcher constructed a pretest and posttest to evaluate the Mathematics performance of the selected respondents in Geometry. Based on the findings, respondents obtained very low mastery in Geometry before the use of Problem Solving Maps. It was also found out that respondents improved their Mathematical performance in Geometry after the use of Problem Solving Maps. It was concluded that there was a significant effect in the use of Problem Solving Maps (PSM) in teaching Geometry on the academic performance among Grade 8 students. Teachers are encouraged to use the Problem Solving Maps in teaching Mathematics to improve students' performance.

Keywords: *Problem Solving Maps, Mathematics Learning, Experimental Design of Research, Pretest and Posttest*

INTRODUCTION

Background of the Study

Mathematics is an excellent venue to develop students' numeracy, thinking skills, reasoning, and problem solving skills. However, performance of students in Mathematics has been an increasing source of anxiety. Scarpello (2007) stated that, Math anxiety can begin as early as the fourth grade and peaks in high school.

The researcher had experienced a number of difficulties in designing instructional strategy that catch the attention of the students in learning Mathematics the researcher decided to study the Problem Solving Maps for the improvement of instruction.

According to Sirias (2013), Problem Solving Maps (PSM) break down Math problems into manageable parts so that students can focus on solving portions of a procedure, rather than getting overwhelmed with the whole problem.

Statement of the Problem

The researcher sought to determine the effect of the use of Problem Solving Maps in teaching Geometry on the academic performance of the Grade 8 students at Caruhatan National High School, Valenzuela City.

Specifically, this study aimed to answer the following questions:

What is the level of academic performance of the respondents in terms of:

1.1. Second Quarter grades;

1.2. Pretest; and

1.3 Posttest?

Is there a significant difference between the academic performances of the two groups of respondents in terms of:

2.1 Second Quarter grades;

2.2 Pretest; and

2.3 Posttest?

Is there a significant difference between the Pretest and Posttest of the respondents who are exposed to:

3.1. Traditional Method of Teaching; and

3.2 Problem Solving Maps?

Hypotheses

1. There is no significant difference between the academic performance of the respondents exposed to Problem Solving Maps with those exposed to traditional methods of teaching Geometry.
2. There is no significant difference between the pretest and posttest of the respondents exposed to traditional method of teaching with those exposed to Problem Solving Maps.

Theoretical Framework

In Piaget's (1985) Constructivist Theory of Learning, he sees the child as "continually interacting with the world around him/her solving problems that are presented by the environment" and learning occurs through taking actions to solve the problems.

Literature Review

As stated in Boley's (2010) article, problem solving can be made easier by making drawing or chart of information contained in the problem.

Similarly, Caldwell (2009) exclaimed that concept mapping has great potential for increasing meaningful learning in Mathematics at all levels.

More so, Po-Han Wu (2011) found out in his study that concept maps are significantly beneficial to promote learning achievements and learning attitudes of students.

METHODOLOGY

Research Design

The study employed an experimental method to identify the significant difference between the academic performances of the respondents using problem solving maps with those who were exposed to traditional method of teaching Geometry.

Respondents

The seventy-five (75) Grade 8 students of Caruhatan National High School were selected as respondents of the study.

Sampling Plan

The researcher chose the respondents applying the cluster sampling technique. In this technique, the researcher had chosen two sections; section A (experimental group) composed of 39 students and section B (control group) composed of 36 students.

Instrument Used

The instrument utilized a thirty item multiple choice test which covered triangle congruence. Moreover, the test was submitted to experts for improvement and validation.

Data Collection Process

The researcher recorded the second quarter grades and conducted the pretest. The experimental group was exposed to Problem Solving Maps and control group to traditional method, posttest was conducted afterwards. Results were checked, collated, tabulated, analyzed and interpreted.

Statistical Tests

The study used Weighted Mean to describe the scores of the respondents; Sample Standard Deviation was employed to describe the spread of the scores of the respondents and z-test was utilized to determine the significant difference on the performances of the two groups of respondents. To categorize the performance of the students in the pretest and posttest as revealed by their mean score, the following descriptive scale was adopted:

Achievement Level (Qualitative Description)

Range of Score	Achievement Level
26-30	Mastered (M)
21-25	Closely Approximating Mastery (CAM)
16-20	Moving Towards Mastery (MTM)
11-15	Average Mastery (AM)
6-10	Low Mastery (LM)
1-5	Very Low Mastery (VLM)
0	Absolutely No Mastery (ANM)

RESULTS AND DISCUSSION

Level of Academic Performances of the Two Groups of Respondents

Table 1 presents the level of academic performances of the control and experimental group. It shows that the control group got a mean of 79.54 while the experimental group got a mean of 79.97 with both qualitative description of passed. In the pretest, the control group got a mean score of 2.81 and the experimental group got a mean score of 2.82 both described as very low mastery. In the posttest, the control group got a mean score of 14.17 described as average mastery with a standard deviation of 4.33. While the experimental group got a mean score of 17.51 described as moving towards mastery with the standard deviation of 4.01.

Table 1

Level of Academic Performances of the Control and Experimental Group

	Control Group			Experimental Group		
	Mean	SD	Descri ption	Mean	SD	Descrip tion
Second Quarter Grades	79.54	3.53	Passed	79.97	4.27	Passed
Pretest	2.81	1.09	VLM	2.82	1.27	VLM
Posttest	14.17	4.33	AM	17.51	4.01	MTM

Test of Significant Difference between the Academic Performance of the Two Groups of Respondents

Table 2 presents the test of significant difference between the academic performance of the two groups. In the second quarter grades, the computed z-value of 0.47 was lower than the tabular z -value of 1.64. While in the pretest, the computed z-value of 0.06 is lower than the tabular z-value of 1.64. This meant that there was no significant difference between the academic performance of the respondents in terms of second quarter grades and pretest. In the posttest, the computed z-value of 3.07 was higher than the tabular z-value of 1.64. This meant that there was a significant difference between the mean score of the respondents. This implies that the respondents exposed to the use of Problem Solving Maps in teaching Geometry performed better than those who were exposed to traditional method of teaching. Findings were supported by Po-Han Wu (2011) who found that concept maps significantly beneficial to promote learning achievements as well as learning attitudes of students

Table 2
Test of Significant Difference Between the Academic Performances of the Control and Experimental Group

	Mean	Diff	Comp z	Decision α=5%, Tab z=1.64	Remark
Second Quarter Grades					
Control Experi-mental	79.54 79.97	0.43	0.47	Accept Ho	Not Sig-nificant
Pretest					
Control Experi-mental	2.81 2.82	0.01	0.06	Accept Ho	Not Sig-nificant
Posttest					
Control Experi-mental	14.17 17.51	3.34	3.07	Reject Ho	Signifi-cant

Test of Significant Difference Between the Pretest and Post test of the Two Groups of Respondents

Table 3.1 shows the test of significant difference between the pretest and posttest of the control and experimental group. In the control group, the computed z-value of 15.23 was higher than the tabular z-value of 1.64. While, in the experimental group, the computed z-value of 21.61 was higher than the tabular z-value of 1.64. This meant that there was a significant difference between the pretest and posttest of the two groups. This implied that there was an increase in the performance of the respondents in Geometry.

Table 3
Test of Significant Difference Between the Pretest and Posttest of the Control and Experimental Group

	Mean	Diff	Comp z	Deci-sion α=5%, Tab z=1.64	Re-mark
Control Group Pretest Posttest	2.81 14.17	11.36	15.23	Reject Ho	Not Sig-nific ant
Experi-mental Pretest Posttest	2.82 17.51	14.69	21.61	Reject Ho	Sig-nific ant

CONCLUSIONS AND RECOMMENDATIONS

The experimental group had a higher mean score and lower standard deviation than the control group, which meant that students comprehended well when lessons are introduced using the Problem Solving Maps. It was concluded that the use of Problem Solving Maps was more effective than the traditional method in teaching Geometry.

Based on the conclusion derived, it is highly recommended that teachers should learn techniques in teaching Mathematics using the Problem Solving Maps by attending trainings and seminars to improve students' performance. Also, the curriculum developers should create instructional materials containing the use of Problem Solving Maps in order to develop the learners' confidence and to enhance their thinking skills especially in solving Mathematical problems.

REFERENCES

Boley, J. (2010). *Concept mapping as a means to develop and assess conceptual understanding in primary mathematics teacher education.* Retrieved from https:// www.google.com.phConcept+ Mapping (Accessed on October 14, 2015).

Caldwell, W. (2009). *Applying Concept Mapping to Algebra.* Retrieved from https://www.google.com.phConcept+mapping (Accessed on October 13, 2015).

Po-Han W.(2011). An innovative concept map approach for improving students' learning performance with an instant feedback mechanism. Retrieved from http:// onlinelibrary.wiley.com (Accessedon December 28, 2015).

Scarpelo, M. (2007). *Working memory, math performance, and math anxiety*. Retrieved from https:// www.google.com.phWorking +Memory% 2C+Math+Performance%2C+and+Math+Anxiety%2C+2007/ (Accessed October 10, 2015).

Sirias, D. (2013). *Problem Solving Maps Workbook* .Retrieved from https://www.google.com.phSirias%2C+Danilo% 2C+Problem+Solvin+Maps+Workbook%2C+2013/ (Accessed on October 3, 2015).

EFFECTS OF FUN IN READING EXERCISES (FIRE) ON THE PUPILS' MOTIVATION, CREATIVITY AND SKILLS IN READING

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ABSTRACT

This action research established a significant effect on pupils' motivation, creativity, and skills in reading. Project FIRE motivates the pupils regarding the importance of reading in complying and getting good grades, develop creative thinking skills through creative arts and increases their comprehension reading skills. The researchers used the Motivation for Reading Questionnaire (Wigfield and Guthrie, 1997) that tapped different dimension to assess pupils' reading motivation. To interpret the gathered data in the problem investigated, the researcher made use of the weighted mean and T-Test of paired samples. The findings revealed implies that FIRE Program has a significant effect in increasing Grade IV pupils' motivation, creativity, and skills in reading who got a computed t-test value of nine point seventy (9.70) with the degree of freedom of one hundred sixty two (162) having a critical value of one point six hundred forty five (1.645) using five percent (5%) level of significance that made the hypothesis rejected. In light of the findings, the implementation of FIRE Program in Urduja Elementary School showed effectiveness in increasing pupils' motivation in reading and develop reading and creative skills of pupils.

Finally, the researchers recommended that Fun in Reading Exercises Program may be adopted by schools increase pupils' motivation, creativity and skills in reading.

Keywords: concepts studied, creative skills, reading motivation, reading skills, and methods

I. INTRODUCTION

Background of the Study

In recent years, more attention is being paid to the concept of reading motivation. Reading has proved to be the most important component of literacy in scholastic achievement and achievement of life goals. Some educators are both alarmed and concerned about the lack of time students have for reading for enjoyment that is seem to be an ongoing problem to instill pupils the love for literature (Garan&DeVoogd, 2006). If pupils do not become an active and engage readers in the elementary school, it is unlikely that they will develop reading motivation in secondary school and later or, as Sanacore (2002) says, becoming a lifetime reader in predicted on developing a love of reading. Similar definition of engaged readers by Gutherie and Cox (2001) as pupils who are intrinsically motivated to read for the knowledge and enjoyment. But engaged readers are also known to be strategic. In able to comprehend text, readers used strategies. Engaged readers are also with and frequent readers. Reading motivation is defined as an inseparable part of the whole reading efficiency and the readers' engagement, which is tightly linked with pupils' entire scholastic achievement according to the experts in the field of motivation (Baker &Wigfield, 1999; Gutherie et al., 1996; Gambrell, Palmer, Codling, & Mazzoni 1996; Magajna & Gradisar, 2002). Furthermore, reading attitude has shown to affect reading growth, and giving students choices among texts has shown to be important in creating positive reading attitudes (Yoon, 2002).

As teachers, motivating pupils to read is an occurring problem so we think of some ways in order to increase pupils' motivation and interest in reading. Our research will emphasize the effectiveness of

reading intervention in increasing pupils' motivation in reading which will be used to engaged readers inside the school. Using this reading intervention can increase the potential of every individual to become lifelong readers.

Because many pupils lack motivation and interest to read inside and outside of school, educators must recognize the importance of providing an opportunity during the instructional day for pupils to build intrinsic motivation for personal and recreational reading. Expecting pupils to read is not sufficient so pupils must engage in pleasurable reading that provide opportunities for pupils. In addition, educators must find modern ways to teach pupils not just how to read, but should also promote the why of reading (Arrow smith, 2012). The three intrinsic motivations for pupils reading are: being fully engaged in a good book, reading about topics they are interested in, and incorporating meaningful opportunities to talk about books. Building their self-confidence as a reader, introducing a variety of comprehension strategies to help pupils understand what they are reading, allowing the pupils to make choices for their reading, giving frequent feedback, and connecting reading to their personal interests are some of the motivators for pupils. Pupils who are motivated and involved in their reading increase their comprehension and develop reading skills that will connect the pupils overall achievement inside and outside the school. (Arrowsmith, 2012). Furthermore, Dreher (1999) states that educators must subject pupils to variety of text that will stimulus pupils' interest and motivation to read similar text. Pupils are encouraged to read self-selected books and keeping a reading log during reading intervention is a helpful way to supervise the balance of different types of texts which give the pupils a sense of accomplishment (Dreher, 1999).

Statement of the Problem

This research study aimed to determine the effectiveness of Fun in Reading Exercises Program on the Grade four pupils' motivation, creativity, and skills in reading of Urduja Elementary School.

Specifically, the research study sought to answer the following questions:

1. Will FIRE Program help increase the reading motivation of Grade pupils?

2. Will FIRE Program develop the creative skills of Grade IV pupils?

3. Will FIRE Program help to develop the reading skills of Grade IV pupils?

Hypothesis of the Study

The researchers hypothesized that: There is no significant difference between the level of motivation of pupils before and after exposure to Fun in Reading Exercises (FIRE) Program.

Rationale of the Study

This study will be beneficial to the following groups of persons:

For the respondents, who are the direct beneficiaries of this study, Fun in Reading Exercises Program will increase their motivation in reading.

For the teachers, to help them be aware about the significant effect of Fun in Reading Exercise Program in increasing pupils' motivation, creativity and skills in reading. This can give them ideas on how to improve the motivational skills of each pupil to lessen the number of pupils who lacks interest in reading and to realize the strengths and weaknesses of the program in reading.

For the Principal, in order to use the information generated from the study to increase the exposure of pupils in the highly academic environment.

For the school, it will be an effective program that produces competent learners with high comprehension to learn more independently including all other subject areas aside from communication skills subjects.

Lastly for the future researchers, for they could have a wide range of ideas about increasing pupils' motivation in reading. And this will also serves as reference to those who will be conducting or enhancing the same research proposal.

Scope and Delimitation

The study was conducted to determine the effectiveness of Fun in Reading Exercises Program in increasing Grade IV pupils' motivation, creativity, and skills in reading at Urduja Elementary School during the school year 2016-2017. The study focused in enhancing the reading motivation skills through developing the creative arts and reading skills of the Grade IV pupils. The respondents were the seventy-two percent (32%) ofof Grade IV with a total of four hundred ninety seven pupils (497) pupils.

Definition of Terms

The following terms were defined as operational.

Creative skill - is the act of turning new and imaginative ideas into reality and characterized by the ability to perceive the world in new ways in producing something new.

Enhancement exercises - are exercises that lead to formation of visual images.

Extrinsic motivation - refers to behavior that is driven by external rewards such as money, fame, grades, and praise. This type of motivation arises from outside the individual,

as opposed to intrinsic motivation, which originates inside of the individual.

Fun Reading Lesson – lesson intended to educate and entertain.

Intrinsic motivation - It is driven by an interest or enjoyment in the task itself, and exists within the individual rather than relying on external pressures or a desire for reward.

Reading motivation - is the pupil's motivational drive to read, an area of interest in the field of education and is important in the process of teaching and fostering learning.

Reading skill - it is the ability of the pupils to turn writing into meaning and achieve the goals of independence, comprehension, and fluency.

Conceptual Framework

The conceptual framework of this study was based on the systems view concept using the input – process-output model.

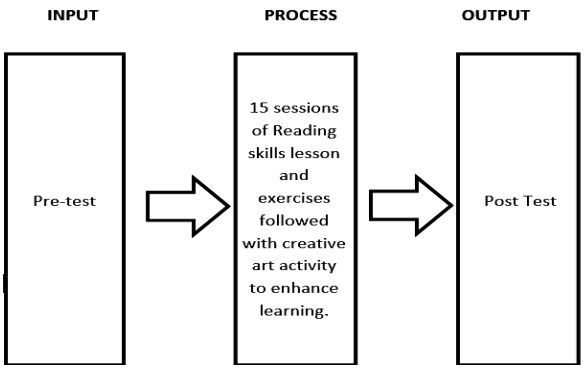

Figure 1.

Research Paradigm
A Conceptual Model Showing the Effect of Fun in Reading Exercises on Pupil's Motivation, Creativity, and Skills in Reading

Review of Related Literature

Albert Bandura's social cognitive theory, previously social learning theory (Bandura, 1977), provides the framework for both the teacher modeling of the enjoyment of reading and the motivational aspects students need to become lifelong readers. Observational learning, resulting from teacher modeling, and intrinsic motivation contribute to effective reading intervention program such as SSR (Sustained Silent Reading). In addition, Bandura's theory states that the goal of SSR which is to provide opportunities for children to experience the satisfaction or enjoyment of reading, with the definitive goal being to create an expanding reading habit. From the social cognitive perspective, "Motivation is primarily concerned with how behavior is activated and maintained" (Bandura, 1977, p. 160). For example, enjoyment of reading is not just an intrinsic reward which serves as a motivator, but also the anticipation of future benefits resulting from sustained effort is motivational (Bandura,1977, p. 161). Basically, people will exert effort in the present in anticipation of future self-satisfaction. Hence, setting achievable goals and working to meet them is an aspect of motivation: A cognitively based source of motivation works through the intervening influences of goal setting and self-regulated reinforcement. Self-motivation requires standards against which performance is evaluated. When individuals devote themselves to explicit goals, perceived negative discrepancies between what they do and what they seek to attain create dissatisfactions that serve as motivational stimuli for change. (Bandura, 1977, p. 161) Positive self-evaluation then is dependent upon meeting the goals people determine for themselves. Having the pupils to set personal reading goals as explained by Bandura may motivate them to eagerly chase their goals. Thus pupils can view themselves as successful readers who should set higher goals and be more ready to engage in reading drills.

In addition, according to Deci and Ryan (1987) self-determination theory recommended four important dimensions of reading motivation and these are competency, relatedness, autonomy, and interest. These dimensions were examined in greater detail by Wigfiled and Gutherie (1997) in the Motivation for Reading Questionnaire that consists of 11 dimensions that form three categories: competence and self-efficacy beliefs, reading goals, and social purpose of reading. Self-efficacy beliefs are necessary for the development of intrinsic motivation that can help pupils to become successful readers. The second category concerns the purpose children see in reading – reading goals, and includes intrinsic motivation (curiosity, involvement, and importance) and extrinsic motivation (recognition, grades, and competition). An intrinsically motivated person is eager to learn who shows attentiveness in a certain activity because of the activity alone and not because of external reasons. On the other hand, extrinsically motivated person is interested first of all in overtaking others. In reading recognition, it means the aspiration for public acknowledgement of reading achievement. And the third category is social purpose of reading that includes social activity and the social aspects for reading and compliance.

In this study, the researcher aims to determine the effect of Fun in Reading Exercises Program in pupils' motivation, creativity and skills in reading considering motivation as a factor that stimulates reading and influences reading activity.

II. RESEARCH METHODS

Research Design

The researchers used the experimental research design which is a method or procedure involving the control or manipulation of conditions for the purpose of studying the relative effects of various

treatments applied to members of a sample.

The researcher used single group with a pre-test and post-test design in which group was given a pre-test about the subject matter to be covered in the experiment before they have been exposed to a certain experimental factor which was the FIRE program. Then, after the experimental factor period, the group was given a post-test to determine the effectiveness of the program in increasing pupils' motivation in reading.

Participants

The researchers' respondents were the Grade four pupils of Urduja Elementary School, S.Y. 2016-2017. The population of the Grade four pupils in the school was four hundred ninety-seven (497).The Grade four classes were composed of eleven (11) sections from morning and afternoon sessions. The researchers took the thirty-three percent (33%) of the population which means that 33% of 497were one hundred sixty-three (163) respondents.

Locale of the Study

The locale of the study was at Urduja Elementary School located at Sikatuna Exit, Urduja Village Caloocan City.

Instruments

The researchers used the adopted version of the Motivation Reading Questionnaire (MRQ; Wigfield and Guthrie, 1997). The questionnaire consists of 40 items tapping all dimensions of reading motivation: Reading Efficacy, Reading Challenge, Reading Curiosity, Aesthetic Enjoyment of Reading, Importance of Reading, Reading Recognition, Reading for Grades, Social Reasons for Grading, Reading Competition, Compliance, and Reading Work of Avoidance. Itwas answered on a 1 to 4 scale with answer choices ranging from *very different from me* to *a lot like me*; higher scores mean stronger endorsement of the item. A total score can be derived by summing the scores of all the items for each proposed dimensions of reading motivations (with the exception of the Work Avoidance items) and divide by the number of items completed in each scale.

Data Gathering Procedure

The researchers administered the Motivation Reading Questionnaire to the respondents. To determine the motivation level of the pupils before they underwent a reading intervention, the pupils were asked to answer the questionnaire as the pre-test. After taking the MRQ, all the pupils underwent the reading intervention named as FIRE Program. Pupils had read the reading selection silently for 20-30 minutes, answered the questions based on the story that they have read, and made an output whether in a form of song, poem, collage, drawing and all other creative ways to assess they comprehension. After the reading intervention, same questionnaire was administered to the respondents as their post-test to determine the effect of FIRE Program on the motivation of pupils in reading.

The data gathered from the respondents that were taken from the result after the pre-test and post-test were carefully tabulated, treated and interpreted to determine the effect of FIRE Program on pupils' motivation, creativity and skills in reading.

Statistical Treatment of Data

The data that was yielded from the questionnaire was tabulated from the questionnaires and were subjected to statistical treatment.

The statistical tool used in the research was:

1. Average Weighted Mean

The statistical treatment was used to analyze the data gathered from the pre-test and post-test results.

where: $$\bar{x} = \frac{\Sigma fr}{n}$$

$\bar{x}$ = mean

f = frequency

r = raw score

n = total number of respondents

Σ = summation

2. *t*-Test of Dependent Mean

This statistical treatment was used to determine whether the Fire Reading Exercises Program has a significant effect in increasing the pupils' motivation in reading after being exposed in the program.

where: $$t - test = \frac{\Sigma D}{\sqrt{\frac{(n\Sigma D^2) - (\Sigma D)2}{n-1}}}$$

n = number of cases

D = difference between pre-test and post-test

Σ = summation

III. RESULTS AND DISCUSSIONS

In order to determine the Effect of Fun in Reading Exercises (FIRE) on pupils' motivation, creativity, and skills in reading, pupils' pre-test and post-test scores Motivation for Reading

Questionnaire were computed and tabulated to test its significant difference.

TABLE 1
Reliabilities for the Reading Motivation Scales

DIMENSION (SCALE)	PRETEST (FALL)	POST TEST (SPRING)
READING EFFICACY	69.37	81.03
READING CHALLENGE	63.29	74.46
READING CURIOSITY	70.26	74.10
AESTHETIC ENJOYMENT OF READING	68.09	74.49
IMPORTANCE OF READING	75.90	83.37
COMPLIANCE	72.39	79.11
READING RECOGNITION	64.22	72.42
READING FOR GRADES	72.59	83.34
SOCIAL REASONS FOR READING	61.42	71.65
READING COMPETITION	62.39	77.26

Table 1 showed the reliabilities for the Reading Motivation Scales at both the fall and spring times of measurement wherein reliabilities of each dimensions that has a value of .70 are preferable. As shown in the table, most of the dimensions of reading showed reasonable internal consistency as the spring times of measurement or post test results obtained a value of more than .70.

TABLE 2
Table of Computed Mean in Pretest and Post Test of Reading Dimensions

READING DIMENSION	PRETEST	POST TEST	MEAN DIFFERENCE
Reading Efficacy	2.13	2.49	0.36
Reading Challenge	1.94	2.28	0.34
Reading Curiosity	2.16	2.27	0.12
Aesthetic Enjoyment of Reading	2.09	2.28	0.20
Importance of Reading	2.33	2.56	0.23
Compliance	2.22	2.43	0.21
Reading Recognition	1.97	2.22	0.25
Reading for Grades	2.23	2.56	0.33
Social Reasons for Reading	1.88	2.20	0.31
Reading Competition	1.91	2.37	0.46
OVER-ALL	2.09	2.37	0.28

Table 2 showed that Reading Competition as the dimension of reading motivation got the highest increase with mean difference result of 0.46, followed by Reading for Efficacy, obtained a mean difference of 0.36, Reading Challenge with a mean difference of 0.34, Reading for Grades with a mean difference of 0.33. Social Reasons for reading has obtained a mean difference of 0.31, Reading Recognition with a mean difference of 0.25, Importance of reading got also a mean difference of 0.23, Reading for Compliance with 0.21 mean difference, Aesthetic Enjoyment of Reading with 0.20 mean difference and lastly, Reading Curiosity got mean difference of 0.12 which was the reading dimensions that got the lowest mean difference result.

This implied that respondents' reading motivation measuring ten dimensions showed an increase of mean value.

Table 3
Significant Effect of Fun in Reading Exercises (Fire) On The Pupils' Motivation, Creativity And Skills in Reading (0.05 level of Significance)

Respondents	T-test	Degree of Freedom	Critical Value	Decision	Interpretation
Grade 4 Pupils	9.70	162	1.645	Reject Ho	There is a significant effect

In Table 3, it showed that the computed t-test value was nine point seventy (9.70) with the degree of freedom of one hundred sixty two (162) having a critical value of one point six hundred forty five (1.645) using five percent (5%) level of significance, it means that the Null Hypothesis was rejected. Therefore, Fun in Reading Exercises (FIRE Program) has a significant effect on pupils' motivation, creativity, and skills in reading.

IV. CONCLUSION AND RECOMMENDATIONS

Summary of Findings

Summing all the gathered data, the researchers had found out that:

1. Based on the result of t-test of dependent means revealed that the Fun in Reading Exercises Program has a significant effect on pupils' motivation, creativity, and skills in reading.

2. Throughout the reading sessions, Fun in Reading Exercises Program developed the creative and imaginative skills of Grade IV- pupils through different art activities based on the stories they had read.

3. With the full reinforcement and facilitation of teachers, Fun in Reading Exercises Program developed the motivation reading skills of Grade IV pupils as they read different selection throughout the sessions.

Conclusion

In light of the findings, the following conclusions were drawn:

1. The implementation of Fun in Reading Exercises Program in Urduja Elementary School proved to increase pupils' motivation in reading. Project FIRE motivates the pupils regarding the importance of reading in complying and getting good grades, this serves as the extrinsic motivation which initially positive, considered as initial starters to have the casual and ordinary habit of love for reading. This means that FIRE Program has a significant effect in increasing pupils' motivation in reading. Eventually become having reading as casual and normal study skill for other application to develop self-learning.

2. Fun in Reading Exercises Program leads to develop Grade IV pupils' creative thinking skills through creative arts.

3. The implementation of Fun in Reading Exercises Program increases comprehension reading skills of pupils.

Therefore, the implementation of Fun in Reading Exercises Program showed effectiveness on pupils' motivation, creativity, and skills in reading.

Recommendation

This research offers the following recommendations based on the following conclusions:

Fun in Reading Exercise Program is advised as starter for lower grades which are on stage of developing the reading habits and skills. It will easily acquire the reading comprehension and other related skills. As well as, to get high grades to be more inspired and excited to read.

Fun in Reading Exercise Program is a reading intervention technique in which teacher will serves as learning facilitator that leads to develop experiential learning.

Fun in Reading Exercise Program is generally across all learners in different level. Thus, it needs appropriate reading materials and match developing learning activities for benefits and facilitates effective teaching and learning process.

Fun in Reading Exercise Program ensures of delivering learners-centered instructions wherein teachers as facilitator of learning and pupils who are in -charge of their own learning yield the essence of K to 12 Basic Education Program. Therefore, FIRE intervention is considered as vehicle for self-learning in the classroom. Later on, develop confidence of learner to learn on their own.

Lastly, Fun in Reading Exercise Program which initially assessed the pupils' extrinsic motivation leads to the development of another reading intervention that ensures the development of learners' intrinsic motivation to read for a holistic reading skill development.

V. BIBLIOGRAPHY

A Wigfield, JT Guthrie (2000)- Handbook of Reading Research. Engagement and Motivation in Reading (pp.403-417).

Jenna Cambria, John T. Guthrie (2010). Motivating and Engaging Students in Reading, 16-27.

Linda Gambrell, Barbara Marinak (2009). Reading Motivation: What the Research Says,http:// www.readingrockets.org/article/reading-motivation-what-research-says

Lucas, Maria Rita D &Corpuz, Brenda B.(2007). Facilitating Learning: A Metacognitive Process. Metro Manila

http://www.literacyconnects.org/img/2013/03/ Motivating-and-engaging-students-in-reading-Cambria-Guthrie.pdf

http://scholarworks.gvsu.edu/cgi/viewcontent.cgi?

article=1525&context=theses

http://sophia.stkate.edu/cgi/viewcontent.cgi?

article=1105&context=maed

You don't have to be great to start, but you have to start to be great.

Zig Ziglar

PSYCHO-SOCIAL FACTORS of LEARNING AMONG STUDENTS at RISK of DROPPING OUT (SARDO's) at HORACIO DELA COSTA

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ABSTRACT

Many practical studies are carried out that investigate the psycho-social factors affecting learning of students. Research has shown that students' learning in school can be affected by many variables such as parental involvement, family rules and family resources. The first step is to consider what we know about practices that can accelerate the positive achievement of students in danger of school failure. Although it is believed that every student can learn, it is still possible to develop feasible programs to ensure that every child learns more effectively.The focus of this research is to determine those psychosocial factors that affect the learning of students who are at risk of dropping out at Horacio De La Costa High School. The following are the instruments used to determine the students' profiles: Information : age, parents' level of education and home condition Environment: The data that would come through assessments from a group of junior and senior students who are at risk of dropping out from school. However, of the 562 students, only one hundred respondents (50 grade 9, 25 grade 10 and 25 grade 11) were to be involved using stratified random sampling in the selection. In addition, relevant data would be collected through questionnaires. Statistical tools: Non-parametric testing, chi-square and Friedman's analysis of variance. The study would establish that there is a significant difference in the psycho-social factors affecting the learning of students at risk of dropping out (SARDO's) when their profiles are grouped together. It would also conclude that in terms of motivation (family involvement), social interaction skills (family rules) and family economic support (family resources), it is the latter's economic support, a major psycho-social factor, thatis paramount in the facilitation of learning achievement of students who are at risk of dropping out (SARDO).

Keywords: psychosocial factors, learning, students-at-risk, drop-out, achievement

INTRODUCTION

In one of Aesop's fables, a tortoise challenged a hare to race. The hare accepted the invitation confident that he would win. The hare ran very fast and, after running a while, turned his head but could not see the tortoise. "Why not take a nap? I will win this race for sure," he thought, and immediately went to sleep.

However, the slow-moving tortoise kept moving, passed the sleeping hare and eventually won the race. This fable is often told to underscore how diligence can make up for lack of ability. Stated another way, the fable illustrates how psycho-social factors (PSF's) such as **diligence** and **motivation** are essential to the development of competence in any domain of non-trivial difficulty.

Thus, long-term academic achievement is, in part, a product of sustained effort. In contemporary education, PSF's such as motivation **(family involvement),** social interaction skills **(family rules)** and family support **(family resources)** have been widely acknowledged as necessary for scholastic success. PSF's can even be viewed as important outcomes of education (Clouder et al., 2008; Lee & Shute, 2010). Additionally, PSF's can be used to assess students' risk for academic failure (Lee & Shute, 2010; Zins, Bloodworth, Weissberg, &Wallberg, 2004). Although many educational policies and interventions stress the improvement of students' performance in school, the goal of this study is to measure the impact of PSF's associated with the students' performance among junior high school (grades9 & 10) and senior high school students (grade 11) of Horacio dela Costa High School to prepare them, both for academic success in school and as life-long learners after school years through the integration of academic learning and social-emotional skills. It is important for students to do well in school because this lays the foundation in furthering their education.

Failure of students to complete their assignments and their inability to do well in tests may not only affect their opportunity to move to the next grade level and hinder their opportunity for graduation but at the same time, may determine the kind of future they might have. However, students

are not alone; parents also play a critical role in the formers' academic success. Thus, parents and teachers need to work together in motivating the students to do their best in school. Students, who are usually able to meet their parents' expectations in school, come out as successful citizens in the end.

This research has been attempted to see the significant difference of the psycho-social factors affecting the learning of SARDO's in terms of: Motivation (family involvement), Social interaction skills (family rules), Family support (family resources) among junior and senior high school students of Horacio De La Costa High School.It seeks to determine which variable/sgreatly affect the students' risk of dropping out from school, the variables that hinder the growth of self-esteem and even those variables that prevent a student from attaining his dream profession later in life.

In this research, a student "at risk" is described as one who is in danger of failing to complete his or her education with different variables. Risk factor variables include motivation (parent involvement at home), social interaction skills (parent involvement with school), and family support (parent's resources).

Statement of the Problem

The purpose of this study was to investigate the roles played by PSFs in predicting academic achievement among students at risk of dropping out (SARDO) of school and the different effects of PSF's for students who differed in academic 7 achievement and psycho-social predictors.

The study is focused on determining the psycho-social factors of learning among students at risk of dropping out at Horacio De La Costa Homes II. Specifically, the study seeks the answer to the following questions:

1. What is the profile of SARDO's in terms of: age, parent's education, home environment?
2. How do respondents (students and teachers) assess the
3. Psycho-social factors affecting students' learning in terms of:
   - Motivation (family involvement)
   - Social interaction skills (family rules)
   - Family support (family resources)

4. Is there a significant difference in the psycho-social factors affecting the learning of SARDOs when they are grouped according to profile?

5. How may the findings of the study be utilized towards an intervention program?

Review of Related Literature

Predictive Validity of PSFs

PSFs are predictors of and mediators for later students' learning in both K-12 and higher education settings (Dymnicki, 2004; Kyllonen, Walters, & Kaufman, 2005; Lounsbury, Welsh, Gibson, &Sundstrom, 2005; Payton et al., 2008; Robbins, Oh, Le, & Button, 2009). Several studies have shown that PSFs such as self-efficacy, motivation, locus of control, attitude toward learning, attention, persistence, use of learning strategies, and learning flexibility add incremental validity to cognitive factors, such as ability and prior achievement, in predicting future academic achievement (Grigorenko et al., 2009; Yen, Konold, & McDemott, 2004). Similarly, a review of social and emotional learning in elementary school found that self-awareness, self-management, social awareness, relationship skills, and responsible decision making improve students' academic performance (Payton et al., 2008). Using a large cohort of students from 7th and 8th grade through early high school, Casillas et al. (in press) proposed a comprehensive assessment model combining PSFs (such as motivation, social control, and self-regulation), behavioral indicators (e.g., absenteeism, being held back), and prior academic achievement with demographic and school context variables to predict academic success.

Results of their analyses show that PSFs add modest incremental validity in the assessment model. PSFs also impact school completion. Over 25% of students who entered public high school in 9th grade in 2003-2004 did not stay on track to graduation four years later (Snyder, 2010). Rumberger and Lim (2008) reviewed studies of dropouts conducted over the past 25 years and found that PSFs such as attitude and characteristics of family and school personnel, along with prior academic achievement and learning behaviors, can differentiate between students who graduate and those who drop out of high school. In studies of college students, Robbins, Allen, Casillas, Peterson, and Le (2006) used a combination of PSFs including academic discipline, social activity, self-regulation, prior academic performance, and achievement test scores to predict the retention of first -year college students. Robbins et al. found that PSFs added incremental validity (about 3.5% of variance) to the prediction model. Similarly, in studies of graduate students, PSFs such as personality and attitudinal factors added incremental validity to college GPA and standardized exams (e.g., Graduate Record Examinations) in the prediction of attrition and time to degree (Kyllonen et al., 2005)

Achievement motivation

The term "motivation" in this study refers to motivation to achieve academic outcomes in educational settings via certain personality characteristics and attitudes. Although the earliest scientific studies of human motivation date back to

Freud's work in the late 19th century (Atkinson, 1964; McClelland, 1961), it is believed that research based theories of achievement motivation using clinical approaches were derived from Murray's concept of motives and grounded in experimental studies conducted by McClelland and his colleagues (Dweck, 2000; McClelland, Atkinson, Clark, & Lowell, 1953). Murray (1938) defined n Achievement (need for achievement), as the need "to overcome obstacles, to exercise power, to strive to do something difficult as well and as quickly as possible" (p. 80). Instead of providing a precise definition of achievement motivation, McClelland et al. (1953) described achievement motivation in terms of "affect in connection with evaluated performance" (p. 79). Specifically, they argued that children were more likely to show higher achievement motivation when they felt the need to conform to external standards of excellence, typically imposed by their parents and the surrounding culture (McClelland et al., 1953).

In addition, Maslow (1954) proposed a basic need hierarchy consisting of physiological needs, safety needs, belongingness and love needs, esteem needs, and self-actualization needs. The esteem needs include the desire for achievement, mastery, and competence (Maslow, 1954). These various theories of achievement motivation were widely studied until the beginning of the 1970s (Elliot, 1997).

In the 1970s, trait-based approaches to understanding need achievement were criticized for failing to incorporate goals and cognitions (e.g., beliefs and attributions) (Dweck, 2000). In response to these criticisms, studies of educational achievement changed from a trait paradigm to a social-cognitive paradigm that focuses on the relationship between antecedents, mental representations, and consequences (Olson &Dweck, 2008). Achievement motivation was described in terms of psychological mechanisms, environment, and interventions, rather than as a trait (Olson & Dweck, 2008). For example, Dweck (2000) argued that people have personal theories in which they view abilities either as fixed (an entity theory) or as a malleable (an incremental theory). Those who hold an entity theory of ability view their intelligence as an unchangeable trait.

However, those who hold an incremental theory view their intelligence as something that can be developed through effort and education. As might be expected, students with an incremental perspective show better performance when facing challenging tasks (Dweck, 2000; 2008). Attributing setbacks and failures in learning to a lack of effort rather than to a lack of ability results in greater persistence in learning (Dweck, 2000; Weiner, 1985). In more recent studies (Casillas et al., in press; Le et al.,2005; Robbins et al., 2004), Robbins and his colleagues used the term "motivation" to capture the broad concept of motivation in educational environments. They described motivation in terms of students' personal characteristics that elicit and maintain their drive in goal-oriented learning activities and that foster their academic success.

These personal characteristics at the secondary-school and college levels include, but are not limited to, academic discipline, commitment, optimism, conscientiousness, goal focus, and academic self-confidence (Casillas et al., in press; Le et al., 2005).

Social Interaction Skills

The term "social interaction skills" in this study refers to students' perception of their family's engagement, particularly family members' attitudes regarding the value of education and their involvement in school activities, and their relationships with school personnel. It also includes perceptions of school safety. Social interaction skill was first defined as "the ability of social groups or institutions to make norms or rules effective" (Reiss, 1951, p. 196), and this definition of social control has been used to explain delinquency as, in part, a failure of the individual to perceive or accept social interaction skills from their environment (Hirschi, 1969; Reiss, 1951). The main idea of social interaction skill in a control theory of delinquency is that when individuals perceive expectations from and have relationships with people or social groups in the surrounding environment, they have a lower likelihood of breaking social norms (Hirschi, 1969). In particular, the notion of attachment, a key element of social bonds, includes the relationships between students and both their family members and school personnel (Hirschi, 1969; Wiatrowski, Griswold, &Roberts, 1981).

Therefore, from a sociological perspective, family members' attitudes towards education and their involvement in their child's education as well as the student's relationships with school members are all embedded within social control theory and are consequently related to children's delinquent behaviors (Hirschi, 1969; Reiss, 1951). Social control also can be construed as students' perception of personal and physical resources in the social environment that would support them in their learning (Robbins et al., 2009). For example, students who perceive school personnel or family members as providing higher levels of support in school activities are more likely to seek out teacher support and other learning resources in school. On the other hand, students who disengage from educational support social groups, such as family and school, have fewer opportunities to achieve learning goals. Further, when students perceive their school as having a safe climate, they are less likely to show deviant behaviors and are more likely to engage in learning activities (Goldstein, Young, & Boyd, 2008; Sprague & Walker, 2005).

Economic support of individuals: The role of the family

A large and established body of research evidence has shown the significance of the family as a major institution for carrying out essential production, consumption, reproduction, and accumulation

functions that are associated with the social and economic empowerment of individuals and societies.

The key pathways to these functions and, in turn, to social and economic empowerment include family capital and family resilience. The concept of family capital borrows from the literature on social capital where the latter refers to "resources embedded within a person's social network that influence decisions and outcomes by shaping a personal identity while delineating opportunities and obstacles within a person's social world" (Belcher et al, 2011:69).Social capital has also been described as "those social relationships that allow individuals access to resources possessed by their associates, and to the amount and quality of those resources upon which people depend for social, economic and emotional support" (Belsey, 2005:17).

To this end family capital provides enabling resources and strengthens the capacity of individual family members to function and attain their current and future goals and objectives. Family resilience, on the other hand, refers to the ability of families "to withstand and rebound from disruptive life challenges" (Walsh, 2003:1)and is especially critical for the most vulnerable individuals and families who, in terms of family function, can be described as those likely to experience the following (Belsey, 2005:20): - the inability to meet the basic needs of their members in the areas of gender, nutrition, shelter, physical and emotional care, and the development of individual; - Physical and psychological exploitation, the abuse of individual members, discrimination against the family or individual members, injustice in the distribution of rights and responsibilities and/or distortion of the roles of family members; and - a higher likely hood of breaking up as a consequence of external economic, social and/or political factors.

According to Silliman (undated:3), families and their members demonstrate resiliency when they build caring support systems and solve problems creatively, while their resilient behavior can be reflected in the maintenance of normal development of optimism, resourcefulness and determination despite adversity (Silliman, undated; Belsey, 2005). These strengths and resources enable individuals to respond successfully to crises and challenges, to recover and grow from those experiences, and to generally attain empowerment (Walsh, 2003). Against the above background it is evident that both family capital and family resilience emphasize the importance of nonmaterial resources which, while not easily measurable, have a significant effect on the family's ability to shape the future. These are attained through instrumental and affective roles of the family (Patterson, 2002). Instrumental roles are concerned with the provision of physical resources such as food, clothing and shelter while affective roles promote emotional support and encouragement of family members (Peterson, 2009).

Those roles that have the potential to enhance the socio-economic empowerment of individuals include membership and family formation; economic support; nurturance, support, and socialization; and protection of vulnerable members.

PSF Effects in Predicting Students-At-Risk of Dropping Out

The prediction of students-at-risk of dropping out from PSFs such as motivation, social interaction skills, and family supportsupport has been studied extensively. Students-At-Risk of Dropping Out is variously estimated by grade point average, standardized achievement test scores, and level of degree attained, depending on the study. In addition to relationships between PSFs and students-at-risk of dropping out, the links among PSFs, parental involvement is discussed in this section.

Motivation and academic achievement

Numerous studies have shown that students with higher motivation are more likely to attain better academic outcomes (Covington, 2000; Csikszentmihalyi, Rathunde, & Whalen, 1993; Deci, Vallerand, Pelletier, & Ryan, 1991; Dweck, 2000; Hustinx, Kuyper, van der Werf, &Dijkstra, 2009; Pintrich& De Groot, 1990; Steinmayr & Spinath, 2009). Martin (2009) argued that secondary school students are less likely to be motivated and engaged when compared to elementary school and college students. Less motivated students are more likely to show poor academic achievement and therefore have a greater likelihood of dropping out between grades 10 and 12 (Allensworth& Easton, 2007; Balfanz, Herzog, & Mac Iver, 2007; Neild, Balfanz, & Herzog, 2007; Rumberger& Lim, 2008). Furthermore, Heckman and Rubinstein (2001), who examined students with General

Education Degrees (GEDs), found that, even though GED recipients had higher average ability than other high-school drop outs, GED recipients demonstrated poor persistence and an inability to plan ahead when compared with peers who had not dropped out of high school. One possible explanation of relationships between motivation and academic achievement is that students who are highly motivated academically choose more stimulating learning environments where they develop better academic skills (Shiner, 2000). Not all studies support the importance of motivation in the prediction of achievement. For example, Gagné and St Pére (2001) studied female 8th graders in an all girl high school and found motivation did not predict academic achievement after controlling for students' cognitive ability. Critics of the study suggested that the failure of observe effects for motivation reflected a restricted range of motivation in the sample, the use of an instrument lacking construct validity, a domain-unspecific measure, or a short term study design (Hustinx et al., 2009; Steinmayr & Spinath, 2009). Bandura (1997)

described how the perceived causes of success and failure influence an individual's anticipatory cognitive motivators which, in turn, affect performance. There may be sex differences in the types of attributions students make. For example, Assouline and her colleagues found that female gifted students were more likely to attribute general school academic success to long-term effort, whereas male gifted students were more likely to attribute success to ability (Assouline, Colangelo, Ihrig, &Forstadt, 2006).

Social control and academic achievement

Students with better social skills and more involvement in extracurricular activities have better academic achievement, and earn higher salaries in their chosen fiel (Fredricks, Blumenfeld, &Paris, 2004; Lleras, 2008).

Dropouts show less engagement with school activities and tend to have estranged relationships with teachers and peers (Renzulli & Park, 2000; Rumberger& Lim, 2008). On the other hand, students who have strong relationships with teachers and peers are more likely to attend class (Allensworth & Easton, 2007). Also, students perform better in safer schools (Creemers, 1994; Gronna & Chin-Chance, 1999). In addition to school environment, family plays an important role in students' learning. When students perceive support from parents, they tend to adjust better during the transition between middle school and high school (Isakson & Jarvis, 1999). Met analytic studies show that parent involvement, especially parental aspirations and expectations for education, predict academic achievement (Fan & Chen, 2001; Hill & Tyson, 2009). Also, Eamon (2005) argued that differential parenting practices might lead to the sex differences in achievement. Specifically, female students might receive more rules or supervision from parents, and, in turn, perform better in school. In sum, social control – including relationships with school personnel, school safety, and family engagement in school learning -- is a significant predictor of later academic achievement.

METHODOLOGY

In the Division of Caloocan, the extensive phenomenon of school dropout is a prime policy concern in the light of individual, social and economic consequences. Although the authorities report an overall decrease of the national dropout rate, the proportion of early school leavers who remain without any specific occupation is still alarming. In this view, the study intends a shift of focus from system-inherent to individual factors, including school relationship and family correlates, to provide a more comprehensive analysis of the dropout phenomenon. A quantitative method supported by a student survey was used to collect appropriate data for this study. The purpose of this study was to determine whether or not there is a significant difference in the psychosocial factors affecting of SARDOs when they are grouped according to profile. The independent variables are: Motivation (family involvement), Social interaction skills (family rules) and Environmental support (resources).

Research Questions and Design

The quantitative approach is a non-experimental design. Descriptive data were collected and relationships among variables were explored.

The research questions for this study are the following:

1. What is the profile of SARDO's in terms of: age, parent's education, home environment?
2. How do respondents assess the psychosocial factors affecting their learning in terms of:
   - Motivation (family involvement)
   - Social interaction skills (family rules)
   - Family support (family resources)
3. Is there a significant difference in the psychosocial factors affecting the learning of SARDOs when they are grouped according to profile?
4. How may the findings of the study be utilized towards an intervention program?

The data produced as a result of these questions will provide valuable information for public schools as they continue to develop initiatives to promote academic excellence among all students, with specific focus on at-risk learners. Knowledge of factors that directly impact the achievement of at-risk learners will allow educators to initiate more effective programs for these students.

Descriptive research and documentary analysis were used in this study in order to achieve its purpose. This type of research describes what exists and may help to uncover new facts and meaning. The purpose of descriptive research is to observe, describe, document aspects of a situation as it naturally occurs (Polit&Hungler 1999)This involves the collection of data that will provide an account or description of individuals, groups or situations.

Population

The population for this study consisted of 9th-10thgrade junior high school and 11th grade senior high school students in the Horacio De La Costa High School in Division of Caloocan; 50 grade 9, 25 grade 10 junior high school and 25 grade 11 senior high school were randomized through stratified sampling were given the opportunity to participate in a survey addressing variables contributing to, or limiting, the learning of students-at-risk of dropping out. The

response rate of the population was noted as data were collected. A demographic information for each student, including age, parent's educational attainment, and home environment were collected. Other data in the SES from students were not included in the analysis.

Sampling Plan

The study made use of stratified random sampling. In **stratified random sampling**, the strata are formed based on members' shared attributes or characteristics. A **random sample** from each stratum is taken in a number proportional to the stratum's size when compared to the population. These subsets of the strata are then pooled to form a **random sample**.

Instrumentation and Data Collection Procedures

A survey was created for this study. After identification of the population and collection of permission from parents and guardians, the surveys were distributed in grade 9 and 10 junior high schools in the Horacio De La Costa High School. After the endorsement of the Principal, Mrs. Marivic B. Cruz and receiving the approval of the Superintendent, Mrs. Rita E. Riddle to conduct the research with a time-on-task and the rule of no disturbance of classes, I proceed with the student survey. The survey contained questions related to five domains: motivation, social interaction skills, family economic support, and SES.

A five-point Likert scale was used for data analysis. The points on the scale were the following: 5 = Strongly Agree, 4 = Agree, 3 = Slightly Agree, 2 = Slightly Disagree, and 1 = Strongly Disagree. Following collection of the surveys, the Non-parametric testing, chi-square and Friedman's analysis of variance were the statistical tools used for the analysis.

Statistical Tests

The data gathered were statistically treated using **non-parametric** statistics refer to a statistical method wherein the

data is not required to fit a normal distribution. **Nonparametric** statistics uses data that is often ordinal, meaning it does not rely on numbers, but rather a ranking or order of sorts.

The Friedman test is a non-parametric statistical test developed by Milton Friedman. Similar to the parametric repeated measures ANOVA, it is used to detect differences in treatments across multiple test attempts. The procedure involves ranking each row (or block) together, then considering the values of ranks by columns.

Variables

The dependent variables were age, parent's education, and home environment. Independent composite variables—motivation, social interaction skills, and environmental support —were also included in survey questions.

Data Analysis

Descriptive statistics were used to analyze the means of all variables. Friedman test analyzes the relationship between three variables. Although a direct relationship may exist between variables, the relationship does not necessarily predict cause (Glatthorn& Joyner, 2005). All data are discussed in narrative form and detailed in charts for each research question.

Limitations

Small sample size and the use of data from only one School limitations of this study. In addition, most of the information was self-reported through student responses on a survey.

Conclusion

This research study was designed to determine the relationship between academic significant difference in the psychosocial factors affecting the learning of SARDOs when they are grouped according to profile – age, parent's education, home environment— in grade 9 and 10 junior and grade 11 senior high schools in Horacio De La Costa. All data were retrieved through their survey responses.

RESULTS AND DISCUSSIONS

This chapter reports the results of the study, with a complete overview of demographic information and data retrieved through the student survey. All data were entered into NON-PARAMETIC statistical data. The statistical analysis included examination of selected demographic information like: age, parent's education, and home environment. As well as a written summary of the data gathered for each research question, including presentation of the data in tabular form.

Purpose

The purpose of this study was to investigate the roles played by PSFs in predicting academic achievement among students-at-risk of dropping out (SARDO).

The following questions guided the research:

1. What is the profile of SARDO's in terms of: age, parent's education, home environment?

2. How do respondents assess the psychosocial factors affecting their learning in terms of:

   Motivation (family involvement)
   Social interaction skills (family rules)
   Family support (family resources)

3. Is there a significant difference in the psychosocial factors affecting the learning of SARDOs when they are grouped according to profile?

4. How may the findings of the study be utilized towards an intervention program?

Survey Validation and Implementation

Survey questions were validated by an expert in the field of education with a Master's Degree and Doctor of Philosophy in Education and faculty member of state university in Caloocan. Each question was evaluated for clarity before its implementation.

Permission for Study

Permission to conduct the study was granted by the Division Superintendent of the Schools Division Office of Caloocan, Mrs. Rita E. Riddle, through the recommendation of Mrs. Marivic B. Cruz, Principal 1 of Horacio De La Costa High School**.**

Population Data

Five hundred and sixty two students were invited in the study: 229 students from grade 9 junior high school, 173 from grade 10 junior high school and 160 students from grade 11 senior high school students who participated and completed the survey. Of the 562 returned surveys, 100 were eligible for consideration in assessing the psycho-social factors of learning among students-at-risk of dropping out using the stratified random sampling.

Fifty student responses were considered from grade 9 junior high school, twenty-five student responses from grade 10 junior high school and twenty-five student responses from grade 11 senior high school. This sample size was considered adequate based on stratified random sampling method in determining sample size for a given population to achieve adequate representation of a population of 562 respondents.

Data Collection

All data were entered into non-parametic statistical analysis. The data included age, parent's education, and home environment, as well as the information collected through junior and senior high school student surveys. The survey included socio-demographic data with responses that identified:

(a) student-respondents age;
(b) parent's marital status,
(c) highest level of education of father;
(d) highest level of education of mother;
(e) number of persons living in the house permanently;
(f) conducive study place; and,
(g) parent's employment status.

Questions addressed to number of members of the family living in the house, type of friends were not used for the purposes of this study, but will serve as data for further analysis. The student survey questionnaire has its three parts: (1). the motivation (family involvement) with 15 indicators,

The student survey questionnaire included the following response options: 1 = strongly disagree, 2 = slightly disagree, 3 = slightly agree, 4 = agree, and 5 = strongly agree; (2). the social interaction skills part in the student survey questionnaire have 12 indicators. The remaining behavior indicators were utilized for data analysis with the following response options: 1 = never, 2 = rarely, 3 = sometimes, 4 = frequent, 5 = always; and (3). economic resources (family support) were based on the family income.

FINDINGS

In order to meet the purpose of the study, this section has five parts for analyzing the data collected for the study. The Five parts are: (a) data sample information on the profile of SARDO's in terms of – age, parent's education, home environment; (b) assessment analysis of the psychosocial factors affecting learning of SARDO's in terms of – motivation, social interaction skills, family economic support; and (c) correlation analysis, significant difference in the psychosocial factors affecting the learning of SARDOs when they are grouped according to profile.

Research Question 1

What is the profile of SARDO's in terms of: age, parent's education, home environment?

Table 1: Distribution of Student-Respondents Grouped According to Age

Age	Grade 9		Grade 10		Grade 11	
	f	%	f	%	f	%
14 -16	47	94.00	19	76.00	4	16.00
17 - 19	3	6.00	6	24.00	20	80.00
20 - 22	0	0	0	0	1	4.00
TOTAL	50	100.00	25	100.00	25	100.00

The table above presents the distribution of student-respondents grouped according to age. It can be gleaned from the table the age group comprises from the three grade levels (grade 9 and 10 from junior & grade 11 from senior high school). In Grade 9 students, 47 or 94% from ages 14-16 and 3 or 6% from ages 17-19, and 0 from ages 20-22. In Grade 10 students, 19 or 76% from ages 14-16, 6 or 24% from ages 17-19, and 0 from ages 20-22. In Grade 11, 4 or 16% from ages 14-16, 20 or 80% from ages 17-19, and 1 or 4% from ages 17-19.

Table 2: Distribution of Student-Respondents Grouped According To Father's Highest Level of Education

Level of	Grade 9		Grade 10		Grade 11	
Education	f	%	f	%	f	%
Elem. Level	3	6.00	1	4.00	0	
Elem. Grad-uate	4	8.00	3	12.00	2	8.00
High School Level	8	16.00	2	8.00	3	12.00
High School grad	15	30.00	7	28.00	8	32.00
Vocational Level	2	4.00	1	4.00	3	12.00
Vocational Grad	1	2.00			1	4.00
College Level	5	10.00	2	8.00	4	16.00
College Graduate	9	18.00	6	24.00	4	16.00
Master's degree	3	6.00	3	12.00	0	
TOTAL	50	100.00	25	100.00	25	100.00

The table above presents the distribution of student-respondents grouped according to father's highest level of education. It can be gleaned from the table that most of the student-respondents father's highest level of education was high school graduate: from grade 9 -15 or 30%, grade 10 - 7 or 28%, and grade 11 - 8 or 32%. There were 9 or 18% fathers of grade 9, 6 or 24% fathers of grade 10, and 4 or 16% fathers of grade 11 are college graduate. There was 1 or 2% among student-respondents of Grade 9 and 2 or 4% among student-respondents of Grade 10 fathers highest level of education is vocational graduate. There were 3 or 6% among student-respondents of Grade 9 and 3 or 12% of Grade 10 fathers highest level of education is Master's Degree. And some of the father's level of education among *grade 9* are: elementary level 3 or 6%, elementary graduate 4 or 8%, high school level 8 or 16%, vocational level 2 or 4%, college level 5 or 10%; among *grade 10* - elementary level 1 or 4%, elementary graduate 3 or 12%, high school level 2 or 8%, vocational level 1 or 4%, college level 2 or 8%; among *grade 11* - elementary level 0, elementary graduate 2 or 8%, high school level 3 or 12%, vocational level 3 or 12%, college level 4 or 16%.

Table 3: Distribution of Student-Respondents Grouped According To Mother's Highest Level of Education

Level of	Grade 9		Grade 10		Grade 11	
Education	f	%	f	%	f	%
Elem. Level	0		0		0	
Elem. Graduate	2	4.00	0		1	4.00
High School Level	12	24.00	2	8.00	4	16.00
High School grad	20	40.00	12	48.00	12	48.00
Vocational Level	0		1	4.00	1	4.00
Vocational Grad	1	2.00	0		1	4.00
College Level	3	6.00	3	12.00	3	12.00
College Graduate	11	22.00	6	24.00	3	12.00
Master's degree	1	2.00	1	4.00	0	
TOTAL	50	100.00	25	100.00	25	100.00

The table above presents the distribution of student-respondents grouped according to mother's highest level of education. It can be gleaned from the table that most of the student-respondents mother's highest level of education was high school graduate: from grade 9 - 20 or 40%, grade 10 –12 or 48%, and grade 11 - 12 or 48%. There were 11 or 22% fathers of grade 9, 6 or 24% fathers of grade 10, and 3

or 12% fathers of grade 11 are college graduate. There was 1 or 2% among student-respondents of Grade 9, 0 among student-respondents of Grade 10, and 1 or 4% among grade 11 fathers highest level of education is vocational graduate. There was 1 or 2% among student -respondents of Grade 9, 1 or 4% of Grade 10 and 0 Grade 11 fathers highest level of education is Master's Degree. And some of the father's level of education among grade 9 are: elementary level 0, elementary graduate 2 or 4%, high school level 12 or 24%, vocational level 0, college level 3 or 6%; among grade 10 - elementary level 0, elementary graduate 0, high school level 2 or 8%, vocational level 1 or 4%, college level 3 or 12%; among grade 11 - elementary level 0, elementary graduate 1 or 4%, high school level 4 or 16%, vocational level 1 or 4%, college level 3 or 12%;

***Table 4:** Distribution of Student-Respondents Grouped According Home Environment*

Table 4A. Number of Person Living in the House Permanently

Number of Person	Grade 9		Grade 10		Grade 11	
Living in House	f	%	f	%	f	%
1 – 5	16	32.00	12	48.00	14	56.00
6 – 10	29	58.00	12	48.00	11	44.00
11 - 15	5	10.00	1	4.00	0	00.00
TOTAL	50	100.00	25	100.00	25	100.00

In table 4, it shows the distribution of student-respondents grouped according to home environment. This is subdivided into three: table 4A shows the distribution of student-respondents grouped according to home environment in terms of number of person living in the house permanently.

Among grade 9, the highest number of persons living in the house with members of 6-10 with 29 or 58%, next with members of group 1-5 with 16 or 32%, and group of 11-15 with 5 of 10%.Among grade 10 student-respondents groups 1-5 and 6-10 members both have 12 or 48% and group with members 11-15 have 1 or 4%.

Among grade 11 student-respondents of group with members 1-5 have 14-56%, group members with 6-10 have 11-44%, and 0 for group with 11-15 members.

Table 4B. Conducive Study Place

Status of Study	Grade 9		Grade 10		Grade 11	
Place	f	%	f	%	f	%
Conducive	42	84.00	20	80.00	19	76.00
Not Conducive	8	16.00	5	20.00	6	24.00
TOTAL	50	100.00	25	100.00	25	100.00

Table 4B, shows the distribution of student-respondents grouped according to home environment in terms of status of study place. Grade 9 student-respondents with conducive study place is 42 or 84% and not conducive study place is 8 or 16%.

Grade 10 student-respondents with conducive study place is 20 or 80% and not conducive study place is 5 or 20%.Grade 11 student-respondents with conducive study place is 19 or 76% and not conducive study place is 6 or 24%.

Table 4C. Where Do You Live

Barangay	Grade 9		Grade 10		Grade 11	
	f	%	f	%	f	%
Agape	3	6.00	2	8.00	0	
Amparo	5	10.00	2	8.00	9	36.00
Ana Maria Heights	1	2.00	1	4.00	0	
BahayBukid	5	10.00	2	8.00	5	20.00
Camarin	6	12.00	5	20.00	2	8.00
Calamansian	4	8.00	1	4.00	2	8.00
Capitol	8	16.00	2	8.00	0	
Catmon	0		0		1	4.00
Dagat-Dagatan	6	12.00	2	8.00	3	12.00
Dela Costa	5	10.00	7	28.00	0	
Laloma	1	2.00	0		0	
Mira Monte Heights	1	2.00	0		1	4.00
Pechayan	2	4.00	0		0	
Quezon City	0		0		1	4.00
Sacred Heart	1	2.00	0		0	
Sanana	1	2.00	0		0	
Tala	0		1	4.00	0	
Tungko	1	2.00	0		0	
Vanguard Cam.	0		0		1	4.00
TOTAL	**50**	**100.00**	**25**	**100.00**	**25**	**100.00**

In table 4C, it shows the distribution of the residence in grade 9, grade 10, and grade 11. Most of the students of Horacio De La Costa High School live along the radius of the vicinity. And only 5 or10% of Grade 9 student-respondents live in De La Costa and 7 or 28% of Grade 10 student-respondents live in De La Costa and 0 of Grade 11 student-respondents live in De La Costa.

SCHOOL-BASED PROGRAMS

Implications for Practice

Many practical tools can be implemented to support learning for at-risk students with psychosocial factors. Based on the findings of this study, as a Guidance Teacher of Horacio De La Costa High School, it has been proven that the following practical implications that we used in Horacio De La Costa High School are found useful and effective because for the past three years:

• S.O.S.A. – ***S**tate **O**f the **S**chool **A**ddress*– Provide opportunities within the school to foster the development of positive student-parent relationships. Regular conferences throughout the school year will facilitate growth in this school.

• PUMa – **P**ag-**U**ulatsa**MA**gulang – Provide workshops and information to parents with regards to the importance of positive

relationships and involvement in the learning process. Schools should extend a partnership with parents and encourage involvement in school activities and decision making.

• *Career Guidance Week Celebration* – Workshops for career choice, college options, financial aide, scholarship opportunities, and NCAE information provide support for parents. These programs should be initiated early and often in order to help students set realistic expectations for post-secondary life experiences.

• *OSA(Office of Student Affairs) Newsletter Publications* –

Promote accurate and timely communication with parents with regards to everything that goes on in your building. The utilization of newsletters provide excellent opportunities to communicate with parents.

• *A.L.K.A.N.S.I.Y.A.* – Establish Community Partnerships in order to develop relationships with all stakeholders. Partnerships can provide support to the school and our families.

• *TSINELAS* – Promote awareness of the influence of environment on individual motivation. This should be shared with parents/caregivers, teachers, and the community. All stakeholders should work to promote a positive environment for students as they grow during the critical years of school.

- *Peer Facilitator Group* – Promote positive peer relations through activities with the Guidance Department. Support group talks with students that are easily influenced by peers that result in negative behaviors. Educate parents as to the importance of positive peer relations. Provide students with academic support in the form of after school tutoring, and study groups. Provide workshops to show students how to study and organize their time. This will allow students to learn how to maintain excellent achievement by working smarter and not harder.

GOVERNMENT – BASED SUPPORT

In 2007, the DSWD embarked on a poverty reduction strategy with the poorest of the poor as target beneficiaries. On

July 16, 2008, the DSWD issued Administrative Order No. 16, series of 2008 (A.O. No. 16, s. 2008), setting the implementing guidelines for the project renamed "Pantawid Pamilyang Pilipino Program" (4Ps).

This government intervention scheme, may be improved in terms of selection on eligibility of the households to be a beneficiary of the program. By which public schools will have the participation in selecting household identified as poorest among the poor under the umbrella of the Guidance Office.

Because the Guidance Office is the one assisting Department of Social Welfare and development (DSWD) in quarterly monitoring of students under 4P's beneficiaries and it has been observed that there are students who are poor and are not members of 4P's.

Department of Education would be a part and will play an important role through public schools to answer the economic problem of the students who tend drop out from school.

CONCLUSIONS

Learning of students-at-risk of dropping out is slightly affected by psychosocial factors in terms of – age, parent's education and home environment. There is grave need to intervene and provide support for at-risk students to ensure that every student demonstrates learning success. Current research shows that – motivations, social interactions and environmental factors affects learning. This study addressed the significant difference in the psychosocial factors affecting the learning of SARDOs when they are grouped according to profile – age, parents' education and home environment on 100 students in Horacio De La Costa High School.

Recommendations for Further Study

Although the findings from this study do not necessarily reflect a complete revelation of the psycho-social factors affecting learning of students at risk of dropping out, future studies could provide more substantial evidence to support the psycho-social factors affecting learning in terms of motivation, social interaction skills and economic support including significant their differences when they are grouped according to age, parent's education and home environment. The following recommendations are suggested for future research:

- The addition of a qualitative perspective is recommended to bring a deeper approach to evaluating data that affect learning of Students at risk of dropping out. The quantitative survey gives pertinent information, but the qualitative approach would allow for a personal interaction with participants and would provide essential information on the psycho-social factors that affect learning of SARDO's: motivation, social interaction skills and environmental support. The significant difference in the psycho-social factors affecting learning of SARDOs when they are grouped according to: age, parent's education and home environment.

- The addition of data from students who have dropped out of school would provide additional information with regards to what factors affect learning of SARDO's.

- A follow-up study of participants is also recommended a year later by collecting additional data based on these surveys. This will assess who might have been successful in college and/or had secured employment for those who took vocational courses. This is in accordance with the government's policy of providing effective education to our youth. While government is tasked to provide free and quality education to every Filipino child and youth, the community where they have grown is an important determinant in their education.

REFERENCES

Alexander, K.K., Entwisle, D.R., & Horsey, C. (1997). From first grade forward: Early foundations of high school dropout.

Sociology of Education, 70,87-107. Bandura, A. (1977). Social learning theory. New York: General Learning Press.

Baumrind, D. (1991). Parenting styles and adolescent development. In R. Lerner, A. C. Petersen, & J. Brooks-Gunn (Eds.), The Encyclopedia of Adolescence, (pp.758-772). New York: Garland.

Bickel, R., &Howley, R. (2000). The influence of scale on school performance: A multilevel extension of the Matthew principle.

Education Policy Analysis Archives, 8(22), 269-277.

Coleman, J. (1987). Families and schools. Educational Researcher, 16, 32-38.

Condly, S. J. (2006). Resilience in children: A review of literature with implications for education. Urban Education, 41(3), 211- 236.

Crosnoe, R., & Elder, G. H., Jr. (2004). Family dynamics, supportive relationships, and educational resilience during adolescence. Journal of Family Issues, 25(5), 571-602.

Dicintio, M. J., & Gee, S. (1999). Control is the key: Unlocking the motivation of at-risk students. Psychology in the Schools, 36(3), 231-237.

LaBahn, J. (1995). Education and parental involvement in secondary schools: problems, solutions, and effects. Valdosta,

GA: Educational Psychology Interactive. [Electronic version]

Lynch, S., Hurford, D. P., & Cole, A. (2002). Parental enabling attitudes and locus of control of at-risk and honor students Adolescence, 37, 527-549.

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. American Journal of Orthopsychiatry, 57, 316- 33

AN ASSESSMENT ON LEARNERS' PERCEPTIONS AND LEARNING OUTCOMES OF ALS FACE TO FACE VERSUS E-LEARNING MODE OF DELIVERY

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ABSTRACT

This action research aimed to compare the passing rate of the Accreditation and Equivalency Test in the Division of Caloocan particularly in the two community learning centers in Barangay 177 using the two modes of delivery – the e-learning and the traditional face to face mode. It also sought to determine the differences in the Accreditation and Equivalency Test results between the two groups of respondents by profile.

The results revealed that those enrolled in the class using e-learning as the mode of delivery obtained higher scores in all learning strands as well as in the standard score than those enrolled in the class using the face-to-face mode of delivery. The e-learning mode of delivery class obtained 95.9 and those in the face -to-face mode of delivery class got 87.5. From the two delivery mode being used to compare the passing rate of the learners in the ALS A & E Test, those enrolled in the e-learning group has the number of passers. As a result, e-learning supports active learning processes and produce better learning output.

For the profile of the respondents and the results of the accreditation and equivalency test percentage was used. For comparison of the test results by profile, comparison of means was used.

Introduction

In the last one hundred years, education has evolved from being exclusive to the elite to being accessible for everyone. In ancient Philippines, children were given the rudiments of education. Such education was both academic and vocation.

It was assumed that the most fundamental objective of education is the development of an individual's potential which will simultaneously improve society. Educational policies have been geared to the accomplishment of better manpower production through the understanding by the students different learning areas. To accomplish these goals, the value and work oriented curricula were encouraged. However, many parents and teachers were still confused because they did not understand the philosophy, operations, and evaluations of the innovation in education.

With the help of technology, knowledge acquisition is no longer restricted to the classroom. The mode of learning has evolved from learning solely in the classroom to distance learning and the virtual classroom. Technologies have helped the process of delivering content to learners. Hence, indirectly, technology can help cultivate lifelong learning.

With the unending advancement in digital technology today, teachers and administrators should strive to find ways to help students constructively channel their natural interest and aptitudes with digital tools. That is why there is a need for learners to be digitally literate; their need to possess and refine it will only continue to grow in the months and years ahead.

Background of the Study

Caloocan has the number of literacy class and the class size and enrolment rate has increased. Due to the number of enrollees and test takers of the ALS Accreditation and Equivalency Test, the number of test passers decreases. For the last three years, ALS Caloocan has been experiencing challenges with regards to the passing rate of the ALS test takers. Caloocan ranked 3rd among the low performing Divisions in the National Capital Region.

Mobile Teachers and other ALS Implementers were sent to different enhancement training to capacitate them with different teaching strategies that they will use to increase the passing rate in the ALS A & E Test, however, the passing rate still doesn't escalate and was not able to reach its target.

During the advent of the eskwela project piloted by the former Commission on Information & Communications Technology ALS Centers will use Information and Communications Technology to enhance educational opportunities for the out-of-school youth and adults, thus doing its share of bridging the widening digital divide and social chasms between those who are educated and those who are not. At eSkwela, ICT becomes the delivery mode for ALS. ICT-based materials collectively known as the eSkwela learning package, will be used by the ALS learners and teachers to demonstrate authentic learning.

Therefore, using the passing rate in the Accreditation and Equivalency Test, this study intends to compare the passing rate/ grades of the target respondents, one group using the traditional face-to-face with the other group using the eSkwela or e-learning mode.

Theoretical Framework

Majority of the learners intend to pursue college education and have envisioned themselves as professionals in the future. Being an out-of-school youth, they have varied triggers in life that influenced their decision to enrol in the different ALS Center to catch up on the lost time, to pursue a college degree, to add honor and dignity to themselves and a few intend to work to solve their financial challenges.

The mission of the Alternative Learning System is to empower the Filipino with desirable knowledge, skills, attitudes, and values that will enable them to think critically and creatively, act innovatively and humanely in improving the quality of their lives and that of their families, community and country. (Social Services: ALS for the Out-of-school youth, 2011 Mary Grace C. Baywong)

Enhancing meaningful learning by integrating technology into instructional design is central to this research. The most influential theory associated with this process is the cognitive theory of multimedia learning proposed by Mayer (1997). It is based on the theory that humans have two ways or "channels" of processing information; auditory and visual, otherwise known as the dual-channel assumption. By leveraging both of these means, and by building connections between multiple representations of the same information, meaningful learning is more likely to occur (Mayer, 1997; Moreno and Mayer, 2003)

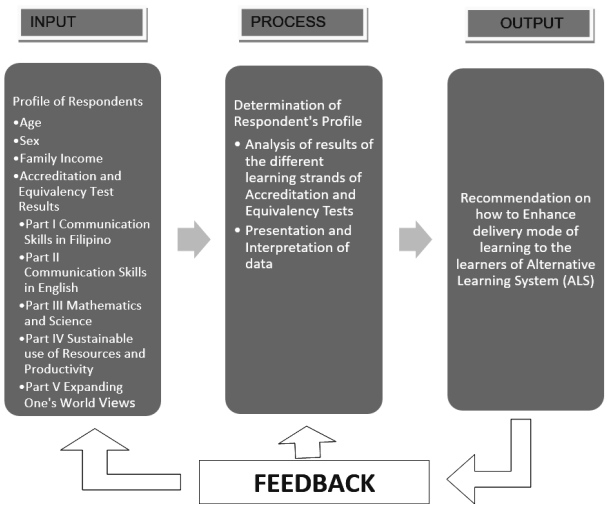
Another important contribution to the theory about learning with technology is the modality principle, closely related to the cognitive theory of multimedia learning. It postulates that using multiple modalities when presenting information leads to more learning transfer. Importantly, it also focuses on cognitive load, or the amount of information that can be processed and held in the working memory before loss of information occurs. Cognitive overload is often an impediment to retaining information and according to Moreno and Mayer (2003) can be managed by using specific instructional design principles. These theories and principles are the theoretical basis for bringing technology into the classroom.

Modeling after the Notschool.net of the United Kingdom, the current program will employ a model that makes optimal use of ICTs in facilitating access to education for out-of-school Filipino youth. With the use of relevant interactive elearning materials, blended and collaborative modes of instruction, and performance-based assessment, the program seeks to bridge the widening digital divide between those who are educated and not. Consistent DepEds' mission and purpose, the program aims to enhance the capacities of these young people to empower them towards confidently participating in a global and knowledge-based society. (2002, Haddad, W.D. and Jurich, S ICTs for Education)

The face-to-face setting employs different ways of structuring discussion and obtaining responses from learners at any time during a class. The theory suggested by Silberman (1996) that in a full-class learning model, knowledge is acquired through strategies summarized in traditional teaching as didactic, transmission, teaching as telling, teacher-centered, rigid, uniform, narrow and content-driven. Traditional teaching includes centrally prescribed texts and syllabi which allow for very litter discretion on the part of teachers and with terminal examinations which impose a standard on all learners regardless of abilities or social circumstances.

Conceptual Framework

The researcher conceives the conceptual framework of this study based on the Input-Process-Output (IPO) system approach as shown in Figure 1.



This approach is composed of interrelated elements that served as guide by the researcher in solving the problem under study.

FIGURE 1 CONCEPTUAL FRAMEWORK

Curriculum improvement is the general concern of curriculum planners on the other hand, curriculum implementation is the role of the teachers, principals and supervisors who have been tasked to define the problems relative to the improvement of the performance of the learners.

With the present performance of the ALS-Caloocan, it has been noted that the passing rate in the A & E Test isn't good. Teachers have acquired much theories, strategies and techniques to enhance the teaching-learning process however the goal to elevate the passing rate and achieve the target set by the Region and Central Office haven't met.

The first box is the Input. It contains the Profile of the respondents as to age, sex and family income. It also includes the Accreditation and Equivalency Test Results per learning strand, as follows: Part I Communication Skills in Filipino; Part II Communication Skills in English; Part III Mathematics and Science; Part IV Sustainable Use of Resources and Productivity; and Part V Expanding One's World Vision.To note the improvement of these variables, the two delivery mode in the ALS program will be used to determine and compare if there is an improvement in the performance of the learners.

The second box is the Process which aims to determine the respondents profile and analyze the results of the different learning strands of the Accreditation and Equivalency Test of the respondents. The effectiveness of the e-learning delivery mode and the improvement to the face to face delivery mode will be tested and its effect to the academic performance of the ALS learners. In this process, the profile of the learners will also be used to determine its effect to the A & E result.

The OUTPUT of the research process consist of plan to improve or maintain the passing rate of the A & E Test and recommendations to enhance the delivery mode of the ALS Programs. A feedback loop provided a data which serves as a guide in making same revision on the input, process and outputs for the enhancement of the research. In this study, the aspects considered are the profile of the learners and the level of their performance per learning strand. Teachers' delivery mode were taken into consideration to acquire new modality for the improvement of the learners performance.

Research Questions

This study aimed to compare the passing rate of the Accreditation and Equivalency Test in the Division of Caloocan particularly in the two community learning centers in Barangay 177 using the two modes of delivery – the e-learning and the traditional face to face mode.

Specifically it sought to answer the following sub problems:

1. What is the profile of learners as to:

   Age
   Sex
   Family Income
2. What are the results of the Accreditation and Equivalency Test given by DepEd to the two groups of respondents as to the following learning strands:

   - Communication Skills in Filipino
   - Communication Skills in English
   - Mathematics and Science
   - Sustainable Use of Resources and Productivity
   - Expanding One's World Views

3. Is there a difference in the Accreditation and Equivalency Test results between the two groups of respondents by profile?

Scope and Limitations

This study limits itself to the comparison of the two delivery modes in ALS program, the face to face and e-learning respectively and its effect to the academic performance of the two (2) literacy class in Barangay 177 in Caloocan SY 2016-2017.

The respondents are the learners of the two literacy classes in Barangay 177. Class A has 50 learners in heterogeneous; located at Espina Hall, Maligaya, Bgy. 177; this class will be using the face-to-face mode of delivery. Class B has 50 learners in heterogeneous; located at 3rd floor Brgy. Hall, Bgy. 177; this class will be using the e-learning mode of delivery. A total of 100 learners will be used in this study and will take the Functional Literacy Test, Quarterly Assessment Test and Accreditation and Equivalency Test.

RESEARCH METHODOLOGY

Method of Research

The study will use Descriptive Research using Documentary Analysis. The method of documentary analysis is a research technique for the objective, systematic, and quantitative description of manifest content of communications. It is a technique for making inferences by objectively and systematically identifying specified characteristics. It enables the researcher to shift through data with comparative ease in a systematic fashion. A useful technique for allowing one to discover and describe the focus of individual, group, institutional or social attention. It also allows inferences to be made which can then be corroborated using other methods of data

collection.

Population

The population for this study will be the Alternative Learning System learners of the two (2) literacy classes in Barangay 177 in the Division of Caloocan with fifty (50) learners each class.

Sample size

There will be 100 respondents to be analyzed thru documentary analysis.

Description of Respondents

The respondents are learners of Alternative Learning System (ALS) from the two (2) literacy class in Barangay 177 of the Division of Caloocan implementing ALS Program using the two delivery modes: the e-learning and the traditional face to face mode.

Data-Gathering Procedure

A request to the Schools Division Superintendent was made to conduct this research. Thereafter, the assistance of the Education Program Supervisor, Education Program Specialist, and the Instructional Manager as well as the Barangay Captain will be implored.

In administering the research, documents needed relative to the Document Analysis will be gathered from the SDO-Caloocan ALS.

Thereafter, the researcher will collect it for tabulation. The scores gathered will be used in the statistical treatment in this study.

Statistical Treatment of Data

The following statistical tools will be used in the study.

For the profile of the respondents and the results of accreditation and equivalency percentage was used. The formula is $\% = \frac{f}{n} x\ 100$ the test

Where f = frequency
n = no. of respondents
For comparison of the test results by profile, comparison of means was used. $\bar{x} = \frac{\Sigma x}{n}$

Where $\bar{x}$ = mean
x = individual score
n = no. of respondents

RESULTS/FINDINGS AND DISCUSSIONS

Table 1
Frequency and Percent Distribution of the Respondents by Mode of Delivery

Mode of Delivery	Frequency	Percent
e-learning	50	50.0
Face-to-Face	50	50.0
TOTAL	100	100.0

Table 1 shows that fifty percent 50% of the respondents took the e-learning mode of delivery and fifty percent 50% of the respondents took the face to face mode of delivery which comprises the one hundred 100% percent of the total population.

Results of the Accreditation and Equivalency Test Given by DEPED

Ho : $\mu_1 = \mu_2$

Ha: : $\mu_1 \neq \mu_2$

a level: 0.05, two tailed test

Decision Rule: if z value is (—oo, —1.95) U (1.95,oo), reject the null

If z value is (—1.95, 1.95) accept the null

	eSkwela Project	Face to Face
Mean	95.98333333	80.8627451
Known Variance	25.72137	17.71344
Observations	50	51
Hypothesized Mean		
Difference	0	
z	16.28838789	
P(Z≤=z)one tail	0	
z Critical one-tail	1.644853627	
P(Z≤=z)two tail	0	
z Critical two tail	1.959963985	

Table 2
Computation:

Conclusion: Since the z value is greater than 1.95, reject the null hypothesis. This means that at 0.05 level of significance, there is an enough evidence

Mode of Delivery	Learning Strand					Stand-ard Score
	LS1	LS2	LS3	LS4	LS5	
e-learning	93.0	97.7	94.1	87.7	113.9	95.9
Face-to-Face	89.4	93.0	87.5	83.7	106.2	87.5

to conclude that the two method namely eSkwela Project and Face to Face are statistically different.

Table 3
Respondents' Mode of Delivery

Legend:

LS1 = Communication Skills in English

LS2 = Communication Skills in Filipino

LS3 = Mathematics and Science

LS4 = Sustainable Use of Resources and Productivity

LS5 = Expanding One's World Views

Table 3 shows the comparison of the mean scores of the respondents on the five learning strands and their standard scores in the Accreditation and Equivalency Test when they are grouped by mode of delivery. As shown in the table, those enrolled in the class using e-learning as the mode of delivery obtained higher scores in all learning strands as well as in the standard score than those enrolled in the class using the face-to-face mode of delivery. Those in the e-learning scored 93.0 in communication skills in English as against 89.4 by those in the face-to-face, 97.7 as against 93.0 in communication skills, 94.1 as against 87.5 in mathematics and science, 87.7 as against 83.7 in sustainable use of resources and productivity, and 113.9 as against 106.2 in expanding one's world views. The difference in score is greatest in expanding one's world views with 7.7 and least in communication skills in English with 3.6.

In terms of standard score, those in the e-learning mode of delivery class obtained 95.9 and those in the face-to-face mode of delivery class got 87.5. The difference in standard scores between the two groups is 8.4.

The results indicate that the learners who took the Alternative Learning System Accreditation and Equivalency Test belong to the e-learning group has the number of passers. The study in 2010, The comparison of learning effectiveness between traditional and face-to-face learning and e-learning among goal-oriented users, stated:

e-learning offers a higher level of learning effectiveness than traditional face-to-face learning. Moreover, students who used e-learning method were more satisfied on learning materials and learning environment compared to those who used traditional face-to-face learning method.

SUMMARY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This study is conducted to compare the passing rate of the Accreditation and Equivalency Test in the Division of Caloocan particularly in the two community learning centers in Barangay 177 using the traditional mode of delivery and e-learning mode of delivery. Particularly it sought to answer the significance of the results given by DepEd to the two groups of respondents as to the learning strands and the difference in the Accreditation and Equivalency Test results between the two group of respondents. The respondents of the study were the learners of the Alternative Learning System under the two literacy classes in Barangay 177, Caloocan City. Both classes have fifty 50 learners each who took the Accreditation and Equivalency Test at Camarin High School. The study used Descriptive Research using Documentary Analysis. The method of documentary analysis is a research technique for the objective, systematic and quantitative description of manifest content of communications.

Findings

Based on the results gathered, the following findings are thereby presented:

The mean scores of the respondents on the five learning strands and their standard scores in the Accreditation and Equivalency Test when they are grouped by mode of delivery. Those enrolled in the class using e-learning as the mode of delivery obtained higher scores in all learning strands as well as in the standard score than those enrolled in the class using the face-to-face mode of delivery. The e-learning mode of delivery class obtained 95.9 and those in the face-to-face mode of delivery class got 87.5. The difference in standard scores between the two groups is 8.4.

Conclusions

Based from the foregoing findings, the researcher come up with the following conclusions:

From the two delivery mode being used to compare the passing rate of the learners in the ALS A & E Test, those enrolled in the e-learning group has the number of passers. As a result, e-learning supports active learning processes and produce better learning output.

Recommendations

Based from the results, findings and conclusions, the researcher would like to recommend the following:

That the e-learning mode of delivery should be adapted in all community learning centers in Caloocan.

That the traditional mode of delivery should be blended with different approach by using e-learning mode of delivery as another tool to improve the teaching-learning activities.

EFFECTIVITY OF MANIHANSKIP IN THE CONTENT MASTERY OF THE FOUR FUNDAMENTAL OPERATIONS

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ABSTRACT

Mathematics is one very important content area in the life of a grade five pupil. . Every child should learn the fundamental building blocks of mathematics. No child should be denied the preparation for lifelong learning. Life-long learners are pupils who can solve problems and think critically to compete in an ever-changing global society. Every teacher of Mathematics has an individual goal to provide students with the knowledge and understanding necessary to function in a world that is very dependent upon the application of mathematics. But mathematics is not just numbers, it is about patterns. It is about making sense of the concepts that underlie the learning of numbers and better understand the world.

Thirty-five grade five pupils had difficulty to cope with their lessons involving numeracy but when teachers demystify their teaching process by offering an intervention that allows the struggling pupils to touch, feel and explore concrete materials to represent numbers, and their fingers as well as they count, the children enjoy and with the relax environment, learning took place. They move, jump like kangaroos and frogs as they do multiplication by skip counting. The love of the teachers were felt, the support of the parents complimented the instructional process… and there was learning.

ManiHanSkip technique, put the Cognitive theories of Piaget and Vygotsky to practice in addressing the needs of the pupils in Grade five to scaffold teaching-learning process and the collaboration of the teachers and support of the parents in terms of time spent with their children and addressing their insufficient nourishment.

Keywords: numeracy; lifelong learning; ManiHanSkip; collaboration; scaffolding

INTRODUCTION

A guiding principle of No Child Left Behind gives an equal opportunity for all children. Every child should learn the fundamental building blocks of mathematics. No child should be denied the preparation for lifelong learning. Life-long learners are pupils who can solve problems and think critically to compete in an ever-changing global society. Therefore, students must develop a deep understanding of Mathematical concepts and possess a strong foundation of number sense in order to become proficient in mathematics. Every teacher of Mathematics has an individual goal to provide students with the knowledge and understanding necessary to function in a world that is very dependent upon the application of mathematics.

Instructionally, this goal translates into three components: conceptual understanding; procedural fluency; and problem solving. Concepts are made by man and are arbitrary. These may refer to categories or phenomena. Procedural refers to how good one is in following steps or algorithm. Problem solving involves identification of the processes and steps required; and translating information into the right algorithm (Westwood, 2003).

Kilpatrick, Swafford and Bradford (2001) stated, "Studies in almost every domain of mathematics have demonstrated that problem solving provides an important context in which students can learn about number and other mathematical topics"(p.420). "Problem solving can be seen as a major vehicle for learning" (Gifford,2005 p.152). Problem solving requires analysis of what is/ are given and what is/are asked to be able to identify the needed operation to give solution. When children make connections as interconnected network of concepts and their relationships, then mathematics become easier to remember. An example of this is the relationship between addition and subtraction so that once addition facts are learnt, they can be used to solve subtraction problems. Children in school make better progress when taught by teachers who understand and explain these connections (Askew, et.al., 1997; Price, 2001). The teacher plays a great role considering that Mathematics is a high stakes subject; everyone is expected to learn it and to be able to achieve learning particularly in dealing with the four fundamental operations. Geist (2010). Wrote that, "negative attitudes on mathematics often affects learning and developed poor teaching. Teachers should then re-examine their practice in working with children and offer developmentally appropriate activities and methods. Krueger (2002) found that sufficient practice is essential that students understand the skill being practiced- so that they do not inadvertently practice incorrect procedures.

Several available theories of learning will explain how different pupils acquire learning. It is important that teachers are able to put them into practice to be able to help their pupils.

In thinking about mathematics skills all issues

that will aid in improving the automaticity and accuracy of the recall of basic mathematical facts, rules, concepts and procedures play a great deal. The purpose of the intervention program is to reverse the cycle of continual low-academic performance for these pupils, at the same time, equipping them with the essential tools to gain success and achieve their potential in mathematics now and into the future. The ultimate aim is to increase the likelihood for the activities done in school so that these pupils will attain success in their studies and enjoy learning in school.

Rationale

We know that many students demonstrate problems with number-sense tasks, arithmetic combinations, and word problems (Fuchs et al., 2005). Overall research findings have shown that generally, students with mathematics difficulties demonstrate developmentally different characteristics that remain persistent across the grades (Geary, 1993; Jordan et al., 2002). Knowledge of Mathematics is paramount to everybody. Children in the school can cope easily to different tasks if their knowledge of numbers and number system is concrete. However, if children do not have mastery of the number system, great problems may arise. It is therefore the concern of the teachers that school children be given the needed skills in performing numbers specifically in the four fundamental operations. Concept knowledge of numbers enable the children to cope to the daily activities requiring counting, even with how children interact to other children when they play, when they need to count change when buying and the like which are procedural and coping to problem solving. Lack of knowledge on the other hand makes their life miserable and prone to conflicts.

Number sense, including counting strategies, arithmetic facts and combinations is fundamental to the development of more complex mathematical concepts (Gersten and Chard, 1999). There is an extensive research to indicate that children must develop automaticity and accuracy of basic facts (Goldman, Pelligrino, & Mertz, 1988; Hasselbring, Goin, & Bransford, 1988), as well as effective computational strategies, before progressing to more advanced mathematical abilities. Pegg and Graham (2007) identify that an intervention program focused on improving the automaticity and accuracy of basic mathematical skills and concept enables students to shift their focus from coping with mundane or routine tasks to engaging in higher order mental processes.

Hiebert (1997) provides advice from several leading math education researchers who unanimously consider the use of manipulative to be an essential ingredient in teaching math for understanding. This seemed especially important for students who needed a prevention or intervention program because it seemed likely that these students might not have had successful math learning experiences in the past, might not have confidence in their math problem-solving ability, and might not be as eager to engage in mathematics as their more successful peers.

Following this reason, the Caloocan North I Mathematics' coordinators decided to adopt the use of manipulatives in such a way that teaching Mathematics will look like playing so that learning will be fun and not stressful. They suggested the use of a game format for as many of the learning activities created for the intervention. Different learning theories also explain the different learning conditions of the struggling pupils. These theories play a great role in making a proposed intervention program for the struggling students. Interventions can be more effective if introduced at an early stage: this can help to reduce 'mathematics anxiety' , strugglers in mathematics benefit from detailed assessment of their learning needs, and interventions work best when they are targeted on an individual child's weakness (Dowker, 2009).

Background of the Study

The Division of Caloocan through a principal consultant initiated/ motivated all teachers to develop an eye to identify the common problems in individual schools specifically problems concerning reading proficiency and numerical literacy. It was decided that Caloocan North I will uniformly do a research on the Mathematics' progress of Grade five students, and device an intervention that will focus on improving their proficiency in working with the four fundamental operations. And that, the intervention will use the "ManiHanSkip" technique (short for manipulative, hand and skip counting). The adoption of the "ManiHAnSkip" intervention was agreed in Caloocan North I, but the activities that each school will plan will depend on the individual school planning with the collaborative efforts of the Mathematics teachers, and the research coordinator under the supervision of the principal.

At the beginning of the school year, all children in Grade 5 were given the MAFFO (Mastery of the Four Fundamental Operations), a diagnostic test in Mathematics to determine their understanding of numbers, number system and other concepts related to numeration. This is the district-wide accountability test in mathematics given to all pupils in the elementary. The test measures students' knowledge in mathematics through calculations and computation. Validity and reliability is accounted for its long-term usage and is acceptable for decision –making.

It was found out that of the 1026 pupils from grade five, thirty-five (35) were diagnosed to be struggling in mathematical skills specifically in basic addition and therefore subtraction, multiplication and division are their greatest nightmare. Struggling pupils refer to those who cannot cope on the lesson due to inability to process information. These findings alarmed the teachers and prompted them to plan relevant intervention to these children who are in great need of assistance in Mathematics. De Corte,Greer and Verschaffel (1996) found that learning is enhanced when teachers have access to the knowledge that learners bring to the lesson, use this knowledge as part of instruction, monitor students' changing conceptions as the lesson proceeds, and provide intervening instruction. According to Safer and Fleischman (2005), "Research has demonstrated that when teachers use student progress monitoring, students learn more, teacher decision making improves, and students become more aware of their own performance" (p.82).

An academic intervention is a strategy used to teach a new skill, build fluency in a skill, or encourage a child to apply an existing skill to new situations or settings. An intervention can be thought of as "a set of actions that, when taken, have demonstrated ability to change a fixed educational trajectory" (Methe & Riley-Tillman, 2008; p. 37). The intervention that will be given to the struggling pupils should be one that is meaningful and will promote positive learning experiences.

As earlier stated, it was agreed from the district meeting of all Mathematics coordinators, that the kind of intervention will make use of the "ManiHanSkip" method

which is short for manipulative, hand and skip counting. This method uses different manipulative materials that are readily available in the classroom as counters. The hand, as well as the fingers, also functions for the same purpose and the skip counting technique which is a good activity for learning multiplication .In other words, the intervention will focus on mathematical representation which may both be referring to product and process. The National Council of Teachers of Mathematics (NCTM, 2000) stated that as a process, representation refers to creating in one's mind a mental image of a mathematical idea. As a product, it refers to a physical form of that idea, such as a manipulative, an illustration, or even a symbolic expression. Representation is important because the more ways a student can think about a mathematical concept, the better that student will understand the underlying mathematical idea (NCTM,2000). The decision of National Council of Teachers of Mathematics (NTCM, 1989) on promoting the use of concrete materials in mathematics teaching played a critical role on the creativity and began to emerge the implementation of manipulative addition into educational environments. In response to NCTM's (2000) recommendations regarding the improvement of mathematics instruction, manipulative have become highly popular and very detailed sources of both content and pedagogical information (Trafton, Reys, & Wasman, 2001). This intensive attention on using manipulative took the form of manipulatives that modeled the addition, subtraction, multiplication, and division students used to memorize from practice. In fact, manipulatives can come in a variety of forms and they are often defined as "physical objects that are used as teaching tools to engage students in the hands-on learning of mathematics" (Boggan, Harper, & Whitmire, 2010). Mathematical manipulatives can be classified as commercials and/or teacher-produced ones. Commercial manipulatives are those including tangrams; Cuisenaire rods; numicon patterns; Dienes" blocks; interlocking cubes; base ten blocks; pattern blocks; colored chips; links; fraction strips, blocks, or stacks; color tiles; and geo boards (Van de Walle & Lovin, 2005). Teacher-made manipulatives used in teaching the primary students are: beans, stone, soft drink caps and popsicle sticks and the like.

A few hundred years ago, a university student was considered educated if he could use his fingers to do simple operations of arithmetic (Baroody, 1987); now we expect the same of an elementary school child. It shows that learning mathematics with mastery goes to the basic education. The urgency to develop skills and knowledge is so paramount in this highly competitive world. But the goal of learning the mathematical concepts and knowledge today, should also be used to solve real- life problems. The teaching of the different concepts should be aligned to the goals of the twenty- first century learning, one of which is to develop lifelong learners.

Statement of the Problem

Having identified the needs of the school and the families in the different context, and considering the different needs of the sample students and the different contexts these students are in, this research specifically aim to inquire on:

1. What particular support do parents of struggling Grade five students give to their children?

2. What particular roles do instructions and motivations play in teaching struggling students?

3. How effective is the "ManiHanSkip" method in meeting the aims of the intervention?

4. Is there a need to institutionalize Mathematics intervention in the elementary?

Objectives

1. To enable students who are either low-achievers or have some form of learning disability, to attain real improvement and make the successful transition to learning mathematics with easiness.

2. To enable students to move through the task with greater efficiency, and ultimately reach a solution quicker, and the classroom interaction enjoyable.

3.To give struggling students who participated in this intervention a greater chance of making a successful transition to core mathematics and break the perception "that they cannot do mathematics" and will be better equipped for post-school life.

Expected Outcome and Beneficiaries

This action research will help primarily the pupils who are having difficulty in recalling the processes involved using the four fundamental operations. The method of instructions that this research will use will give them an instant visualization and instant recall on how to analyze the problem and solve them correctly. When Mathematics or numeracy is presented in the natural way of thinking, pupils become connected to it. Numeracy is an individual's capacity to identify and understand the role Mathematics play in the world, to make well founded judgments, and to engage in Mathematics to meet the needs of the individual's current and future life as a constructive, concerned and reflective citizen (PISA ,1999). Pupils will own their discoveries and enjoy schooling more than just memorizing and doing worksheets, but internalizing learning because it is acquired through play and explorations, later be able to use them for better citizenship in their communities.

For the teachers, they will realize the importance of knowledge building by giving time to their pupils in discovering learning through play, thus making their explorations joyful. When real explorations happen, teachers can directly help pupils grapple with mathematics through some questioning and dialogue, paving way for the pupils to make connections of the concepts learned to actual life experiences. This will reinvent the duties of the teachers in the classroom, not just a "sage on the stage" but a good facilitator of learning, demystifying different Mathematical concepts based on the students' capabilities. As Ashlock (2010)mentioned, "As we teach computation procedures, we need to remember that our students are not necessarily learning what we think we are teaching; we need to keep our eyes and ears open to find out what our students are actually learning. We need to be alert for error patterns!" (p.214). Teachers should engage in a "paradigm shift" to explain or teach a lesson or a phenomena using a different way of perceiving, thinking, valuing, and doing associated with a particular vision of reality (Barker ,1993).

To the school administrators, this research will serve as a wake-up call for them to focus on the importance of instructions in the classroom. Deeply analyze whether the intended learning is implemented and achieved in the

classroom level so that problems concerning students' struggle will be solved. This will also remind the administrators to refocus their priorities, by developing effective instructions that will help children solve real life problems through meaningful interactions within a supportive environment/ classroom. The coherence and articulation from objectives to the actual implementation is paramount in the achievement of the desired outcomes.

Administrators should also encourage professional development of the teachers. Teachers should be *au courant* with the latest techniques of teaching, because teaching is also evolving and changing, depending on new technological discoveries. Teachers should not teach the way they were taught five years or more years ago.

The Sample

The grade five students total enrollment (population) for the S.Y 2016-2017 is one thousand twenty-six(1,026). Of the1026 grade five pupils who took the MAFFO test in June, thirty -five (35) were found to have non-mastery in addition ,that is about 3.41 %, although the number is small , still the teachers felt the strong desire to help these children. These 35 pupils ; eight (8) female and twenty-seven (27) male were also part of the pupils having no mastery in Subtraction, Multiplication, and Division. Most of their parents attended up to high school level and only 3 parents reached the college level . These pupils are generally poor, earning from six thousand pesos (P6,000) and below.

Research Locale

This research was conducted in Camarin (Main) Elementary School. The school is part of the 9 different schools in Caloocan North District 1 and has a total enrolment of six thousand seven hundred seventy-two (6,772). Three thousand four hundred thirty-six (3,436) are male students and three thousand three hundred thirty-six are female students. The teacher force of one hundred fifty-three (153) with twenty-one (21) male teachers and one hundred thirty-two female teachers is headed by Mrs. Adoracion R. Santos.

Review of Related Literature

Clements and Sarama (2004) suggest that on the basis of the NCTM's (2000) Principles and Standards for School Mathematics, "number and operations is arguably the most important of the area" (p. 16) . Addition, subtraction, multiplication and division of whole numbers represent the basic operations of mathematics. Much of mathematics is generalization of these operations and rests on an understanding of these procedures. They must be learned with fluency using standard algorithms. The standard algorithms are among the few deep mathematical theorems that can be taught to elementary school students. They give students power over numbers and, by learning them, give students and teachers a common language. Stated in Mathematical thinking is cognitively foundational and children's early knowledge of math strongly predicts their later success in math (Clements & Sarama, 2009).Mathematics is complex, involving knowledge, skills, processes and an emotional disposition. There should be a balance between the discipline and the practice of mathematics. Children need to acquire facts and skills and develop fluency as well as freedom to follow ideas about which they are curious, and balance between these components should develop a capacity for creativity. Fluency with facts is required to operate well with mathematics (Koshy ,2001).

The concern on poor conception and the failure to learn what was taught alarm the educators. Instructions used maybe ineffective or the thinking that educators have not been able to devote much time and effort to the whole child worries the school system. Thus this action research will focus on developing methods of instruction more effective, eficient , and appealing in a wide variety of contexts.

Several research has been conducted to identify the predictive variables of mathematics difficulties (Fuchs et al., 2005; Geary, 1990; Geary, Hamson, & Hoard, 2000; Jordan et al., 2006; Jordan, Hanich, & Kaplan, 2003). Overall, findings have shown that cognitive development problems are manifested in difficulties with understanding number knowledge and relationships (e.g., magnitude, sequencing, base 10), solving word problems, and using efficient counting and calculation strategies (e.g., counting on, doubles + 1) to solve arithmetic combinations (i.e., number facts). Findings from studies in these areas informed the design of the preventative intervention practices described in this article, specifically, in the area of number knowledge and relationships and arithmetic combinations.

In a study of over 7,000 students, Wellingsky (2000) found that students whose teachers conduct hands-on learning activities outperform their peers by more than 7o% of a grade level in math on the National Assessment of Educational Progress (NAEP).

Loughlin (2007) mentioned, "Some children need a model like the open number line to keep a record of their counting and help them think while experimenting with patterns and relationship and thus developing number sense" (p.134). In school mathematics, students generally learn a traditional algorithm for each operation that is quite efficient. According to Ellis and Yeh (2008), "the traditional algorithms used for subtraction and multiplication are very efficient but not very transparent—they do not allow students to see why the methods work. These students continue to struggle with the following kinds of questions:

- When multiplying with renaming, why do we multiply the next digit in the multiplicand before you add, rather than after?
- When multiplying by a 2- digit number, why do you move the second partial product one space to the left?
- In long division, why do you multiply and subtract as part of the process?
- In long division, what is the reason for the use of the phrase "bring down"?

According to Martin (2006), "to meet the needs of all students and design programs that are responsive to their intellectual strengths and personal interests, we must explore alternatives to traditional mathematics instruction. We need to examine not only what is taught but how it is taught and how students learn" (p.iv).

Carbonneau, Marley and Selig (2013) conducted a meta-analysis of 55 studies investigating the benefits of the use of mathematical materials. Each of the studies involved groups of students using concrete objects compared with control groups of students using only mathematics symbols.

The major finding was a small to medium positive effect on student learning for students using materials compared with those using mathematical symbols only. There were some provisions on these findings in relation to the strengths of the effects:

- Developmental level of the user. The materials were most effective in the 7–11 years age group. They were still effective, but less so, in the 12 years and older age group. Least positive effects were noted in students aged 3–6 years; perhaps due to the difficulty that younger students have in discerning between the materials and their mathematical representations.

- Perceptual richness of the object. In the studies, perceptually rich objects were considered to be those closely related to actual objects (e.g. toy bears) and when used resulted in a larger positive effect. Although perceptual richness was important in encouraging conceptual development, care is needed in their use with pre-operational students who may become distracted from the mathematics understandings intended by their use.

• Level of guidance during manipulative use. Students whose use of manipulatives was scaffold, were better able to establish connections between objects and mathematical representations.

In relation to virtual (digital) manipulatives, a meta -analysis conducted by Moyer-Packenham and Westenskow (2013), found that virtual manipulatives:

•Allow exploration in a different manner to concrete materials or pen and paper; • Support the development of individual representations as the learner is in control; and • Have a moderate effect on student achievement.

What these findings confirm is that with timely teacher support, and given the selection of appropriate mathematics materials, student mathematical achievement is enhanced by their use.

The need to address different needs of students require tailoring of classroom environment and instructional practices to create a unique learning experience for them. Altering the environment or the process of learning, modifying the content and tailoring evaluation products all would be considered differentiation (Wiles and Bondi, 2007).Differentiated instruction involves different pedagogical approaches, or strategies that will cater to the different thinking and learning interests of pupils particularly the struggling learners. Gardner,(1991) concluded that " students possess different kinds of minds and therefore learn, remember, perform and understand in different ways" (p.11). In a similar vein, Martin (2007), mentioned, "We learn when we are actively involved in the learning process and use a variety of learning modalities. Not all students have the same talents, learn the same way, or have the same interests and the same abilities" (p.iv).

Similarly, a number of studies suggest that the use of instructional games has the simultanious goals of improved learning outcomes and increased student motivation for learning mathematics. Thornton and Wilson (1993) mentioned, "When teachers use appropriate mathematics games, both student learning and motivation are strengthened… Mathematics' games can and should be used before, during, and after , to help students develop higher- level thinking skills… Games can stimulate children to be alert, curious, and critical, and to see themselves as problem solvers"(pp. 288- 289). Bright, Harvey, and Wheeler (1979) found that games are effective for helping students acquire, practice and transfer mathematical concepts and problem solving abilities. Klein and Freitag (1991) found that the use of instructional games increases student interest, satisfaction, and continuing motivation. Allen and Main (1976) found that instructional gaming in a mathematics curriculum helped to reduce the rate of absenteeism in inner city school.

Number Knowledge and Relationships are the early indicators, failure to know these , the students would require an intervention to prevent further instructional delay. The base-10 system (i.e., place value, computation) understanding helps students conceptualize numerical relationships and the how and why of computational procedures. Unfortunately, limited core mathematics instructional time is devoted to teaching and practicing base-10 concepts (Bryant, Smith, & Bryant, 2008).

Algorithm or procedures or mathematical calculations are essential for mathematics particularly in the four fundamental operations. But above all, the disposition of the student is most important. Pound and Lee (2011) mentioned the "what if learning disposition" (p.9). The disposition to think "what if?" is at the heart of problem solving and is referred to as conjectural thinking by Pound and Lee (2011).Watson and Mason (1998, cited in Casey, 2011) state that questions such as "what if?" provoke children into becoming aware of mathematical possibilities.

In Mathematics it is important to see patterns, to make general statements that articulate pattern, and to explain why this is so. One of the challenges to educators is to encourage children to see patterns and make connections and generalizations about mathematical ideas.

Using concrete materials in teaching number concepts and skills has come to be taken for granted as a method that will help children to learn mathematics in a more meaningful way. Based on the theory of Piaget, there are different stages in the development of children's thinking, of the physical manipulation of objects or the actual enacting in some way of mathematical operations such as addition or subtraction. The types of approaches to be used with struggling learners must see to it that their diverse needs are met to have a sound research findings. Based on the available information, Fuchs, et.al.,(2008) list seven principles that need to be considered when providing effective practice:

(1) instructional explicitness
(2) instructional design to minimize the learning challenge
(3) strong conceptual basis
(4) drill and practice
(5) cumulative review
(6) motivation to help students regulate their attention and behavior to work hard
(7) ongoing progress monitoring.

In order to apply these principles in a constructive way, it is advisable to always consider the particular developmental level of a given child.

Giving a comparison on how Mathematics was taught before and the Mathematics of today, Clements & Sarama (2009) wrote: Frederick Froebel, invented kindergarten- originally a multiage early childhood education. Almost every aspect of his kindergarten was crystallized into beautiful mathematical forms (Brosterman,1997). Froebel used "gifts" to teach children the geometric language of the universe. Cylinders, spheres, cubes, and other materials were arranged and moved to show geometric relationships. His "occupations" with such materials included explorations (e.g., spinning the solids in different orientations; showing how, for example, the spun cube can appear as cylinder), puzzles, paper folding, and construction. Triangles were used to teach concepts n geometry. Children covered the faces of cubes with square tiles and peeled them away to show parts, properties and congruence. Many blocks and tiles were in carefully planned shapes that fit in grid in different ways. Shapes, rings, and slats were used in plain view on the ever- present grid on the kindergarten table, arranged and rearranged into shifting symmetrical patterns or geometrical borders.

Furthermore, structured activities that followed provided learning opportunities in basic arithmetic, geometry, and the beginning of reading. For example the cubes children had made into a geometrical design on the grid etched into every kindergarten table, and later into two rows of four each and expressed as " 4+ 4." In this way connections were key: The "chair" became a beautiful geometric design, which then became a number sentenced. Unfortunately, present- day early childhood settings do not include this type of rich mathematics. Indeed, not much math learning at all in too many early childhood settings. As a result, math achievement of children entering first grade is not substantially higher that of entering kindergartners (Van den Heuvel-Panhuizen, 1996). The same is true to the primary grades where focus is directed to hard concept core curriculum learning. Primary teachers may spend too much time teaching children things they already know, and not enough time exploring more challenging mathematics, including problem solving (details on these and other findings can be found in Clements & Sarama, 2009a; Clements& Sarama, 2012a, 2012b).

Foster (1994) investigated children's difficulties with what appear to be simple addition tasks. He refers to the stages identified by Fuson (1992) in performing addition:

- count-all, where each set is counted separately then the two are counted together;
- count- on, where they count on from the first set through the second set to find the total;
- count-on from the larger, where, where they reverse the order of the numbers and count on to task include the smaller;
- count –on from either, when they reverse the order of the numbers regardless of their size.

The results show a high degree of accuracy across the years for the first type of task (82%, 89% and 97% respectively. This data was broken down further to group the achievement of children into three categories of high, low and medium attainders. Foster concludes that "Once children were competent at all the available procedures, they select one which best fits what they require" (p.366). He states that: "When actually solving a particular example children resort to the whole battery of skills and knowledge at their disposal (p.366).

The left-to-right reading of a number statements is quickly overridden by the convenience of counting on from larger or counting on from either for the majority of children. As procedures these are probably more important than count-on itself. This study demonstrates that the required versatility is present in large measure in the successful group, and in not entirely absent from the less successful group.(idem, emphasis added).

Ruwisch (1998) explored 7-9 year -old children's ability to carry out multiplicative problem- solving strategies using real-life situations. Three problems were given, one at a time and orally, to the children over a period of two to three weeks and involved: (1)numbers of goods in a pack; (2) bottles of a given volume needed to produce a given number of glasses of juice; and (3) acts the number of tiles to cover the floors in a dolls' house. She found that very few of the children used addition facts and either counted or used multiplication facts; and they were consistent in the strategy they used from one problem to another. A point noted was that when a strategy apparently had failed (for example where there was a remainder when trying to calculate the number of tiles), the children would invoke the real- world context being used and comment to the effect that they could probably go to a shop to buy different sizes that would fit.

A study to investigate when children reach an understanding of commutativity in multiplication was carried out by Schlieman et. al.,(1994). Previous studies were noted in which children who were street vendors in Brazil relied on repeated addition in performing calculations in the course of their selling (Schlieman ,and Carraher ,1992, Nunes,et.al., 1993).

The extensive use of games and manipulatives in the program to enhance math engagement and to teach number sense—as well as a variety of more specific math concepts and skills—is justified by research in the learning sciences as well as by common sense, always a useful touchstone when making any theoretically motivated curricular decisions. The author's second thought, when considering how to teach the central conceptual structure, was that quantity representations lie at the heart of this structure and, indeed, it is these quantity representations that give the count words and the written symbols—both abstract concepts and empty symbols without their quantity referents—their meaning. Thus, it made sense to adopt the following instructional principle to guide program development and teachers' use of the program: When building new conceptual knowledge, instruction should always begin in the world of real quantities to give students opportunities to explore the concept in the physical world (e.g., with concrete manipulatives) before asking them to use number words and math talk to describe these quantities (or quantity transactions) orally and before asking them to take the final step and to use written symbols to describe these quantities (or quantity transactions) in writing. More recently, Hiebert (1997) provides advice from several leading math education researchers who unanimously consider the use of manipulatives to be an essential ingredient in teaching math for understanding. A mathematics manipulative material is an object that can be handled by an individual in a sensory manner during which conscious and unconscious mathematical thinking will be fostered. Consequently, a mathematics manipulative object has the potential to lead to

an awareness and development of concepts and ideas linked with mathematics and they would most likely be purpose designed.

Concrete manipulatives are also an essential element in the Common Core State Standards and their value in providing the building blocks for math learning is evident in the concept of "rigor" associated with the standards (National Governors Association, 2013). Rigorous programs have been shown to provide students with the conceptual understanding, procedural skill and fluency and application strategies for learning in context that make them successful lifelong learners (Boston & Wolf, 2005). This principle receives strong support from two of the leading thinkers in the 20th Century who devoted their lives to studying the development of children's thought and learning, Jean Piaget and John Dewey.

Jean Piaget's (1950) theory states that cognitive development follows an invariant sequence and that thinking always starts at the sensorimotor level: An idea is first felt, seen, touched or acted upon in the physical world before it is abstracted and becomes a mental concept. Constance Kamii (Kamii & De Clark, 1985), a Piagetian researcher, has spent many years studying the mathematical learning of young children. After analyzing teaching techniques, the views of math educator, and the American math textbooks, she has concluded that our educational system often confuses these three kinds of knowledge. Educators tend to provide children with plenty of manipulatives, assuming that they will internalize mathematical understanding simply from this physical experience. Or ignore the manipulatives and focus instead on pencil- and –paper activities aimed at teaching the names of numbers and various mathematical terms. In the Piagetian tradition, Kamii argues that "children should reinvent arithmetic". Only by constructing their own knowledge can children really understand mathematical concepts. John Locke on the other hand, recommended entertaining games to teach arithmetic facts (Kamii, and De Clark, 1985).

John Dewey (1918) expressed a similar idea earlier in the century, suggesting that thought begins in action, and opportunities "to do" in the physical world should provide the cornerstone of education. He advocated learning through experience and supported Progressivism. Gutek (2004), define the word Progressivism as coming from its root, progress, a word that proclaims the possibility of improving something. Progression means to move forward by a series of related steps, a series of ends – in – review rather than utopian leaps into the future. It is the orientation that believes that improvement and reform in the human condition and society are both possible and desirable.

Manipulatives, in the context of education, are physical tools of teaching, engaging students visually and physically with objects such as coins, blocks, puzzles, markers, etc. The use of manipulatives is constructivist because students are actively engaged in discovery during the learning process. A teacher provides the materials along with a basic direction, but students should be allowed to explore the materials and ask questions before and during the lesson.

The history of the use of manipulatives in the classroom goes back over fifty years. A succinct historical summary of this is offered by Patricia Moyer (2001). She comments on Jean Piaget's (1950) work which suggested that children aged seven to ten years old work in primarily concrete ways and that the abstract notions of mathematics may only be accessible to them through embodiment in practical resources. This was later built on by Zoltan Dienes (1969) who developed his base apparatus, and Caleb Gattegno and Georges Cuisenaire (1954) with their development of Cuisenaire rods.

Jerome Bruner's (1966) elaboration of enactive, iconic and symbolic modes of working draws further attention to the role of the concrete and representational in progress towards abstract work in symbolic realms. More recent work in the 80s and 90s develops this further using constructivist theories to develop ideas of learning which see the learner as constructing their own meanings relating concrete manipulatives to the abstract symbols in ways that make sense to them.

Moyer (2001 p.176) points out that: Manipulative materials are objects designed to represent explicitly and concretely mathematical ideas that are abstract. They have both visual and tactile appeal and can be manipulated by learners through hands-on experiences. She goes on to point out that often students use manipulatives to follow a rote learned procedure without a sense of the ways in which the apparatus reflects mathematical structures. Examining how the apparatus reflects and embodies mathematical structure is crucial to using it effectively and to the process of making the meaning of the manipulative transparent to the user. Once again we come back to the notion of the learner as a sense maker in the classroom and the need to offer learners opportunities to make sense of both the manipulatives used and their relation to the mathematical ideas and problems which they are being used to solve.

Moyer also draws attention to the need for familiarity of the learner with the resource that is being used as a tool so as to reduce the cognitive demand of its use. Moyer's study is an important one focusing on actual observations of how teachers use manipulatives and asking them why they use them as they do. All the ten teachers involved were engaged in a programme of study that supplied them with a toolbox of mathematical manipulatives to use in their classrooms and offered them some professional support in doing so. The teachers involved gave various reasons for using manipulatives. One of these was that using them was more enjoyable than doing mathematics that was solely abstract and symbolic. This was substantiated by the researcher's observations that students were active, engaged and interested in lessons when manipulatives were used. The enjoyment experienced by teachers and learners in using manipulatives meant that teachers tended to use them as a reward for good behavior rather than solely when they would be a useful adjunct to learning. Some of the teachers used the manipulatives only at the end of the week, the end of the year or when they had time. They didn't seem to view their use as intrinsic to the substance of the core of the curriculum but rather an addition that enhanced enjoyment.

Lio Moscardini (2009) in which he analyses the use of apparatus in teaching subtraction to children with moderate learning difficulties. Although children with special needs are his focus, his analysis and findings are no less relevant to all learners. He makes a valuable distinction between using manipulatives as tools and as crutches. He suggests that manipulatives can be seen as crutches when children use them without understanding to follow a rote leaned procedure to tackle a mathematical task. In this case his research showed that the children's learning was not

transferable even to working in the abstract with symbolic representations of the same problem, let alone to tackle a new problem posed in a different scenario. In cases where children were encouraged to make sense of the mathematics by using the manipulatives as tools to solve the problems posed, they were able to transfer their knowledge to novel situations and also to solve problems posed symbolically.

The case studies that Moscardini recounts , show some striking examples of manipulatives being used in a range of ways from blindly following a process through to using the manipulatives to demonstrate a result for a fellow pupil. One example that he describes showed one learner explaining to another the solution to the problem of the amount of possession of the ball that one team had in a game of football if the first side had possession for 56 minutes. Using Dienes base apparatus, the learner who was acting as a mentor to a fellow pupil was able to demonstrate that the solution was 34 rather than the answer of 33 that his fellow pupil had got by miscounting a number of marks on his solution. The crucial component here of effective use of the manipulatives seems to be this emphasis on opportunities for children to make sense of the apparatus and to use it to support their own arguments. Manipulatives do have a place as computational tools to support various calculation strategies and demonstrational tools to expound a procedure but it is only when learners themselves use the artefacts to support their own sense making processes that they will begin to see their power as tools for calculation and not just rely on them as crutches to support them in blindly following taught procedures.

On the other hand, the use of fingers ," finger counting"or the hand to represent quantity was also used as a way to facilitate learning the concepts in mathematics. Finger counting may take many forms. For example, finger counting may be as simple as raising a finger to represent a count of "1", beginning with the thumb and moving towards the outside of the hand. For some tribes in New Guinea, counting involves the whole body beginning with the little finger of the right hand and ending with the left little finger, touching wrist, elbow, shoulder, eyes, nose, mouth, and ears (Ifrah, 2000).

Stegemann & Grunke (2014) stated ,"Mathematical competence is acquired in stages, from very basic precursor skills to higher order- processing abilities". When monitoring the developmental phase in which students start to generate answers to subtraction problems in the course of their elementary school career, one can observe that (a) children first represent the minuend with their fingers and then fold down the numbers of fingers equal to the subtrahend, (b) they then match the number of fingers of the minuend to the number of fingers of the subtrahend and derive the answer by counting the unmatched fingers that remain, (c) they subsequently count upward from the subtrahend until they reach the minuend (the answer is the number of fingers in the counting sequence) or they count backward from the minuend the number of times equal to the value of the subtrahend (with the last number in the counting sequence being the answer), and (d), in the last sub -stage, they retrieve the answer from the long term memory (Jordan, Hanich, & Uberti, 2003). One's finger can furnish a natural and readily available way to represent numerical information and reflect numerical concepts (Beller & Bender, 2011). Since on our hands we represent numbers as a sum or a multiple of 10, our fingers can facilitate the understanding of the 10- base numerical system. Further , the permanency of the representations helps to reduce working memory load when performing numerical calculations. Finger representation becomes a type of "embodied cognition" that supports the internalization of numerical information (Fisher & Brugger, 2011; Ifrah, 2000). Therefore a remedial approach which incorporates the systemic use of finger representations may prove to be effective for teaching basic number sense concepts such as counting, computation, and place- value during a certain phase in the development of mathematical abilities.

The presumably best-known finger counting technique is called Chisanbop. It is an approach developed in Korea in the 1940s and is based on the abacus (base-10 system) (Rumiati, & Wright, 2010). The name Chisanbop is made up of the Korean words "chi" (for "finger") and "san-beop" (for "calculation"). Within this system, number values are assigned to each of the fingers. The hands are held in a relaxed posture above a table (palms down). Each finger of the right hand counts as one, except for the thumb, which represents the value of five; each finger of the left hand counts as ten, except for the thumb, which represents the value of fifty. Refer to the figure below:

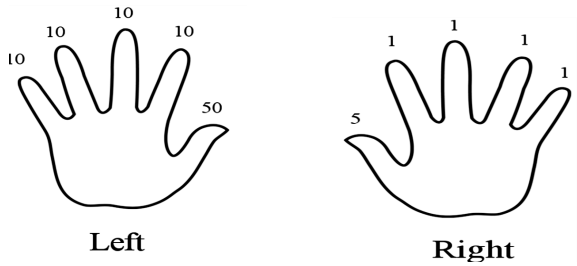

Figure 1. The fingers and their representing values of the left and the right hand

Etlinger and Ogletree (1980) had success teaching finger counting to handicapped children, while Ogletree and Chavez (1981) used finger Mathematics with low SES (socio- economic status) grade 2 students and found significant improvement in math achievement. Usnick and Engelhardt (1988) confirmed the use of finger calculations for children at- risk for math failure, noting that it is consistent with Piaget's theory of cognitive development.

Mathematically, addition can be viewed as an extension of counting; that is, we can define addition in terms of counting (Wu, 2011). The sum 4 + 7 is the whole number that results from counting 7 numbers starting at 4, that is, 4, 5, 6, 7, 8, 9, 10, 11. As tedious as it would be to solve this way, the sum 56 + 895 is the number that results from counting 895 numbers starting at 56. In general, for any two whole numbers a and b, the sum a + b is the number that results by counting b more numbers, starting at the number a (Wu, 2011). We can also skip count. If we skip count by 10's ten times, we have 100. Similarly, skip counting by 100's ten times results in 1000, and so forth. Thus, 47 + 30 can be solved by skip counting by 10s-47… 57, 67, 77.

Stated in Rutzel(2013), From the earliest levels, arithmetic depends on two properties: (1) the associative law of addition states that (a + b) + c = a + (b + c), allowing mental addition strategies such as 5 + 3 + 7 = 5 + (3 + 7) = 5 + 10 = 15; (2) the commutative law of addition states that a + b = b + a; thus, an efficient mental strategy is 2 + 34 = 34 + 2, and so, 34, 35, 36. Young children use these properties, usually only intuitively, although many are explicitly aware of using commutativity in their counting-based strategies by starting to count at the larger number.

Subtraction does not follow these properties.

Subraction is defined mathematically as the inverse of addition; that is, subtraction is the additive inverse – a for a such that a + -a = 0. Or, for 9 – 5, the difference is the number that, when added to 5, results in 9. So, c – a = b means that b is the number that satisfies a + b = c. In this example, 5 + 4 = 9, so 9 – 5 = 4. Another way of saying this is that because we know that subtraction and addition are inverses of each other, "9 – 5 = _" means the same as 9 = 5 + _.

In summary, a main goal of the counting-based addition and subtraction learning trajectory is that children learn to solve arithmetic problems of the types. Addition and subtraction can be understood through counting, and that is one way children come to learn more about these arithmetic operations (for discussions of other ways, including place value, see Clements & Sarama, 2009a; Sarama & Clements, 2009). Learning trajectories, as well as assessment, curriculum development, and teaching can support children's learning.

One component of the learning trajectory is the developmental progression. The two major influences on these levels of thinking are: the level of counting competence (along with other number knowledge) and the type of problem. Children develop increasingly sophisticated counting strategies to solve increasingly difficult problem types. The figures below show developmental progression of teaching mathematics to children (Clement & Sarama in Reutzel, 2013).

Assumption

The underlying assumption behind this action research is that if there were no treatment effect, the relationship between the MAFFO pretest criterion score (for those students for intervention) and the MAFFO posttest outcome score would be the same. In other words, the null hypothesis is that there will be no great improvement for the pretest and posttest scores for the students who do not have mastery (and received no intervention) compared to the posttest scores for students who did receive the intervention An effective intervention would significantly raise the scores of students who fall under non-mastery. Data analysis examines the degree to which the actual regression line for the students who received intervention differs from the expected line and determines whether this is likely to be due to chance or a systematic increase above projected scores.

Theoretical Framework/ Conceptual Framework

Our goal in today's math classrooms has shifted from memorizing facts and procedures to increased understanding of math skills and concepts. We want our students to be able to do mathematics, but we also want them to understand the math they are doing. We recognize that as math tasks increase in complexity, an understanding of facts, formulas, and algorithms will help them experience continued success. The goal of mathematics is to understand concepts, not to memorize procedures. To teach mathematics for conceptual understanding, teachers must use principles from cognitive psychology to help students learn how to think. By their nature, concepts organize information and help students discern patterns (Pearse and Walton, 2011).

Referring to the above mentioned background, it is worth expanding on the psychological basis of mathematics teaching. It applies modern developmental psychology, especially constructivist and cognitive theories as well as interdisciplinary research results – neurocognitive ones and the analyses of the role of discourse and communication in child development. Two theorists, Bruner and Vygotsky shared their views on how the concept known as scaffolding helps the children.

Bruner was the first to use scaffolding in an educational context. He used scaffolding to characterize the verbal interaction when reading to young children. Scaffolding to Bruner is a teaching strategy that focuses on increasing student activities. This strategy is a one-step- at- a time, temporary support. The support can be removed as the student progresses. It usually start one step beyond what the learners are able to do alone. The concept of scaffolding is grounded on socio- cultural theories that learning is the way for learners to engage in specific, socially- situated interactions. According to Jerome Bruner (1986) there are two factors in the process of the recognition of the world: (1) objective scientific explanation of the world order, and (2) individual mind effort to understand and make sense of its subjective world in the context of other individual worlds. In his theory Bruner emphasized the significance of child intuition and non-academic notions. He warned against the premature introduction of formal knowledge and definitions to children. At the same time he promoted the idea of experience and exploration of the world by children. Jerome Bruner has distinguished three modes of representation in cognitive development: enactive, iconic and symbolic ones which are accessible to a human being during their lifetime. Enactive learning does not represent his environment internally rather simply deals with action on objects in the external world. Iconic has the ability to represent external objects internally as image or icons. Furthermore a child in the iconic stage can manipulate these images internally and see possibilities for re-arranging external objects. Symbolic has the ability to represent the external world through some symbolic representation of physical objects. In Bruner's view of development a child does not move through an early stage in the sense that she leaves the current stage and moves into a new stage characterized by a new way of thinking.The purpose of instruction for Bruner is to create an environment in which a person can discover new knowledge for him or herself. Instruction exists to guide and support new learners as they interact with their environment to construct new knowledge for themselves. The purpose of instruction is not to tell the student that which they ought to learn but rather to create an interesting and stimulating environment in which students can discover this knowledge with the teacher's support..

Lev Vygotsky proposed scaffolding through his idea on zone of proximal development (ZPD). He identified the zone of actual development as the place where the child can do alone and unassisted, and the zone of proximal development as the place where instruction and learning can take place through collaboration in actual concrete and situated activities with an adult or more capable peer (Vygotsky, 1978). The ZPD describes the continuum between assisted performance and independent performance. Through meaningful practice, an individual controls specific knowledge and skills and assures new roles and responsibilities within particular learning contexts. The social interactions are crucial for the development from the very beginning of the child's life (Vygotsky, 1962 cited in Verenika, 2003). McKenzie (1999 as cited in Vacca, 2008) enumerated seven characteristics of scaffolding:

1. it provides a clear direction
2. it clarifies purpose

3. it keeps the students on tasks
4. it offers assessment to clarify expectation
5. it points students to worthy success, and it reduces uncertainty, surprise and disappointments
6. it delivers efficiency
7. it creates a momentum

Lerman (1998) elaborates on this Vygotskyan perspective and relates it to current developments in mathematics education. He suggest that with respect to ZPD. Vygotsky probably intended to emphasize jointly the roles of around the learning activity and the learning potential of the child but notes that many tend to view ZPD as a kind of force field which the child carries around, whose dimensions must be interpreted by the teacher so that the activities offered are within the child's range.

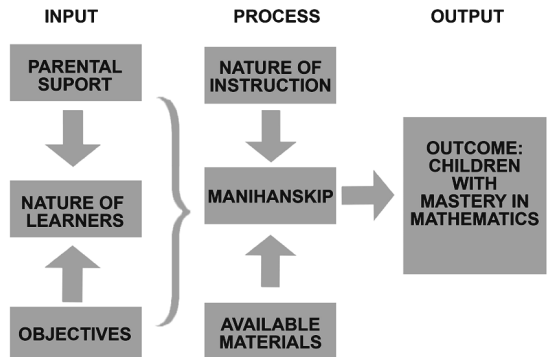

Figure 2. Theoretical Framework/Conceptual Framework

Through the use of manipulative and a variety of pedagogical approaches, teachers can address the diverse learning styles, cultural backgrounds and developmental stages of students, and enhance within them the formation of sound, and transferable mathematical understandings. The arrow of parental support points to the nature of the learner. It is paramount that parents give support to their own children ,for they were the one most familiar to their children. Teachers support and motivation are great importance too as they use the ManiHanSkip technique. They should be creative enough to provide learning activities that will stimulate motivation and the pupil's thirst for learning. Improvise learning materials may also be provided by the teachers. When all these are put in coherence with one another, then the product/ outcome, that is the ready child/ children with mastery in math may be realized.

Methodology

Research Design

This research used both quantitative and qualitative methods of research. Cohen (2007) mentioned, "There is no single blueprint for planning research. Research design is governed by the notion of fitness for purpose (p.78). The qualitative method /design will focus on understanding the experiences, perspectives and thoughts of the participants through various strategies of inquiry such as interviews and observation. Different observation techniques that will describe participants/sample of the study, such as focused group discussion to the sample and their parents are properly documented. The difference in the means of pretest and posttest are compared to answer the null hypothesis.

Ho: There is no significant difference on the MAFFO pretest and post test results of students who were given "ManiHanSkip" mathematics intervention.

This research made use of purposive sampling. The representative sample was acquired after the MAFFO pretest. The results yield thirty-five (35) non- numerate students in grade five. Although negligible on the eyes of other people, this is alarming on the part of the teachers, because these students, once they cannot cope to the pressures and rigors of their schooling, may forego schooling and might become another problem of the community.

As always, it is important when considering any research to have a background against which to interpret it. The theoretical perspective that informs the researchers' work is necessary , in order to understand what they choose to study, and why and how they choose to study it (Nickson, M., 2000). The activities that the teachers will give to students who were having difficulty in acquiring skills in the four fundamental operations starting from addition will be based on the assessed needs of the student and the errors committed in the different operations. The researchers do not believe on the "one size fits all" method of teaching. Children may differ, learning style of one may not be the style of the other so to achieve maximum positive results, there is a need to assess the individual needs of the students. It is important that the needs of the pupils are known to be able to formulate appropriate objectives as well as to be able to select the content of the intervention.

Situational analysis was done to determine presence and degree of interference of both internal and external factors . The purpose of the situational analysis is to generate useful data that can assist in the preparation of intervention based on the nature of the students. From the student's characteristics, age, ethnic background, availability of school materials, values of the community, parental involvement and the school as the caring environment, all these were given common focus so as to come up with an intervention that will give positive results.

FGD's and teachers' interview were done. Parents interview/ demographic survey to parents were done, analyzed and tabulated. To analyze the children's profile, it is necessary to interview the parents of the identified struggling pupils to determine the kind and degree of support the individual family is giving to the struggling pupils.

Results of the MAFFO Pre-test and Post-test will be subjected to Inferential Statistics to find out significance or non-significance of the means. Information from quantitative methods tends to be standardized, efficient, and amenable to standard tests of reliability, easily summarized and analyzed, and accepted as "hard" data. Information from qualitative approaches adds depth and can be delivered in interesting story-like presentations; and provides a means to explore and understand the more superficial quantitative findings. Using both types of method afford important cross-checks on findings.

Instrument/ Proposed Action

"ManiHanSkip Technique" refer to the use of manipulative, the hand, and skip counting. This technique

uses real objects such as toys, sticks, and other counters. All

the manipulative used will function to stimulate internal representation of ideas . Connecting the learner's own mental actions to the tools used for representation. Goldin and Schteingold (2001) define representation as a " sign or a configuration of signs, characters, or objects that can stand (symbolize, depict, encode, or represent) something other than itself" (p.3). Representation is what each individual does. In other words, an individual knowledge is based on the making of relationship and comes from the learner's own mental actions. Manipulative may serve as tools for teachers to translate abstraction into a form that enable learners to relate new knowledge into existing knowledge(Moyer, 2013). The sequence of intervention and samples of activities are found in the appendix.

Although one may assume that this is an easy thing for teachers to do, in fact it is not. It is a challenge for teachers to (1) interpret students' representations of their mathematical thinking (2) reveal and represent connections among mathematical ideas, and (3) develop appropriate concrete contexts for learning mathematics (Moyer, 2013).

The fingers on the child's hands are also used to count as well as to do "finger mathematics" and body movement such as skipping, jumping or hopping to dramatize movement of numbers in skip counting. A complete intervention plan of activities is found in the Appendix for reference.

This writer/researcher with the help from the mathematics teachers of the struggling pupils designed a work action plan in order to make all thirty-five pupils ready at least in performing the basics in the four fundamental operations. This effort of the teachers will also be beneficial to the pupils who will soon be taking the National Achievement Test.

Procedures

Mathematical competence is acquired in stages, from very basic precursor skills to higher-order processing abilities. The intervention will start from knowing the numerals, putting things together, getting part of the set, repeated addition (that is multiplication)and distribution for division concepts. Operations were introduced starting from addition to division, with due considerations to the needs of the students' and their level of difficulties.

Tutoring sessions were delivered in same-ability, small instructional groups consisting of three to four students within a grade five level . Taking absences into consideration because the success of the intervention is affected by the continuity and frequency of practice. Please refer to appendix for the complete intervention.

It is necessary that the results of the pretest and posttest of the be subjected to statistical results to determine the relationship and difference of results. This will also confirm the importance of giving intervention than just leaving the problem on a *status quo* position and not supporting students on their struggles in learning.

Teachers' training.

At the beginning of the program, initial training consisted of (a) an explanation of the program, (b) a description of the lessons, and (c) an explanation of procedures for explicit, systematic instruction. Tutors were given time to practice the initial lessons. When the program began, additional tutor training consisted of reviewing new lessons and making adjustments to lessons based on teachers' feedback.

Teachers/implementers were from time to time reminded of their conscientious effort to attend to the needs of their students, do differentiated instruction and be persistent in the implementation. Struggling learners are to be monitored closely and this includes giving emphases on parents' role and participation. Parents are from time to time reminded of the importance of student's attendance during intervention to ensure participation on the activities.

Results/ Findings and Discussions

The data presented below show the pretest results of the students from Grade 2 to Grade 6 . While the results in Grade five shows different numbers of pupils under non-mastery in different operations, the focus of this action research are the thirty-five students in grade five who were under non-mastery level in addition. Surely these thirty – five students are also part of those with non-mastery in other operations. The assumption was that if these thirty – five students are having difficulty in addition, then the more these students will have difficulty in the other operations namely Subtraction, Multiplication, and Division, and that these students are surely having a hard time catching -up not only in mathematics but in all their academics. The complete results of MAFFO Pretest are found in Table 2 below. The results for grade five was intentionally presented in yellow for easy identification.

CAMARIN ELEMENTARY SCHOOL
PRE TEST RESULT IN PROGRAM MAFFO

Table 2. MAFFO Pretest (July, 2016)

GRADE	ENROLMENT (as of June 30,2016)	ADDITION			SUBTRACTION			MULTIPLICATION			DIVISION		
		With Mastery (5)	Near Mastery (3-4)	Non-Mastery (0-2)	With Mastery (5)	Near Mastery (3-4)	Non-Mastery (0-2)	With Mastery (5)	Near Mastery (3-4)	Non-Mastery (0-2)	With Mastery (5)	Near Mastery (3-4)	Non-Mastery (0-2)
Two	992	164	440	388	108	255	629	107	270	615	128	269	623
Three	1,095	532	362	200	429	371	295	125	490	480	141	481	473
Four	1,023	349	445	229	222	237	564	122	389	512	105	352	566
Five	**1,026**	**666**	**324**	**35**	**511**	**451**	**64**	**325**	**575**	**128**	**237**	**533**	**256**
Six	998	640	322	34	506	429	68	303	559	136	250	712	242
Total	5,134	2,351	1,893	886	1,776	1,743	1,620	982	2,283	1,871	861	2,347	2,190

All the thirty-five students were given the "ManiHanSkip" intervention from August to November and that every after the end of the intervention for the particular operation, the students are given a summary test/ evaluation. The data below show the results of the posttest after the intervention were given to the grade five students :

Monthly Summative Test Result
Operation Addition
August 2016
Table 3. Posttest results in addition

Grade V	With Mastery		Near Mastery		Non-Mastery	
	Male	Female	Male	Femal	Male	Female
35	19	3	8	5	0	0

Results of posttest in addition reveal that 19 male and 3 female grade five students gain mastery in the addition operation. It shows that the technique used is working for the struggling students.

Monthly Summative Test Result
Operation Subtraction
September 2016
Table 4. Posttest results in subtraction

Grade V	With Mastery		Near Mastery		Non-Mastery	
35	Male	Female	Male	Female	Male	Female
	4	4	23	4	0	0

Monthly Summative Test Result
Operation Multiplication
October, 2016
Table 5. Posttest results in Multiplication

Grade V	With Mastery		Near Mastery		Non-Mastery	
35	Male	Female	Male	Female	Male	Female
	1	1	22	6	4	1

Monthly Summative Test Result
Operation Division
November, 2016
Table 6. Posttest results in Division

Grade V	With Mastery		Near Mastery		Non-Mastery	
35	Male	Female	Male	Female	Male	Female
	0	0	20	6	7	2

From the tables 3-6 above, the results of the posttest showed that from non-mastery in all the four fundamental operations, the thirty-five students improved, shifting to the categories "with mastery" and "near mastery" respectively. With no (zero) student under non- mastery in both addition and subtraction.

Data Analysis

The test scores used in the study were the improvement in scores by the students. The improvement in scores were calculated based on the pre-test and post-test taken by students. The pre-test was taken before the students had undergone classes in ManiHanSkip intervention, while each post-test in the particular mathematical operation was given during the last session of the intervention. Thus, the improvement in scores are the differences between the post-test and the pre-test taken by the students.

The study made use of descriptive and inferential statistics in analyzing the data. Inferential statistics particularly used the t-test to test the differences between means from the same sample measured twice (pre-test and post test) to check if there is a significant improvement in scores that may be attributable to the intervention given by the teachers.

After a 16-week intervention with 35 low-performing fifth- grade students, the teachers/implementers found that the students improve in Addition and Subtraction but very little improvement was observed in Multiplication and Division.

On the part of the teachers, their professional profile was examined to find out if the teachers handling or in-charge to teach grade five mathematics were qualified in terms of their education and experiences. Table below shows the profile.

Of the six teachers, there were 3males and 3 females. All five have post graduate units except Teacher D who simply finished a Baccalaureate Degree. Four teachers have more than five years of teaching experiences in Grade five mathematics whereas, 2 have less than five years' experience. These qualifications of the teachers show that they are capable to teach the core concepts of the four fundamental operations. These teachers were oriented on the basics of using manipulative, the hands technique and to skip count through play. They were also oriented on the importance of having differentiated instruction and not to bank on the " one size fits all "' approach, and that it is of paramount importance to teach within the context of the students.

Singleton (2009) emphasizes the need for 'instruction that is systematic and intensive' (p8). Singleton goes on to define systematic teaching more closely as,

Teachers	Age				No. of years Teaching in elementary mathematics		No. of years Teaching in grade five mathematics		Bachelor 's Degree	Post Graduate
	M 25-30	F 25-30	M 30 Above	F 30 Above	Less than 5 years	More than 5 years	Less than 5 years	More than 5 years		
A				/		/		/	/	M.A with 30 units
B				/		/		/	/	M.A with 18 units
C			/			/	/		/	M.A with 36 units
D			/			/		/	/	
E		/			/		/		/	M.A with 9 units
F			/			/		/	/	M.A with 23 units

Grade Five Mathematics Teacher's Profile

'structured, cumulative and sequential' (p20). Lingard (2005) also argues for 'clearly focused intervention' (p75) and demonstrates how this can be done for students starting post-primary school with low attainments.

Statistical Treatment

To analyze the significance of the pretest and posttest results this researcher used the Juvenile Alternative Services Program (JASP) ."JASP, is a free and open statistical software package designed to be familiar to users of Statistical Package for the Social Sciences (SPSS) . JASP distinguishes itself from SPSS by being as simple, intuitive, and approachable as possible, and by making accessible some of the latest developments in Bayesian analyses. At time of writing, JASP version 0.6 implements the following analysis tools in both their classical and Bayesian manifestations:

- Descriptive statistics
- t tests
- Independent samples ANOVA
- Repeated measures ANOVA
- Correlation
- Linear regression
- Contingency tables

This set of analysis tools provides a solid base for most students and researchers. Additional analyses are continually added to JASP, such that it will quickly become a comprehensive alternative to SPSS."

The table below shows the percentage distribution of sample. Although not aiming to show differences on the improvement in numeracy learning between male and female, just for reference the sample is presented this way. The significance difference of the pretest to the posttest after using ManiHanSkip technique is the focus here. The samples will be treated as related samples.

Frequencies for sex

	Frequency	Percent	Valid Percent	Cumulative Percent
0	8	22.9	22.9	22.9
1	27	77.1	77.1	77.1
Total	35	100.0	100.0	100.0

Legend: ***0- female*** ***1- male***

Table 9. Frequencies of male and female sample.

Since the results of the posttest shows that all the thirty-five students mastered or nearly mastered the addition and subtraction operations, this researcher inquired on the relationship of the data. The Pearson's product moment coefficient of correlation, one of the best known measures of association, is a statistical value ranging from -1.0 to +1.0 and express this relationship in quantitative form. The correlation coefficient is represented by *r.* Where the two variables fluctuate in the same direction, i.e., as one increases so does the other, or one decreases, so does the other, a positive relationship is said to exist (Cohen,2006).

Conclusions and Recommendations

This action research plan all the activities that will be given to the struggling students. The grade five math teachers with the help of their coordinator develop, collect and provided the materials needed for the intervention. It was implemented as planned with the close supervision of the School's Research Chairman, the principal Mrs. Adoracion R. Santos up to the evaluation of learning after the intervention that lasted for sixteen weeks (16). The following are the conclusions:

To answer question number 1: *What particular support do parents of struggling Grade five students give to their children?*

The idea to overcome the abstractness of mathematics in primary grades with the utilization of manipulative as tangible educational materials and counting devices (made of beans and stones, etc.,) proved to be effective in the beginning of the intervention but slowly diminishes as the intervention proceeds. Attendance is the most common problem in the elementary. The Focus group Discussions to the parents revealed the common theme of *" hindi ko po talaga maturuan ang anak ko sa kadahilanang nagtratrabaho ako at gabi na nakakauwi!"*(I really cannot tutor/teach my son/daughter due to my work which require time and that I go home very late at night!").While these parents are reminded of the importance of supporting their child's needs in class/school, the reminders are falling on closed ears. Most parents are giving all the responsibilities in tutorial aspects to the teachers. Children benefit when parents and family members get involved in their learning and development. This conclusion is supported by decades of research that suggests that family engagement is positively linked to children's outcomes in preschool, kindergarten, and early elementary grades (Voorhis, et.al.,2009).

Across studies, family engagement with students in learning at home affected students' behavior, such as increased ability to self-regulate (Mistry et al., 2010); motivation to learn, attention, and persistence with peers at home and at school (Hindman and Morrison, 2012; McWayne et al., 2004); reduced problem behaviors (Fantuzzo et al., 2004; Mistry et al., 2010). If parents will give their children the feel of parental support and concern, the students will be motivated to excel in their doings in-school and even in their extra curricular activities. Parent involvement at school was linked to students' good behavior (generally reported as a negative association with problem behaviors) and positively related to students' social skills (Powell et al., 2010).

Since most of the students are not given due parental support, motivation and enthusiasm of the students are not sustained. At the beginning when the students were given play activities and use of manipulative, they were all excited. They attend intervention sessions and are persistent in their practice. But after two months, the students are back to their absences and lost of interest.

It was found out that most of the struggling students in Camarin Elementary School have parents who do not have secondary education. Other data from the guidance office or from the teacher adviser also reveal that those identified to be struggling pupils are also struggling in their daily needs. It is a common knowledge that grade five pupils will soon be getting the National achievement test, therefore it is of paramount importance that that these pupils be assisted.

Mertens (1999) believes that parents' attitudes shape a child's educational success. When parents show support to their children by making them feel they are around when needed until such time that their children can stand alone , the children strive. Parents should check the performance of their children in school. Parenting does not just start from birth and ends when children become adults. Parents should ready their children into becoming responsible citizen. They should be working close to the teachers and the school to better address needs of their children. Children differ, making each one unique. Activity based,hands-on explorations may improve their learning provided support is given.

Research Question No.2

What particular roles do instructions and motivations play in teaching struggling students?

Instructions is the tool in delivering the curriculum, how the teachers teach the concepts that students need to learn. Grade –five students need to possess number literacy that they will need as they move on to higher learning. Using the data gathered from the informal interview or interactions with the parents and students the teacher/s has/have the formative assessment of her/his students to guide instructional decision making. It is the best way to ensure that students receive targeted instruction based on their instructional needs. Two critical types of information are needed to guide instructional decision making: screening and progress monitoring. Screening data help teachers identify students who may be at risk for failure and may need additional instructional support such as supplemental interventions. Progress monitoring data allow teachers, administrators, students, and parents to evaluate the effects of instruction on student learning. With effective instruction, many students are able to perform mathematical procedures or utilize particular concepts. As the common metaphor says, *" In going to a particular place, we now have different options as to which way we will go, and different modes of transportation to choose, but just same, the particular place can still be reached ."* Meaning to say, the core knowledge and mathematical concepts can be learned, but there are different ways to learn them, the ManiHanSkip is just one way .

Research Question Number 3

How effective is the "ManiHanSkip" method in meeting the aims of the intervention?

Mathematical manipulatives play a key role in young children's mathematics understanding and development. These concrete objects facilitate children's understanding of important math concepts, and then later help them link these ideas to representations and abstract ideas. Children often lead to use manipulatives in a rote fashion, with little emphasis and understanding of the mathematical concepts behind the procedures (Hiebert & Wearne, 1992). Today there seems to be a common agreement that effective mathematics instruction in the elementary grades incorporates liberal use of manipulatives as learning aids (Toptas, et.al.,2012).

Learning aids are believed to reinforce the learning since they stimulate, motivate, and activate learners within instructional process. Learning aids, which include visual aids, audio-visual aids, real objects and many others, are instructional materials and devices through which teaching and learning are conducted in educational settings. The use of concrete materials as learning aids has always been intuitively appealing (Thompson, 1999).

The use of ManiHanSkip intervention is one great solution to overcome the abstractness of mathematics in grade five. Learning in mathematics is somehow linked to the active involvement of children in the learning process and utilization of manipulatives as tangible educational materials since the inventions of ancient counting devices made of beans and stones (Castro, 2006).Thus, students need to learn to use manipulatives that support and scaffold children's learning, as opposed to simply making mathematics fun and applicable to children's everyday lives.

Kelly, (2006, p. 188) posits that "teachers need to know when, why, and how to use manipulatives effectively in the classroom as well as opportunities to observe, first-hand, the impact of allowing learning through exploration with concrete objects". In a study investigating the impact of curriculum materials on the change in teachers' practice revealed that using the materials has changed teachers" instructional practice (Edwards, 1995). Castro (2006) also studied with elementary pre-service teachers and discussed how manipulatives as educational materials are used. The study including the descriptions of learners on how these materials can be used in the classroom pointed out two major outcomes: some students thought that curriculum materials could be used to help students learn, others saw these materials as tools that can support teachers' instructional decisions. Manipulative materials in the actual teaching environment, is paramount. Indeed, the core role of fostering productivity by the help of course materials belongs to the teacher. If the teacher does not fully aware of the educational benefits of these course materials, he might not be so motivated to implement them into the course (Yalın, 1997). That is to say, teacher training programs should focus on providing prospective teachers with a scope of using educational materials efficiently.

Several recent meta-analyses have been conducted on the features of mathematics instruction that most benefit low- achieving students (Gersten, Baker, & Lee, 2002) and students with learning disabilities (Gersten, Chard, Jayanthi, Baker, & Lee, 2006; Kroesbergen & Van Luitt, 2003). Together the reviews encompassed only about 50 studies. Therefore, the results are far from definitive and should be considered with caution. However, these syntheses do provide some details about the features of instruction that seem to consistently effective in teaching mathematics to students with difficulties.

Based on these meta-analyses, six instructional strategies emerge as potentially beneficial for students with disabilities: (a) visual and graphic depictions, (b) systematic and explicit instruction, (c) student think-alouds, (d) peer-assisted learning, (e) formative assessment data provided to teachers, and (f) formative assessment data provided directly to students. Formative assessments that provide teachers with specific intervention ideas resulted in moderate outcomes. Explicit, systematic instruction that involves extensive use of visual representations appeared to be a moderate to strong approach for supporting mathematical learning for both low-achieving students as well as those with learning disabilities. Additionally, it appears that students benefit when they are encouraged to think aloud while they work or share their thinking with peers. These findings are encouraging as they provide preliminary direction for the development and delivery of instructional interventions to students struggling with mathematics.

In addition to the six instructional practices described above, other instructional strategies have been documented to be effective in supporting mathematics learning for students struggling with learning mathematics. For example, researchers have demonstrated that a graduated instructional sequence that proceeds from concrete to representational to abstract (CRA) benefits struggling students and students with disabilities in elementary and secondary schools (Maccini & Hughes, 2000; Witzel, 2005; Witzel, Mercer, & Miller, 2003; Witzel, Smith, & Brownell, 2001). Concrete instruction is centered on students learning through hands-on manipulation and may focus either on concepts or procedures. After students learn through concrete instruction, they learn to model mathematical problems using pictorial representations. Finally, when they develop fluency with the pictorial representations instruction focuses on abstract symbols. These techniques of scaffolding students' learning of concepts and procedures are also components of effective mathematics instruction for English learners (Freeman & Crawford, 2008). In other words, teachers who do not have sufficient time to provide students with the instructional scaffolding, need to master the mathematical concepts or to develop fluency with any procedures that have been taught. Logically, the solution to the latter problem would be to provide teachers with more time to teach and students with more time to learn. These two reasonable, but very different, approaches to instructional intervention are at the purpose of the present study.

Research Question Number4 :

Is there a need to institutionalize Mathematics intervention in the elementary?

The specific focus of this research is to address the memory and recall difficulties and inability to approach, structure and solve problem- solving tasks experienced by struggling students. This research recommends that the use of manipulative materials be a part of the instructions in every classroom. This research has suggested a framework for teachers to use in their selection and use of materials to support student learning at various experiential stages. Knowledge of the four fundamental operations is paramount to everyday living. It is needed to prepare the children to meet the demands of everyday life, but people often times have negative attitudes towards numbers. When teachers become familiar to using concrete representations in their daily routines, i.e., the use of manipulatives with due trainings from the curriculum experts, then teaching and learning of mathematical concepts will look like just playing and real learning will take place.

To the teachers, we need an awareness on how to approach teaching based on our own experiences. Swain et al.,(2005) believe that the role of the teacher, the attitude and enthusiasm is as crucial as the content of lessons. Teachers need to reinvent their teaching, not just telling the children to look for the key words (e.g., "altogether" to mean addition, or "how many were left " for subtraction). They are sending the message to the pupils that "you don't need to think about the problem". As mentioned, the goal of mathematics is to understand concepts not simply memorize the procedure and concepts are better learned when experienced, when felt. By having an appropriate assessment system, teachers will know which to focus , which approaches to use in order to address the deficiency of children. The instructional approaches should be aligned to the needs of the children. The activities must be appropriate to individual needs. Teachers should guide their pupils discover learning and not asked them to remember meanings and procedures. They should adapt their teaching to today's learners and not how they were taught years back.

The research' basis on a strong scaffolding framework of the teacher and continuous support from the parents has produced significant improvement in student achievement and attitude to mathematics .These results indicate that when provided with the right environment, struggling students can achieve real success on work to be able to catch-up with the rest of the class.

BIBLIOGRAPHY

Askew, et.al., (1997). Effective teachers of numeracy. London; Kings College, London.

Beller, S. & Bender, A. (2011). Explicating numerical information: When and how fingers support (or hinder) number comprehension and handling. *Frontiers of Psychology 2.* Retrieved from http:// journal.frontiers.org/ journal/10.3389/ fpsyg.2011.00214/pdf

Benson, V.P. (1981). Chinsanbop: Can students benefit from it? *School Science and Mathematics, (81)*, 236-238.

Boggan, M., Harper, S. & Whitmire, A. (2010). Using manipulatives to teach elementary mathematics. *Journal of Instructional Pedagogies,* 31-6.

Boggan, M., Harper, S., & Whitmire, A. (2010). Using manipulatives to teach elementary mathematics. *Journal of Instructional Pedagogies*, 31-6.

Bruner, J. (1960). The process of education. Cambridge, MA: Harvard University Press.

Bruner, J. (1986). Actual minds, possible worlds. Cambridge, MA: Harvard University Press.

Bruner, J.S. (1966). Toward a theory of instruction. Cambridge, MA: Harvard University Press.

Carbonneau, K. J., Marley, S. C., & Selig, J. (2013). A meta-analysis of the efficacy of teaching mathematics with concrete manipulatives. *Journal of Educational Psychology*, *(105)*2, 380–400.

Castro, M.A. (2006). Preparing elementary pre-service teachers to use mathematics curriculum materials. *The Mathematics Educator, (16)*2, 14-24.

Clements, D. H., & Sarama, J. (Eds.). (2004). Engaging young children in mathematics standards for early childhood education. Mahwah, NJ: Lawrence Erlbaum.

Clements, D.H. & Sarama, J. (2009). Development of turn and turn measurement concepts in a computer-based instructional unit. *Educational Studies in Mathematics, (31),* 313-337.

Cooper, T. E. (2012). Using virtual manipulatives with pre-service mathematics teachers to create representational models. *The International Journal for Technology in Mathematics Education*, 19(3), 105–115.

Dienes, Z. (1969). Building up mathematics. London: Hutchinson Education.

Dienes, Z. P. (1961). Building up mathematics. Hutchinson Ed. LTD: London.

Foster, R. (1994). Counting on success in simple addition tasks. *Proceedings of the 18th conference of the international group for the psychology of mathematics education. (2),* 360-367.

Fuchs, L. S, & Fuchs, D. (2005). Enhancing mathematical problem solving for students with disabilities. *Journal of Special Education*, *(39)*1, 45–57.

Fuchs, L. S., & Fuchs, D. (2001). Principles for the prevention and intervention of mathematics difficulties. *Learning Disabilities Research and Practice*, 16, 85–95.

Fuchs, L. S., Compton, D. L., Fuchs, D., Paulsen, K., Bryant, J. D., & Hamlett, C. L. (2005). The prevention, identification, and cognitive determinants of math difficulty. *Journal of Educational Psychology*, 97, 493–513.

Fuchs, L. S., Fuchs, D., Hamlet, C. L., Powell, S. R., Capizzi, A. M., & Seethaler, P. M. (2006). The effects of computer-assisted instruction on number combination skill in at-risk first graders. *Journal of Learning Disabilities*,*(39)*5, 467–475.

Fuson, K.C. (1992). Research on whole number addition and subtraction. In Grouws, D.A. (ed.). *Handbook of research on mathematics teaching and learning,* 243-275. New York: Macmillan.

Gattegno, C. & Cuisenaire, G. (1954). Numbers in colour. London: Heinneman.

Gersten, R., & Chard, D. (1999). Number sense: Rethinking arith- metic instruction for students with mathematical disabilities. *Journal of Special Education*, 33, 18–28.

Gilbert, R., & Bush, W., (1988). Familiarity, availability, and use of manipulative devices in mathematics at the primary level. *School Science and Mathematics*, *(88)*6, 459–469.

Goldman, S.R., Pellgrino, J.W., & Mertz, D.L. (1988). Extended practice of basic education facts: Strategy changes in learning disabled students. *Cognition and Instruction (5),* 223-265.

Griffin, S. (2007). Early intervention for children at risk of developing mathematical learning difficulties. In D. Berch and M.M. Mazzocco (Eds.). *Why Is Math so Hard for Some Children?* Baltimore, MD: Brooks Publishing.

Hasselbring, T.S., Goin, L.L., & Bransford, J.D. (1988). Developing math automacity in learning handicapped children.

Hynes, M., (1986). Selection criteria. *Arithmetic Teacher*, *(33)*6, 11–13.

Ifrah, G. (2000). The universal history of numbers. London, UK: Harvill.

Jordan, Hanich, & Uberti. (2003). Mathematical thinking and learning difficulties. In A.J. Baroody & A. Dowker (eds.). *Development of Arithmetic Concepts and Skills,* 361-384. Mahwah, NJ: Lawrence Erlbaum.

Jordan, N. C., Kaplan, D., & Hanich, L. B. (2002). Achievement growth in children with learning difficulties in mathematics: Findings of a two-year longitudinal study. *Journal of Educational Psychology*, 94, 586– 597.

Knifong, J. & Burton, G.M. (1979). Chisanbop: Just another kind of finger reckoning? *The Arithmetic Teacher, (26)*, 14-17.

Langley, D. (2013). Division with Dienes. *Primary Mathematics, (17)*2, 13-15. Leicester: Mathematical Association.

Mercer, C. D., Jordan, L., & Miller, S. P. (1996). Constructivistic math instruction for diverse learners. *Learning Disabilities Research and Practice*, 11, 147–156.

Methe & Riley-Tillman (2008). p. 37

Mildenhall, P., Swan, P., Northcote, M., & Marshall, L., (2008). Virtual manipulatives on the interactive whiteboard: A preliminary investigation. *Australian Primary Mathematics Classroom*, *13*(1), 9–14.

Mosacrdini, L. (2009). Tools or crutches: Apparatus as a sense-making aid in mathematics teaching with children with moderate learning difficulties. *Support for Learning, (24)*1, 35-41. Oxford: NASEN.

Moyer-Packenham, P. S., & Westenskow, A. (2013). Effects of virtual manipulatives on student achievement and mathematics learning. *International Journal of Virtual and Personal Learning Environments*, *4*(3), 35–50.

Moyer, P. (2001). Are we having fun yet? How teachers use manipulatives to teach mathematics. *Educational Studies in Mathematics, (47),* 175-197. Netherlands: Kluwer.

National Council of Teachers of Mathematics. (1989). Curriculum and evaluation standards for school mathematics. Reston, VA.

National Council of Teachers of Mathematics. (1989). Curriculum and evaluation standards for school mathematics. Reston, VA: Author.

National Council of Teachers of Mathematics. (2000). Principles and standards for school mathematics. Reston, VA.

Nickson, M. (2000). Teaching and learning mathematics. *A Teacher's Guide to Recent Research and Its Application.* Cassell Wellington House Strand London WCR OBB.

Nunes, T. et.al. (1993). Street mathematics and school mathematics. Cambridge: Cambridge University Press.

Ogletree, E.J., & Chavez, M. (1981). An experimental study of sensory (finger) math. Retrieved from ERIC.

Reproduction Service No. ED211343.

Pearse, M. & Walton, K.M. (n.d.). Teaching numeracy: 9 critical habits to ignite mathematical thinking. Thousand Oaks, CA: Sage Company.

Pegg, J. & Graham, L. (2007). Addressing the needs of low-achieving students: Helping students "trust their heads". In K. Milton, H. Reeves, & T. Spencer (Eds.). *Mathematics: Essential for Learning, Essential for Life,* 33-44. Adelaide: Australian Association of Mathematics Teachers Inc.

Pegg. J. & Graham, L. (2007). Addressing the needs of low-achieving students: Helpingstudents "trust their heads". In K. Milton, H. Reeves & T. Spencer (Eds.). *Mathematics: Essential for Learning, Essential for Life*, 33–44. Adelaide: Australian Association of Mathematics Teachers Inc.

Perry, B., & Howard, P., (1997). Manipulatives in primary mathematics: Implications for teaching and learning. *Australian Primary Mathematics Classroom*, *(2)*2, 25–30.

Piaget, J. (1952). The child's conception of number. New York: Humanities Press.

Reutzel, R.D. (2013). Handbook of research-based practice in early education. Spring Street, NY: The Guilford Press Publications Inc.

Rumiati, R. & Wright, R. (2010). Assessing the number of knowledge of children in the first and second grade of an Indonesian school. In L. Sparrow, B. Kissane, & C. Hurst (eds.). *Shaping the Future of Mathematics Education,* 493-500. Fremantle, Australia: MERGA.

Ruwisch, S. (1998). Children's multiplicative problem-solving strategies in real-world situations. *Proceedings of the 22nd conference of the international group for the psychology of mathematics education, (4),* 73-80.

Schlieman, A. & Carraher, D. (1992). Proportional reasoning in and out of school. In P. Light, & G. Butterworth (eds.). *Context and Cognition: Ways of Learning and Knowing,* 225-64.. Hillsdale. NJ: Lawrence Erlbaum Associates.

Stegenmann, K.C. & Grunke, M. (2014). Revisiting an old methodology for teaching counting, computation, and place value: The effectiveness of the finger calculation method for at-risk children. *Learning Disabilities: A Contemporary Journal, (12)*2, 191-213.

Stein, M. N., & Bovalino, J. W., (2001). Manipulatives: One piece of the puzzle. *Mathematics Teaching in the Middle School*, *(6)*6, 359.

Toptas, C. & Karaca. (2012). Elementary education online. *İlköğretim Online, 11*(4), 1121-1130. Retrieved from http://ilkogretim-online.org.tr

Vooris, et.al. (2013). The impact of family involvement on the education of children ages 3 to 8: A focus on literacy and math achievement outcomes and social -emotional skills. Retrieved from www.mdrc.org.

Vooris, F.L., et.al. (2009). School, family, and community partnerships: Your handbook for action (3rd ed.). Thousand Oaks, CA: Corwin Press.

Vygotsky, L.S. (1978). Mind in society. Cambridge: Harvard University.

White, G., Swan, P., & Marshall, L., (2009). Hands on Heads on: The effective use of mathematics manipulative materials: A mathematics manipulatives continuum. Perth: R.I.C. Publications.

Research is to see what everybody else has seen, and to think what nobody else has thought.

Albert Szent-Gyorgyi

IMPROVING THE PRONUNCIATION SKILLS OF GRADE 8 STUDENTS THROUGH PROJECT ROPE

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ABSTRACT

*The purpose of this research is to improve the pronunciation skills of selected grade eight students through Project ROPE (**R**outinary **O**ral **P**ronunciation **E**xercises). ROPE is a method developed by the researchers to improve the pronunciation skills of the students that results to better communication and comprehension as well. This research is conducted for three months. The first phase of the project involves screening through pre-test where we identified the students with poor pronunciation skills. The students are given various pronunciation drills on a daily basis as part of their routinary classroom activity. It is a constant practice focused on the following areas: segmental (e.g. English consonant and vowel sounds) and supra segmental (e.g. stress, linking, weak forms, intonation), Rajadurai (2001: 25). Parker adds (2000: 25) rhythm, reduction, and deletion are included as supra segmental features. The final phase involves post-test and different presentations such as (declamation, oration, and storytelling). This study proves that daily pronunciation drill is effective in improving the pronunciation skills of students.*

Context and Rationale

For three years now, the researchers observed that a great number of NNHS students in Grade 8 ranging from 50 – 55% have difficulties in pronunciation. Most of the words are mispronounced by the students when speaking English.

This is considered as a problem since English subject aims to improve students' communication skills. Moreover, word recognition and proper pronunciation of English words result to easier comprehension.

The problem reflects in the students' low performance and failing marks in their academic subjects. In addition, the school performance in terms of the recent NAT result wherein the school got a low mastery level in all subject areas can possibly link to students' poor comprehension as one of the reasons.

This research emphasizes the prominence of pronunciation as a key in gaining full communicative competence. The aim of English pronunciation instruction is to enhance the learners' pronunciation skill for them to communicate effectively and comprehend as well.

Pronunciation is a set of habits of producing sounds. The habit of producing a sound is acquired by *repeating it over and over again and by being corrected when it is pronounced wrongly.* Learning to pronounce a second language means building up new pronunciation habits and overcoming the bias of the first language (Cook, 1996). Pronunciation refers to the production of sounds that we use to make meaning. It includes attention to the particular sounds of a language (segments), aspects of speech beyond the level of the individual sound, such as intonation, phrasing, stress, timing, rhythm (suprasegmental aspects), how the voice is projected (voice quality) and, in its broadest definition, attention to gestures and expressions that are closely related to the way we speak a language.

Project "**ROPE**" (**R**outinary **O**ral **P**ronunciation **E**xercises) aims to help Grade 8 students to improve their pronunciation skills by engaging them in various pronunciation drills on a daily basis as part of their routinary classroom activity. It is a constant practice focused on the following areas: segmental (e.g. English consonant and vowel sounds) and supra segmental (e.g. stress, linking, weak forms, intonation), Rajadurai (2001: 25). Parker adds (2000: 25) rhythm, reduction, and deletion are included as supra segmental features.

Review of Related Literature

Nonnative pronunciation is perceived in the production of both segmentals and suprasegmentals in second language speech, it contributes to the perception of foreign accent, and it may lower intelligibility or comprehensibility in speech (Kang, Rubin, & Pickering, 2010; Munro & Derwing, 2008; Trofimovich & Baker, 2006).

Additionally, nonnative production of suprasegmentals appears to be more detrimental than segmental errors in second language comprehensibility and intelligibility perception (see Field, 2005; Kang, et al., 2010).

To help second language learners with these problems, training studies have proven to be beneficial in speech perception/production. For instance, high variability training studies have shown improvement in learners in both perception and production of segmentals and suprasegmentals (see Bradlow, Akahane-Yamada, Pisoni, & Tohkura, 1997; Wang, Spence, Jongman & Sereno, 1999; Wang, Jongman & Sereno, 2003). Additionally, Pennington and Ellis (2000) demonstrated that directing learners' attention to and raising their awareness of prosodic features of the second language during training improved their interpretation of sentence meaning. These results are significant because they call for a stronger role of phonetic explicitness in second language pronunciation instruction in classroom settings. In pronunciation teaching, explicit phonetic instruction has demonstrated positive benefits (Lord, 2005) and instruction on suprasegmentals appears to yield better improvements in comprehensibility as opposed to instruction on segmental only (see Derwing, et al., 1998). Moreover, researchers have also pointed out that second language learners might not necessarily put into practice in spontaneous speech what they learn under controlled tasks (Celce-Murcia, Brinton, & Goodwin, 2010; Bowen, 1972).

This is why a communicative component in pronunciation instruction has been advocated to develop fluent and comprehensible second language speech (see CelceMurcia, et al., 2010; Hinkel, 2006). In spite of the research evidence, one of the real challenges in instruction is to bridge the gap between theory and practice given the disconnection between research in second language phonology and the real practices in the classroom (see Derwing & Munro, 2005; Levis, 1999). It is also the case that in pronunciation teaching, the communicative framework has often been perceived as incompatible with explicit pronunciation instruction (Darcy, Ewert, & Lidster, 2012; Derwing & Foote, 2011) – even though explicit instruction is necessary to develop accuracy, which is a key factor in communicative competence. 1 Additionally, only a few studies have tried to apply the findings of laboratory phonology research to second language -classroom practices (see Derwing et al., 1998).

Therefore, more research that integrates the findings from laboratory studies into real, time constrained second language pronunciation instruction—within a communicativemethodology—is necessary, given the potential benefits it could bring to learners in the development of comprehensible second language speech.

Research Questions

The study aims to answer these questions:

1. How effective is Routinary Oral Pronunciation Exercises (ROPE) in improving the pronunciation skills of the Grade 8 students?

2. Does the routinary oral pronunciation drill with varied learning strategies increase confidence and improve communicative competence of learners?

3. To what extent does the routinary oral pronunciation drill using segmental and suprasegmental aspects and learning strategies contribute to the improvement of learners' competence that help learners to speak confidently, and at what level?

Scope and Limitation

Students from four grade eight sections having difficulties with correct pronunciation of English words will be the treatment groups of the study. The intervention will last for 4-5 weeks in every quarter. Data collection includes pre-test and post test– flashcard quiz, focus group discussion-content analysis, and students output /performance output with rubrics assessment tool. The researchers will do data triangulation using the data sources identified above to validate the effectiveness of the intervention. Descriptive statistics will be used in comparing pre-test and post test result as well as observe, record, assess technique to monitor the student's progress.

Methodology

This study is a descriptive qualitative that uses procedures of non-numerical data, for example interviews, case studies, or participant observation. This research aimed to describe the teaching of pronunciation to NNHS Grade Eight students. The strategies, materials, and kinds of media used by the teacher in teaching pronunciation to the NNHS Grade Eight students.

SAMPLING:

Table 1: Learners and Participants

Teacher / Participants	Learners	*No. Of Learners*
Betty D. Habig	Plato	40
Canor P. Aguilo Jr.	Pascal	40
Manolo S. Lobedica	Descartes	40
Menchie D. Ramos	Pythagoras	40

***Instruction**:* This study followed a pretest-posttest experimental design. The treatment groups (i.e., four Grade Eight sections) received treatment during five weeks, 5-10 minutes each day). To implement a communicative methodology, each lesson followed a presentation-practice-production sequence. (Chamot, Barnhardt, El-Dinary, & Robbins, 1990). This was used so that teachers could introduce phonetic content explicitly, guide the students in controlled tasks, and then provide room for a communicative activity where learners could produce and put into practice each lesson's content.

Each experimental group received explicit phonetic instruction in either specific suprasegmentals (i.e., stress, rhythm, linking, reductions) or segmentals (i.e., vowels /æ, /ʊ/, /aɪ, consonants /θ, /ʒ, /ð). We targeted these specific segmentals and suprasegmentals because pronunciation materials have pointed out the difficulty they pose for different students when learning English (see Avery & Ehrlich, 1992).

Data Collection:
Table 2: Classroom Treatment Description

Stages and Techniques	Suprasegmentals	Segmentals
Presentation Visual aids Oral introduction of topic	Explicit instruction and analysis	Explicit instruction and analysis
Practice / Production MODIFIED TECHNIQUES will be employed *Games, word repetition, role play, rhyming, word cluster, intonation, tongue twister*	Rhythm, stress, reductions, linking	Vowels /æ, /ʊ/, /aɪ, /ɔɪ and articulation, vowel contrasts, minimal pairs Consonants consonants /θ, /ʒ, /ð, /tʃ

As seen in Table 2, the experimental groups received explicit phonetic instruction and analysis of content in the topic introduction stage. For the practice stage, the experimental groups carried out different tasks, such as minimal-pair recognition and discrimination, or analysis of stress and rhythm in short passages and sentences. To measure the effects of instruction in the development of comprehensibility, we collected pre and post-treatment speech samples.

On the other explanation, *Senel (2006)* stated that drilling technique is very useful in teaching pronunciation because it can create correct and accurate pronunciation. Furthermore, he gave many forms of drilling techniques.

They are:

a. Word – association drill
In this type of drilling , the teacher pronounces some vocabulary and the students repeat it or students are asked to practice. Then, teacher writes down more vocabulary and the teacher pronounce English phonemes. After teacher pronounce one of phonemes the students are asked to predict on what word the phonemes is based on the written words. Furthermore, we can see on the example:

1. In which of the following word, do we have sound / æ/ ?
a. Bed b. bad c. but d. bear e. beer
2. In which of the following word, do we have / e /?
a. bag b. mail c. get d. lake e. feet

b. Saturation
In this type of drilling is suitable for all positions of the problematic sound for example sound /S/. It can be posited in:

Initial	Medial	Final
See	Seep	Seed
Sip	leasing	pistol
classic	paucity	peace
niece	purse	less

c. Mobility Drill

As *Rochmis and Doob states (1970:29) in Senel (2006:122)*, mobility drill is very important aspects in pronunciation teaching. In this type, teacher asks student to find out as many as vocabularies that the words beginning with the same letter and then asks students to pronounce them.

Example:
Bat boat bike ball boy
See she sees sea shut
Think thick take tack thing

d. Comparative Drill
This type is almost the same as mobility drill but in this drill one of element that we pronounce are placed in different position. In this types of drilling, it may be is confusing because to distinguish the sound students need good listening. For example:
In drilling /f /, /v / and / p/, / f/, sounds
Fee- bee feat- peat freeze- breeze visa- pisa pig –fig
Another example/ æ / and / e /
Sat- set band- bend sand- send bad-bed pan-pen

e. Substitution Drill
This type of drilling may be applied by substituting any sound instead of the other sound. Example: /t/ instead of /θ / or /d/ in place of / ð / and many more. Here are some exercises:
a. This is thin/ tin
b. Did you see her lung/ lunch

f. Games
According to Ur (1996: 297) and Sudiargo,et.al, (2003: 65) there are many games used in teaching English for young learners. The following are some games that have been applied by teachers and that have been proved to be effective for children;

Association Dominoes
Concentrating Games

Hangman
Go Fish
Puzzle Dadu/DICE
The Snake Game
Odd Man Out
Whisper Down The Alley

g. Ethical Issues:

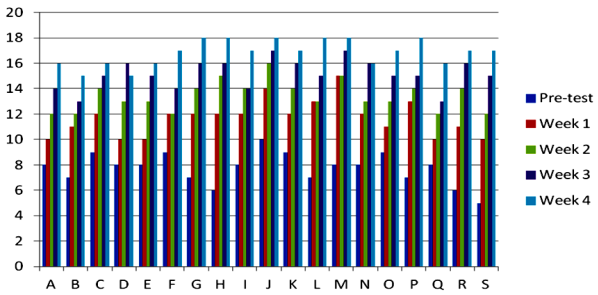
Citation for the related studies
Approved Lesson Plans

Plan for Data Analysis:
Quantitative
The table shows the average rating obtained for each group at each time.

Table 1: ***Average ratings for pretest and posttest for each group***

Learners	Pretest	mean	Post test	mean	Difference
Plato	5.1	.51	9.5	.95	>.44
Pascal	4.6	.46	8.9	.89	>.43
Descartes	3.9	.39	8.4	.84	>.45
Pythagoras	4.2	.42	8.6	.86	>.44

Table 2: *Weekly pretest and post test scores for each group.*



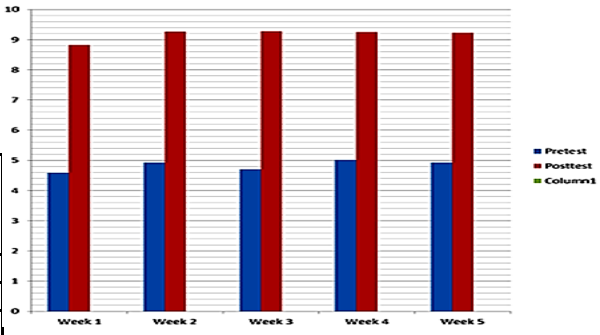
Qualitative
The four collaborating teachers in this project codified themes and categories using a comparative method (Glasser & Strauss, 1967; Richards, 2003). The analysis will reveal important findings in terms of explicit versus non-explicit instruction, such as clarifications of ambiguities caused by mispronunciations, and reinforcements of concepts through feedback and explanations. The teachers in the four experimental groups also reinforced content while the students worked in pairs or groups. This was done by providing feedback, making comprehension checks, or assisting the students individually when there were very specific problems with either segmentals or suprasegmentals.

FINDINGS / DISCUSSION

This table shows the over-all pretest and posttest results of the four experimental groups all throughout the implementation of Project ROPE. It also reveals an increment of the students' oral pronunciation competence.

CONCLUSION

The results of this study explicated the communicative benefits to NNHS learners overall. Project Rope is an effective method in enhancing the pronunciation skills of students as well as their confidence in communication. Students became more enthusiastic in dealing with the subject after the five-week implementation of the said project. Students also improve a lot in their pronunciation skills and



built more self-confidence in speaking English. They were able to deliver lines or statements in a more accurate manner and were able to perform any given tasks well with ease under certain expected criteria. Therefore, the researchers recommend for continuous implementation of the project. It is also recommended that this should be implemented to all grade seven students to promote awareness of the importance of pronunciation skill and be part of their daily practices.

References

Gordon, J., Darcy, I., & Ewert, D. (2013). Pronunciation teaching and learning: Effects of explicit phonetic instruction in the L2 classroom. In J. Levis & K. LeVelle (Eds.). Proceedings of the 4th Pronunciation in Second Language Learning and Teaching Conference. Aug. 2012. (pp. 194-206). Ames, IA: Iowa State University.

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IMPROVING ACADEMIC PERFORMANCE IN FORCE, MOTION AND ENERGY OF GRADE 10 STUDENTS THROUGH PROJECT ASAP
(AFTERSCHOOL SCIENCE ACADEMIC PROGRAM)

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ABSTRACT

The purpose of this study is to investigate how Afterschool Science Academic Program (ASAP) improves the learning performance of Grade 10 students in the topic of Force, Motion and Energy.

Thirty Grade- 10 students of Navotas National High School batch 2016-2017 who scored below mastery level based on their mean scores in the Second Periodic Test were used as respondents. Intervention Activity Worksheets (IAWS) were given to the students during the program. The score in the Science Based Test administered as pretest and post-test measured students' learning performance in the topic of Force, Motion and Energy.

Findings revealed that there is 9.37 mean gain in the pre and post–test which implies that Afterschool Science Academic Program (ASAP) improved the learning performance of Grade 10 students in the topic of Force, Motion and Energy. In addition, analysis of the pre and post program surveys showed an average increase of 34% between expectations and perceived benefits of the program. Based on these results, it is recommended that Science teachers conduct the Afterschool Science Academic Program (ASAP) in different topics in Grade- 10 Science to further validate the result of the study.

CONTEXT AND RATIONALE

Educators in Navotas National High School (NNHS) are currently engaged in investigating and developing a culture of research to seek and provide innovative methods in teaching and learning. This aims to continually improve the quality of education that the students, who are the future of our generation, rightfully deserve.

Accordingly, one of the findings of the said research shows a decline in the academic performance of students in the subject of Science, as measured by the National Achievement Test (NAT).

Statistics show that the total mean scores in Science has notably decreased from 60.15 in SY 2012-2013 to 41.84 in SY 2014-2015. The most recent NAT Results is by far the lowest since 2012.

Moreover, the ratings also show an 18.31% decrement from the previous year's mean percentage score in Science. This overall result failed to meet the NAT Division Target of 55.87 for SY 2014 and 62.25 for SY 2015 respectively. With the NAT Science scores, together with other subjects, steadily declining in the past three years, there is an urgent need to address this concern. Upon further studies and review of related literature, it was found out that several other studies can confirm that after-school programs can improve academic achievements, as measured by achievement test scores and grades (Priscilla M.D. L., Christopher W. & Heather B. Weis 2008; Huang, Denise., & Dietel, Ronald, 2011; Vandell, D. L., Reisner, E. R., & Pierce, K. M., 2007)

Thus, the teacher proponent decided to conduct an after-school program that will help students understand Science concepts better and this program will be launched as the After-school Science Academic Program or simply known as ASAP. The program will be organized, implemented and supervised by the Grade -10 Science teachers during the Third Quarter of the school year. It will be held one hour per session outside normal school hours. To carry out the program, Science teachers will utilize the Science Enhancement Tools (SET) which includes the Science-based pre and posttests, Intervention Activity Worksheets (IAWS) and progress report.

REVIEW OF RELATED LITERATURE AND STUDY

Teachers strengthen their efforts to continually improve the quality of education that the students rightfully deserve. Meeting students' needs is important for offering quality education. However, results of the periodic test and National Achievement Test (NAT) show that numerous students still struggling to meet the academic standards. One approach perceived as a good source of academic assistance and as to address students' academic needs is through after- school program.

The after-school program, commonly pertained to as out-of-school time, expanded learning opportunities and an array of a safe program that offers supervised activities that promote learning and development of children and youth outside of the school day (Beckett et al.,2009.; Anisa Rhea, Ph.D May 2013).

Over the years, the number of children who are able to benefit from participating in an afterschool program has seen much progress. According to the study, the percentage and number of children participating in afterschool programs have increased dramatically, approximately 8.4 million school-aged youth (America After 3 PM, 2014). This demand partly recognizes the positive outcomes associated with participating in afterschool programs

Upon further studies and review of related literature, it was found out that several other studies can confirm that after-school programs can improve academic achievements, as measured by achievement test scores and grades (Priscilla M.D. L., Christopher W. & Heather B. Weis .,2008); Huang, Denise., & Dietel, Ronald, 2011; Vandell, D. L., Reisner, E. R., & Pierce, K. M., 2007).

After-school programs focused in Science have the ability to improve the science knowledge and attitudes of the students which may affect their decisions to pursue careers related in science. (Newell, Alana D.; Zientek, Linda R.; Tharp, Barbara Z.; Vogt, Gregory L.; Moreno, Nancy P, 2015)

In addition, other studies revealed the benefits of afterschool program as shown in students' academic achievement improvement, (Tara, Lee. 2012); growth in language arts, math and science (Silver, S.E., PhD. ,Albert, R.J., 2011); remarkable positive test scores (Vandell, D., et. al. 2010) and improved attendance, behavior and coursework. (Afterschool Alliance March 2015)

RESEARCH QUESTION

How does an Afterschool Science Academic Program help improve the learning performance of Grade -10 students in the topic of Force, Motion, and Energy?

SCOPE AND LIMITATION

Afterschool Science Academic Program (ASAP) is an off-school Science learning opportunity in Navotas National High School that was done one hour per session during the Third Grading Period of the S.Y. 2016 -2017. The program was intended for the 30 Grade -10 students who were identified below mastery level based on their mean percentage scores in the Second Science Periodic Test This study centers on how does an Afterschool Science Academic Program help improve the learning performance of Grade -10 students in the topic of Force, Motion, and Energy.

METHODOLOGY

The research procedures include some stages described as follows:

The first stage of the study was the identification of the 30 selected respondents who were identified below mastery level based on their mean percentage scores in the Second Science Periodic Test. Parent's permits were given to the respondents to inform their parents about the details of the Afterschool Science Academic Program (ASAP).

The second stage was the administration of the validated Science based pretest. The given test consists of 30 items focusing on Force, Motion and Energy.

The third stage was the engagement of the respondents to an off-school learning opportunity. They were taught intensively in the Afterschool Science Academic Program (ASAP) for one hour per session during the Third Grading period. In this stage, Intervention Activity Worksheets (IAWS) focusing on Force, Motion and Energy were given after the regular instruction. Students' learning assessment in each Intervention Activity Worksheets (IAWS) was administered to track student's progress in the topics of Force, Motion and Energy.

The fourth stage was the administration of the post-test to the respondents. During the fifth stage, the respondents answered a survey-questionnaire containing 10 items that looked into their perception towards the Afterschool Science Academic Program.

For final stage, Focused Group Discussion was conducted to further verify the answers to the Students' Perception Survey.

All the collected data were charted, tallied , graphed, treated and analyzed using descriptive statistics.

Data and Results

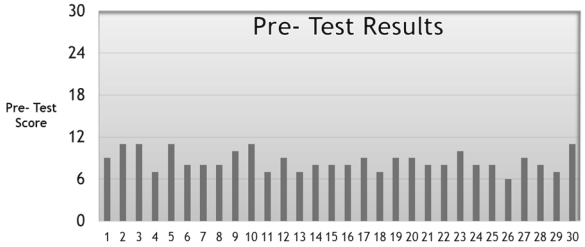
All the collected data were charted, tallied, graphed, treated and analyzed statistically to find out how does Afterschool Science Academic Program (ASAP) improve the learning

Pre- test

A Science based validated pre- test was administered to the respondents to find out their baseline learning performance in the topics of Force, Motion and Energy. Table 2 shows the pre- test results in terms of mean and mastery level.

Mean	Mastery Level
8.6	28.67

***Table 2 shows that the respondents got a mean of 8.6 with 28.67% mastery level*.**



Graph 1 : Pre - Test Results

Graph 1 shows the individual pre- test scores of the 30 Grade 10 respondents.

It reveals that 11 was the highest score obtained while the lowest score was 6. Mode reveals that most of the respondents (n=11) got a score of 8 out of the 30- item pre –test. The results imply that at the start of the program, the respondents have a low learning achievement in the topics of Force, Motion, and Energy

Post- test

After the implementation of the Afterschool Science Academic Program (ASAP), the same Science based test was administered as post –test to measure the learning improvement of the respondents in the topics of Force, Motion and Energy. Table 3 and Graph 2 below show the post test results.

Mean	Mastery Level
17.97	59.89

Table 3: Post- Test Results.

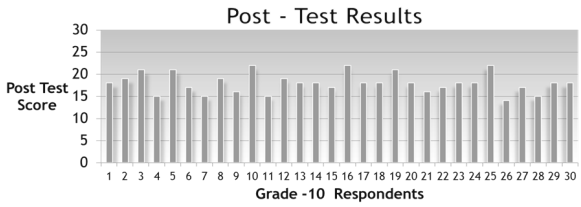


Table 3 shows that the respondents got a mean of 17.97 with 58.89% mastery level in the post –test.

Graph 2 : Post - Test Results

Results from the study show that 22 was the highest score obtained while the lowest score was 14. It also reveals that most of the respondents (n=10) in general got a score of 18 out of the 30- item post –test.

Pretest & Posttest Scores Comparison

The pre-test and post- test scores in the

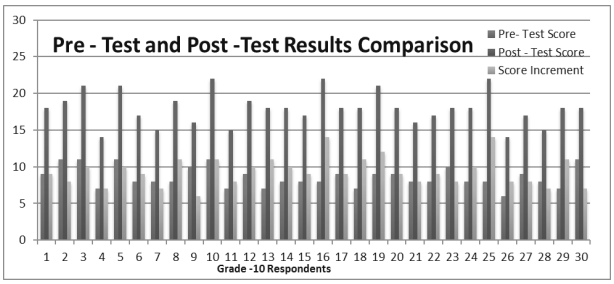
	Mean	Mastery Level	Mode
PRE -TEST	8.6	28.67	8
POST TEST	17.97	59.89	18

Science-Based Test were compared

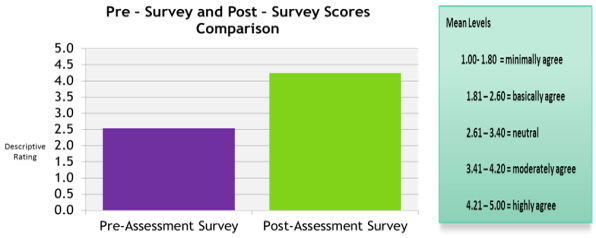
to measure the learning improvement of the respondents in the topics of Force, Motion and Energy after the implementation of the Afterschool Science Academic Program (ASAP).

Table 4: Pre- Test & Post- Test Results.

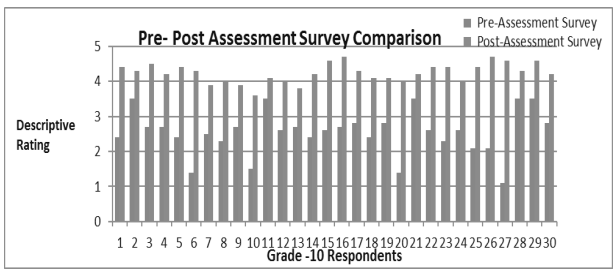
Based on the pre- test, and post- test results, it can be



noted that there is a 30.22% improvement in the



mastery level from the 28.67% and 59.89 % mastery levels of the pre- test and post –test, respectively. With regard to the mean results, 9.37 mean difference was calculated. From a mean of 8.6 in the pre- test it increases to 17.97 in the post- test. In addition, there was also an increased in the most frequent score. From the most occurring score of 8 in the pre- test, it increases to 18 in the post –test.



Graph 3: Pre –Test and Post- Test Results Comparison

Table 5: Average Pre and Post Assessment Survey

Table 5 shows that there is an average increase of 34% between the expectations and perceived benefits of ASAP in the students' learning performance. From an average score of 2.5 (Basically Agree) in the pre-assessment survey, it increased to an average score of 4.24 (Highly Agree) in the post-assessment survey.

Graph 4 Pre and Post Assessment Survey Comparison

The data displayed in graph 4 shows the individual ratings increment of the respondents in the post-assessment survey compared with the pre – assessment survey.

Focused Group Discussion Results

The comments from the respondents during Focused Group Discussion (FGD) towards Afterschool Science Academic Program (ASAP) yielded a positive perception. The students find ASAP as a good opportunity to improve their learning performance in Science. In addition, learners cite that ASAP helped them gain confidence to learn more complex Science concepts.

Summary and Conclusion

The purpose of this study is to investigate how Afterschool Science Academic Program (ASAP) improves the learning performance of Grade -10 students in the topic of Force, Motion, and Energy. Based on the pre- test and post- test results, it can be noted that there is a 30.22% improvement in the mastery level from the 28.67% and 59.89 % mastery levels of the pre- test and post –test, respectively. Moreover, analysis of the pre- test and post scores shows that 22 out of the 30 respondents increased their post test scores ranging from 6 to 10, and 8 out of the 30 respondents had a range of improvement from 11 to 15. Findings imply that Afterschool Science Academic Program (ASAP) improved the learning performance of Grade 10 students in the topics of Force, Motion, and Energy. In addition, analysis of the pre and post program surveys showed an average increase of 34% between expectations and perceived benefits of the program. On the data of students' perception survey, the respondents were positive in viewing that the ASAP improved their learning performance in the topics of Force, Motion, and Energy. Moreover, the comments of the respondents during Focused Group Discussion (FGD) towards Afterschool Science Academic Program (ASAP) yielded the same positive perception.

Findings show that Project ASAP is a beneficial off- school learning opportunity to help struggling learners improve their learning performance in Science. Hence, it is recommended that Science teachers conduct the Afterschool Science Academic Program (ASAP) in different topics in Grade- 10 Science to help struggling learners in Science.

Bibliography

Albert, Rebecca J. Volk Debbie, & Silver, Starr E., (August, 2013) 21st Century Community Learning Centers Administered by Coordinated Child Care of Pinellas, Inc. Summative Evaluation Report: C10-DLMT Program, Year 2 , Evaluation Team, 21st Century Community Learning Centers Juvenile Welfare Board Children's Services Council of Pinellas County

Anisa Rhea, Ph.D (May 2013) A Snapshot of After-School Program Research LiteratureD&A Report No. 13.10

Beckett, M., Borman, G., Capizzano, J., Parsley, D., Ross, S., Schirm, A., & Taylor, J. (2009). Structuring out-of-school time to improve academic achievement: A practice guide (NCEE #2009-012).

Huang, Denise., & Dietel, Ronald. (2011). Making Afterschool Programs Better. National Center for Research on Evaluation, Standards, and Student Testing (CRESST) Los Angeles, CA: University of California.

Newell, A. D., Zientek, L. R., Tharp, B. Z., Vogt, G. L. and Moreno, N. P. (2015), Students' Attitudes Toward Science as Predictors of Gains on Student Content Knowledge: Benefits of an After-School Program. Sch Sci Math, 115: 216–225. doi:10.1111/ssm.12125

Priscilla M.D. L., Christopher W. & Heather B. Weis (February 2008) After School Programs in the 21st Century: Their Potential and What it Takes to Achieve It Harvard Family Research Project

Tara, Lee (June 2012) The Impact of Afterschool Programs on the Academic Achievement of Middle School Students

Vandell, D., Cadiz, Pilar O' (2010) High Quality Supplemental Educational Services and Afterschool Partnerships Demonstration Project An Evaluation Study of THINK Together Programs In the Santa Ana Unified School District, Valerie Hall 2010 University of California, Irvine Department of Education

Vandell, D., Reisner , Elizabeth R. & Pierce Kim M. (October 2007). Outcomes Linked to High-Quality Afterschool Programs: Longitudinal Findings from the Study of Promising Afterschool Programs. University of California, Irvine University of Wisconsin – Madison Policy Studies Associates, Inc.

PROJECT GRADESSA: A STRATEGY TO INCREASE THE LEVEL OF ENGAGEMENT OF GRADE 7 STUDENTS DURING SCIENCE ACTIVITIES

(**G**roup **R**oles: **A**id to **D**evelop **E**ngagement of **S**tudents in **S**cience **A**ctivities)

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ABSTRACT

For two years of teaching Science using the Active Learning approach, the researchers observe that during group work, about 80% of group members are not participating. This results to misbehavior and poor performance in class. Project GRADESSA (Group Roles: Aid to Develop Engagement of Students in Science Activities) aims to implement defined group roles as a strategy to increase the engagement of students in Science activities.

There were 18 sections of Grade 7 students of NNHS (SY 2016-2017) who participated in the study. Teacher-made instruments were utilized and accomplished to collect data. The data collected were summarized, analyzed and interpreted using Descriptive Statistics such as Measures of Central tendency.

Findings show that almost 52% experienced that less members cooperated, while 50% agreed that only one student made the decision. It was also noted that members received a passing grade even if they did not do much work during group activities. After the implementation of the project, the respondents agreed that they gained positive feelings and experience about having group roles. Moreover, they participated more (80%) and agreed that their work is better organized when they had group role (76%). With these, Project GRADESSA is indeed an effective strategy to increase the level of engagement of Grade 7 students during science activities. It also helps develop positive outlook of the respondents towards group roles in doing activities.

CONTEXT and RATIONALE

For two years of teaching Science using Active Learning approach, the researchers observed that during group work and presentation, about 80% of group members are not participating especially in the lower sections, resulting to misbehaviour of students during discussion, hence, leading to poor performance in class and failure to meet at least 75% level of proficiency.

This observation is supported by a research. According to Dart (2006), not all group members attended their presentation and no reason was offered. The isolated instances in which this occurred may have resulted from there being no 'formal' marks attached to the activity. Furthermore, students were advised that, even if some of their group did not attend, they were expected to present the material they had collected. This helps the researchers to further explore in this problem.

To deal with this, the researchers proposed Project GRADESSA (**G**roup **R**oles: **A**id to **D**evelop **E**ngagement of **S**tudents in **S**cience **A**ctivities) which focuses on implementing defined group roles as a strategy to increase engagement of students in Science activities. Several studies, like "Cooperative Learning in the Science Classroom" (Lin, 2006), "Strategies to Increase Participation in Cooperative Learning Groups" (Maher, 2010) and "Small-Group Teaching" (Sharan, 1976) support this statement.

REVIEW OF RELATED LITERATURE

Active learning is generally defined as any instructional method that engages students in the learning process (Prince, 2004). In short, active learning requires students to do meaningful learning activities and think about what they are doing. Itis a model of instruction that focus the responsibility of learning on learners. It allows students to practice important skills, such as collaboration, through pair and group work (http://en.wikipedia.org/wiki/Active_learning.)

However, for many years in teaching, the researcher noticed that during group work and presentation, not all the members are participating especially in the lower sections. This observation is supported by a research. One specific area of this research is issue arising that not all group members attended their presentation and no reason was offered. The isolated instances in which this occurred (<2) may have resulted from there being no 'formal' marks attached to the activity. Students were advised that, even if some of their group did not attend, they were expected to present the material they had collected (Dart, 2006).

Most researchers agree that cooperative learning consists of students working together in groups small enough so that everyone can participate in a clearly assigned task. **(Lin, 2006).** This literature supports my thoughts by showing how have assigned task and organization impacts student participation.

In order for a group of people to function as a team, members must find ways to interact with each other beyond just performing their task roles. These 'functional' roles help the group to achieve its goals. Each team member can adopt one or more functional roles as needed. In addition to this, in order for the group to perform well, certain task needs to be performed by each member of the group.

RESEARCH QUESTION

Project GRADESSA focused on implementing defined group roles as a strategy to increase engagement of students in Science activities.

Specifically, it aimed to answer the question: "How does assigning group roles affect the level of engagement of Grades 7 students during Science activities?"

SCOPE and LIMITATION

Project GRADESSA focused only on the original loads of the researchers which were the 18 sections of Gr.7 students of Navotas National High School and the "Implementation Period of the study" covered only up to Second Quarter of SY 2016-2017.

METHODOLOGY

RESPONDENTS

There were 790 respondents from 18 sections of Grade 7 students of Navotas National High School, S. Y. 2016 - 2017, who took the pre-test (Attitude Scale in Group Activities in Science). To wit: 7-Amethyst; 7-Aquamarine; 7-Citrine; 7 - Diamond; 7-Emerald; 7-Fluorite; 7- Garnet; 7- Gold; 7-Marble; 7- Onyx; 7-Opal; 7-Pearl; 7-Ruby; 7-Silver; 7-SSC; 7- Tanzanite; 7 -Topaz; and 7-Zircon.

However, only 689 respondents were able to answer the post-test due to the new schedule of teachers. The respondents were selected through Purposive Random Sampling.

DATA COLLECTION

Teacher-made instruments such as the Attitude Scale on Group Activities in Science (ASGAS), Individual Task Accomplishment Checklist (ITAC), Group Monitoring Chart (GMC), Teacher Observation Log (TOL) and Monitoring Matrix for the Teacher (MMT) were utilized in order to collect data.

These instruments (ASGAS, ITAC & GMC) were accomplished by the respondents and by the researchers (TOL & MMT) during the whole period of the study.

ETHICAL ISSUES

The researchers ensured the respondents that the results of the Pre-test and Post-test (Attitude Scale on Group Activities in Science) did not affect their science grades. Moreover, issue of confidentiality among the respondents was strictly observed in the write-ups of the study.

VI. RESULTS AND DISCUSSION

Table 1 showed that there were 790 respondents from 18 sections of Grade 7 students who took the Pre-Test about Attitude Scale on Group Activity in Science (ASGAS). However, only 87% of them (689) were able to take the Post-test due to the change of one of the researchers' schedule.

SECTION	PRE-TEST	POST-TEST
Pearl	50	48
Emerald	37	
Marble	48	44
Onyx	37	35
Tanzanite	48	33
Ruby	49	52
Garnet	49	42
Opal	49	38
Citrine	39	30
Silver	52	47
Gold	52	52
Fluorite	35	39
Diamond	54	52
Amethyst	44	43
Science Class	32	31
Aquamarine	38	34
Zircon	30	29
Topaz	47	40
TOTAL	790	689

Table 1. Number of Respondents of Project GRADESSA

The researchers classified the ASGAS items/statements into 2 categories: The **Feelings** and **Experience of having Group Role During Activities**, in which further divided into Positive and Negative sub-category as shown in Table 2.

Pre-Test Results

Based on Table 3 and Fig.1 below, the common answer of the respondents was "undecided". It can be said that before the implementation of Project GRADESSA, the respondents do not have positive feelings towards having group role such as participating more, to be focused and a sense of leadership during activities.

Likewise, most of them, still cannot decide if they participate less, if they like having a group

Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total
S1	115	240	216	114	105	790
S3	126	141	336	69	118	790
S4	92	209	197	194	98	790
S8	110	171	273	74	162	790
S15	84	148	393	41	124	790

Table 3. Tabulated results of the Pre-Test of Positive Feelings of having Group Role During Activities of ASGAS among 18 sections of Gr.7 students

Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total
S2	83	124	321	205	57	790
S5	98	209	357	76	50	790
S7	87	94	314	203	92	790

Table 4. Tabulated results of the Pre-Test of Negative Feelings of having Group Role During Activities of ASGAS among 18 sections of Gr.7 students

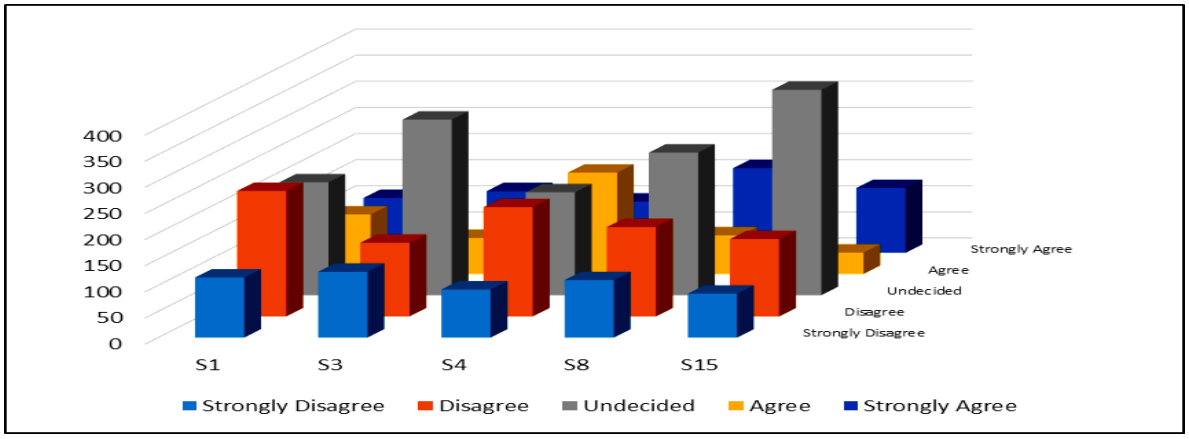

Fig. 1 Graphical presentation of the Pre-Test' results of the Positive Feelings of having Group Role During Activities of ASGAS among 18 sections of Gr.7 students

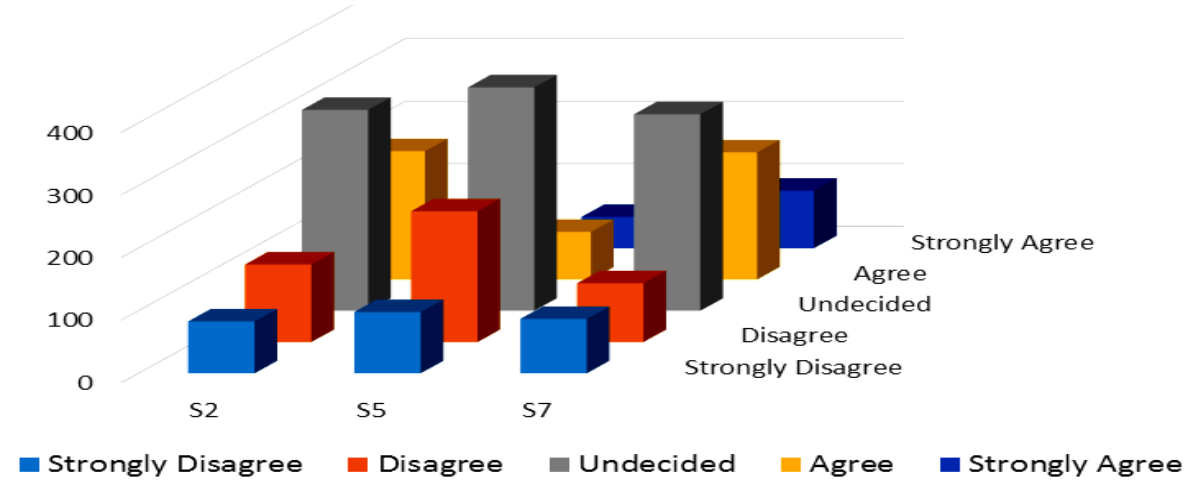

*Fig. 2 Graphical presentation of the **Pre-Test' results of the Negative Feelings of having Group Role During Activities** of ASGAS among 18 sections of Gr.7 students*

role, and feel more pressure when doing activities as shown in Table 4 and Fig. 2.

Table 5 and Fig. 3 revealed that Grade 7 students were undecided if they experienced 6 different group roles, the work is divided equally and their work is better organized when doing activities with group role.

As shown in Table 6 and Fig. 4, almost 52% of the respondents (410) experienced that less members were participating and just mess around during group activities, while 50% of them agreed that one student usually made the decision in the group and member got a good grade even if they do not do much work during group activities.

CONCLUSION AND RECOMMENDATION

Based on the presented findings and discussion of results, the following conclusions are drawn: Before the implementation of the Project GRADESSA:

A. Grade 7 students **do not have positive outlook and experience** towards group role during activities. To wit:

1. more participation among members more focus sense of leadership; positive expectation on groupings; perform different group roles; division of task among members organized activity

2. Grade 7 students **have negative outlook and experience** towards group role during activities, such as: less participation among members; acceptance of group role; more pressure on task; monopoly of decision making; unfairness of rating; lack of interest (messing around)

3. After the implementation of Project GRADESSA: Grade 7 students already **have positive outlook and experience** towards group role during activities. To wit: more participation among members; more focus; sense of leadership ; positive expectation on groupings; perform different group roles; division of task among members; organized activity

B. Grade 7 students **do not have negative outlook and experience anymore** towards group role during activities, such as: less participation among members; acceptance of group role; more pressure on task; monopoly of decision making; unfairness of rating; lack of interest (messing around)

C. Based on conclusions B, therefore Project GRADESSA is an effective strategy to increase the level of engagement of grade 7 students during science activities.

D. Project GRADESSA also helps develop positive outlook of the respondents towards group roles in doing activities, hence the researchers recommend Project GRADESSA to be carried out by all departments starting this School Year 2017-2018.

LIST OF REFERENCES

Emily Lin (2006). "Cooperative Learning in the Science Classroom".http://www.nsta.org/publications/news/story.aspx?id=52116

Laura Maher (2010). "Strategies to Increase Participation in Cooperative Learning Groups".http://files.eric.ed.gov/fulltext/ED512114.pdf

Sharan, S. and Sharan Y. (1976). "Small-Group Teaching". http://eric.ed.gov

Internet:http://www.faapi.org.ar/ajal/issues/301/BanegasAJALVol3(1).pdf

Internet:(www.thefree**dictionary**.com/**technical+information**

Publication: Cooperative Extension Service "Group Member Roles. For Group Effectiveness ".E lowa State University. Reprinted. June 1981

Publication: Communicating and Learning in Engineering Online Resources."Learning effectively through Groupwork".http://www.eng.monash.edu.au/current-students/download/groupwork.pdf

I believe in innovation and that the way you get innovation is you fund research and you learn the basic facts.

Bill Gates

IMPROVING READING COMPREHENSION OF SELECTED GRADE 7 STUDENTS IN SCIENCE THROUGH PROJECT STIR

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ABSTRACT

The researchers notice that reading comprehension impedes the students' performance in their Science subjects. The researchers aim to improve their reading level by formulating Project STIR (Science towards Improvement in Reading).

The researchers selected 20 struggling readers from Grade 7 school year 2016-2017 with reading ability of level 4 in the McCall Crabb's Reading Comprehension Test. They were given Science-based pre-test which resulted to a mean score of 10.60. Reading tools such as the Intervention Activity Worksheets (IAWs) and Science Reading Worksheets (SRWs) were given to the respondents for ten consecutive meetings. Post-test was given on the eleventh meeting with a mean score of 15.29.

The results indicate that there is an increase of 4.69 in the mean scores of the respondents. Therefore, the use of Project STIR helped improve the reading comprehension of the respondents in Science. This action research hopes to help more striving readers of Navotas National High School. It aims to give hope to those learners who have difficulties in understanding the concepts rooted from the students' struggle to comprehend texts.

CONTEXT AND RATIONALE

Navotas National High School's NAT results had declined for the past three years in the mean percentage scores from SY 2012-13 to SY 2013-14 and SY 2014-15 in all subject areas. In Science, the results dropped from 60.15% to 50.57% to 41.84%; a decrement of 8-10% in each school year.

One of the observations the researchers had is the poor comprehension of learners to the text/ concept presented to them. Students cannot learn secondary science content unless they read science text with comprehension. (Cooper, 2004). Data from the Mc Call Crabbs' Reading Comprehension Test for the last two years showed that there are learners in a particular grade level who are striving readers whose reading ability is far below to what is being expected from them.

In support to DepEd's ECARP (Every Child a Reader Program) and the school's Reading Literacy program, the researchers decided to utilize the use of reading literacy tools to improve reading skills of students in Science through Project STIR. Related literature suggests that the use of reading literacy tools help students read strategically and enhance their reading comprehension which results to better understanding of scientific skills and concepts (Norman Herr, 2007; Jill-Caton Johnson and Lisa Martin- Hansen, 2005).

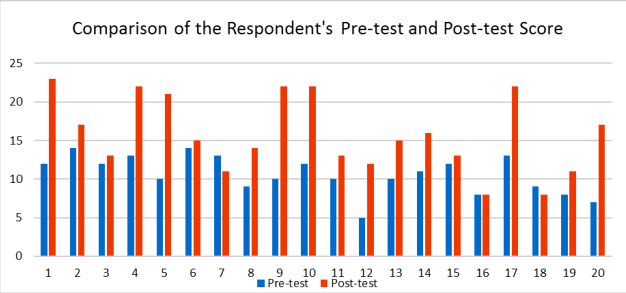
SCOPE AND LIMITATION

This study will venture on the use of Project STIR in improving the reading comprehension of selected Grade 7 students for school year 2016-2017. Only 30% of the identified struggling readers with level 4 in the Mc Call Crabb's Reading Comprehension Test and those who failed the Science-based Reading Comprehension Test will be the respondents of this study. The researchers will employ the one-group pre test-post test design.

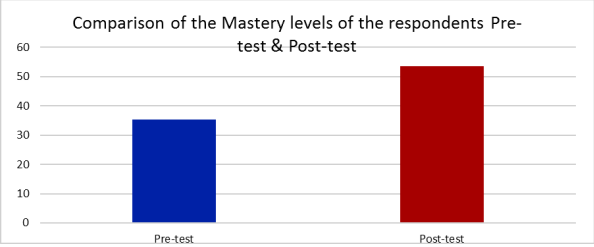
FINDINGS

The findings of our research were gathered from the scores earned by the respondents from the pre-test and post-test, and the mastery level of the respondents taken during the entire implementation of this research. In the comparison of their pre-test and post-test shows that 17 out of 20 respondents had an increment in their post-test from 1-11, while 2 out of 20 respondents had a decrement in their post-test score of 1-2, and 1 respondent had no achievement in

his post-test score. On the other hand, there is an impressive change in the mastery level on before and after the implementation of the research. From 35.33%, it goes up to 53.50% which reflects a difference of 18.17%Duke, N. and Pearson, P. (2009).



From the scores earned by the respondents in their pre-test and post-test, the graph shows that 17 out of 20 respondents had a significant increase in score of their post-test, while 2 of them had a decrease and 1 had no change in score of his post-test.



From the data collected, the graph shows the significant increment of the mastery level of the pre-test and the post-test.

CONCLUSION

Based on the findings of study, the researchers proposed the following conclusions relative to the statement of the problem.

1. The results of Mc Call Crabs revealed that there are really struggling readers with a reading ability level 4 in Grade 7.

2. Reading tools such as IAWS (Intervention Activity Worksheets, and SRW (Science Reading Worksheets) are helpful to enhance the reading comprehension of the respondents.

3. The use of Project STIR improved the reading comprehension of selected Grade 7 students in Science.

4. By doing this project, it also helped the researcher take a closer look not only on the developed reading tools; but also, the students' needs.

5. The study revealed that each respondent have different reading pace. This action research does not only help the students in improving their reading comprehension; but also, helps teachers become more assess learning difficulties.

VI. RECOMMENDATION

The researcher suggests that diagnosed the level of reading comprehension of the learners. And more intervention materials should be designed and created by teachers aligned to the topics in Science to increase learning capabilities through reading comprehension. Working together with the English teachers can uplift the students' academic and application skills in Science.

The outcome of any serious research can only be to make two questions grow where only one grew before.

Thorstein Veblen

IMPROVING THE SPEAKING SKILLS OF SELECTED GRADE 10 STUDENTS THROUGH THE INTEGRATION OF CELLPHONE DICTIONARY APPLICATIONS IN DAILY ORAL READING EXERCISES (DORE)

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Dioquino, Katherine T.
Ternida, Edmundo Jose O.

ABSTRACT

Language has an important role in everyday life interactions. Nowadays, English is used as an international language for business, tourism, political and international relationship. Thus, it is the aim of the researchers to help NNHS students to be orally fluent in English for this could be an edge in their scholastic and career growth in the future.

This research endeavor, named Project DORE is an intervention which is concerned with improving the speaking skills of selected Grade 10 students through daily oral reading exercises embedded with the use of cellphone dictionary applications.

The pre and post-test design of the scores of 100 students from sections Love and Faith were used to quantify the oral fluency of the students based on the Pronunciation Skills Inventory Test. Several pronunciation drills and interventions were also given to students to reinforce oral competence.

Data from this study showed that after two months of exposure to the use of the offline dictionary application and involvement in the daily oral reading exercises, results showed that there was a notable improvement on the pronunciation inventory test. Moreover, the student respondents also verbalized that the use of the offline dictionary lessens their anxiety towards mispronouncing the words. The offline English dictionary enabled them to pronounce the words correctly by imitating what was heard in the offline dictionary application.

CONTEXT AND RATIONALE

Language has an important role in everyday life interactions. Nowadays, English is used as international language for business, tourism, political and international relationship. Those are just a few reasons why people may wish to speak the English language, and it seems fair to assume that speaking skills play a large part in this overall competence. Thus, it is the aim of the researchers to help NNHS students to be orally fluent in English for this could be an edge in their scholastic and career growth in the future.

The National Achievement Test of Navotas National High School (NNHS) has declined over the years. The latest NAT result is the lowest since 2010. In the learning area of English, a decrement of 15.17 percentage points was recorded. Thus, it is the aim of this study to develop the vocabulary skills and oral fluency of the selected Grade 10 students.

There are two factors identified why students in Grade 10 have difficulties in speaking the English language: first, it is not used as medium of communication at school and at home; second, the lack of confidence among students in expressing themselves in the said language. The two intervening factors hindered students to be good speakers of English as their second language.

Project DORE is an intervention that aims to improve the speaking skills of selected Grade 10 students through daily oral reading exercises embedded with the use of cellphone dictionary applications.

Review of Related Literature

English is an international language and most people in the world use this language. It is the most broadly studied as foreign language in the world. English is learnt widely either for general or specific purpose, it may be formal or informal. Richard (2008) states that a large percentage of the world's language learners study English in order to develop proficiency in speaking. This is caused by the functions of speaking that cover many aspects of human interaction, such as involved expressing ideas and opinions, expressing a wish, negotiating, solving a particular problem, establishing and building social relationship, maintaining business or other professional reasons. Those are just a few reasons why people may wish to speak the English language, and it seems fair to assume that speaking skills play a large part in this overall competence.

The use of oral drills direct from an internet application is a strategy needed to address

the students' speaking problem. Various studies (P. Thornton and C. Houser; P. Sharma and B. Barrett, 2011; W. Tsou, 2005) support the utilization of technology to hone good speakers of the English language.

Relevant Studies

In a study conducted by Riswanto and Haryanto entitled "Improving Students' Pronunciation through Communicative Drilling Technique at Senior High School (SMA) 07 South Bengkulu, Indonesia" they have identified some methods that are used in teaching English. One of them is audio lingual method. This method is very popular in United States in 1950. One of the techniques that is used in this technique in this method is drilling. Drilling technique refers to behaviorist approach where the students are suggested to be used to with foreign language the students learn. In behaviorist, there are two crucial elements of learning. They are stimulus and reinforcement. Stimulus refers to mark of appropriate and inappropriate and repetition encouragement. Moreover, reinforcement is the vital element in learning process because it increases the likelihood that the behavior will occur again and eventually became habit. Consequently, the students have habit to use the target language. Furthermore, in this case drilling technique involves or includes: repetition, inflection, transformation and many others. On the other explanation, Senel (2006) stated that drilling technique is very useful in teaching pronunciation because it can create correct and accurate pronunciation. Furthermore, he gave many forms of drilling techniques.

Statement of the Problem:

This action research aims to answer this question:

How does the use of cellphone dictionary application embedded in daily oral reading exercises help in improving the speaking skills of selected Grade 10 students?

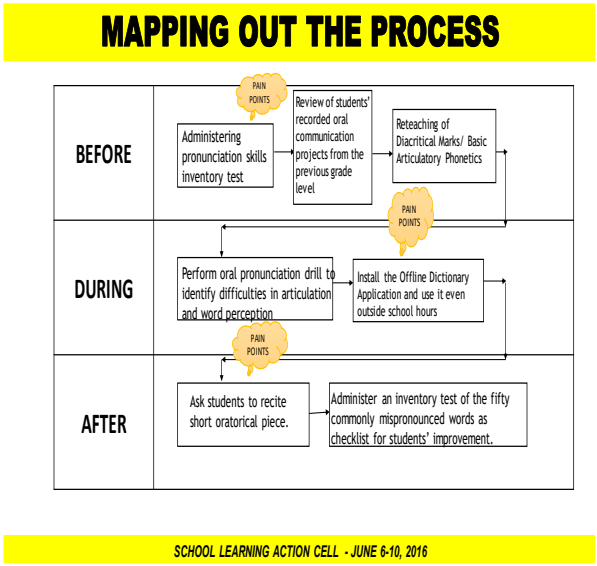
Scope and Limitation

This study focused on the effect of using the offline dictionary applications in developing the oral fluency and confidence in speech of 100 selected Grade 10 students of Navotas National High School from sections Faith and Love. The results will be obtained using a pre-post test data analysis. Also, the oral presentations to be done by the respondents will be graded accordingly using the offline dictionary application as basis for the correctness of their pronunciation.

Students are also encouraged to share the offline applications to who do not have access to an android phone and the offline dictionary whenever needed.

Methodology

Data collection included the administering of pronunciation skills inventory test and listening to the oral communication/ audio recording of students. The researchers will make use of the pre and post test analysis using the data sources identified above to substantiate the effectiveness of the intervention. Descriptive statistics will be used in comparing the results of the pronunciation skills inventory test and the articulation testing using oral drills.



Sampling and Data Collection

A Pronunciation Skills Inventory Test was administered by the researchers last November 21, 2016 to Grade 10 Sections Love and Faith. Data showed that the majority of the students were not able to pronounce the words clearly. The identified respondents were asked to download an offline dictionary application which they will use as reference for the correct pronunciation of content-based vocabulary or words used in the daily lessons.

Several drills developing oral fluency were given to the students such as the following:

1. List of Borrowed and High Frequency Words
2. Mastery Drill on Contrastive Pronunciation
3. Tongue Twister Exercises
4. Interpretative Reading Piece

Results and Discussion

Is the use of an English offline dictionary effective in improving the oral fluency and confidence in speech of Grade 10 Love and Faith students?

After two months of exposure to the use of the offline dictionary application and involvement in the daily oral reading exercises, results showed that the respondents from Section Love correctly read an average age of 45 words out of the 50 words, while Section Faith read an average of 42 words in the pronunciation inventory test. A notable improvement of at least 19.5 points in the score range was recorded by the researchers.

Figure 1: Pre and Post Test Results of the Pronunciation Skills Inventory Test

Section	Pre Test Mean	Post Test Mean	Range
Love	24.74	44.74	20.00
Faith	22.92	41.98	19.06

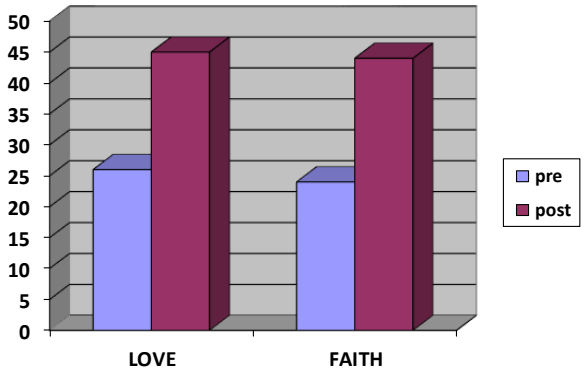


Figure 1.1

An improvement on the oral fluency and confidence in speech were also evident in the oral exercises conducted throughout the conduct of this study. Moreover, the student respondents also verbalized that the use of the offline dictionary lessened their anxiety towards mispronouncing the words. The offline English dictionary enabled them to pronounce the words correctly by imitating what was heard in the offline dictionary application.

Pro Ethical Issues

The researchers fear that they might overlook the following:

1. written parental consent for the selected student respondents
2. citing of bibliographical and on-line sources
3. commitment sheet from the teacher and student participants.

REFLECTIONS:

Indeed, technology has become a dependable partner of the students in improving their oral confidence and competence. The use of offline cell phone dictionary applications has enabled them to ease the anxiety brought about by the pressure of mispronouncing English words, especially when it is another person telling them the correct pronunciation. Thus, giving them the opportunity to improve their vocabulary through the meanings, synonyms and antonyms, sentence examples presented when the application is used.

Moreover, the accessibility to the offline dictionary application would be the least of one's concern for it is downloadable and can be shared at no cost.

FUTURE DIRECTION

Although, Project DORE has been proven to be effective in enhancing the student's fluency and confidence in speech; the researchers are planning to encourage all students of Navotas National High School to use the offline cell phone dictionary applications.

It is the hope of the researchers that the use of the application would be a way of life among NNHS students, which would eventually result to a more orally competent Navoteño, English speakers. Also, further studies on how to enhance this endeavor, as well as the effect of the use of such applications on vocabulary enrichment are also encouraged.

REFERENCES

Broughton, Geoffrey. 2003. Teaching English as a Foreign Language. London: Franchise-Library University

Richards, J.C. 2008.Teaching Listening and Speaking. United Kingdom: Cambridge University Press

New Technologies in the Classroom by J. Pilgrim, C. Bledsoe & S. Reily *Delta Kappa Gamma Bulletin, 2012*

Using Mobile Phone in Education by P. Thornton and C. Houser

Using Technology in and beyond the Language Classroom by P. Sharma and B. Barrett, *2011*

Improving Speaking Skills through Instruction in Oral Classroom Participation by W. Tsou - *Foreign Language Annals, 2005*

READING GAMES: ITS EFFECT TO THE READING PROFICIENCY OF GRADE SIX-JACINTO OF MAHARLIKA ELEMENTARY SCHOOL S.Y. 2016-2017

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ABSTRACT

Today's classroom instruction is faced with various issues and one of them is the emerging problem on reading. This is proven by the growing number of frustrated readers based on the results of the Philippine Informal Reading Inventory (PHIL-IRI). If not given early intervention, they might be left behind their developing peers. This alarms the researcher to venture on the use of reading games to find out its effect in improving the reading proficiency of the struggling readers.

This study used the descriptive correlational design. The subjects of the study were forty (40) frustrated readers of Maharlika Elementary School for the school year 2016-2017.

The Grade Six pupils section Jacinto of Maharlika Elementary School were the subjects of the study. There were a total of forty (40) Grade Six pupils properly chosen from fifty-two (52) pupils, total population of Grade Six, Section Jacinto. These fifty-two (52) pupils were advisees of the researcher himself. Out of 52 pupils, 40 of them were identified as frustrated readers because they can read without comprehension based on the result of the Philippine Informal Reading Inventory (Phil-Iri) personally conducted by the researcher.

The study made use of the Modified Informal Reading Inventory (IRI) of Silver Burdett and Ginn (1989) adopted from the study of Angkad (2015). It is composed 0f six passages marked as level 1 up to level 6. Each passage is divided into two. The first part is for the oral reading and the second part is for the silent reading. Each part is followed by comprehension questions. Levels 1, 2, and 3 have six comprehension questions for the silent reading. Level 4 has eight comprehension questions for the oral reading and another eight questions for the silent reading. Levels 5, and 6 have ten comprehension questions for oral reading and another ten questions for the silent reading.

The data were analyzed using frequency, percentage, and t-test using SPSS.

Findings of this study revealed that the functional reading level of the grade VI pupils in word recognition is in the instructional level while comprehension is in the frustration level as shown in the mean score of 3.25 in word recognition and a mean of 57.12 in comprehension; the reading grade levels of the frustrated readers are grades 3, 4, 5 and 6 in word recognition and grades 1, 2, 3 and 4 in comprehension before the reading games are introduced but after the reading games are introduced the reading grade levels of the frustrated readers in word recognition are grades 4, 5, and 6 and comprehension are grades 2, 3, 4, 5 and 6. As indicated by the sig value of 0.000 in word recognition and 0.000 in comprehension, the study revealed that there is a significant difference in the pupils' grade level in word recognition and comprehension before and after the reading games are introduced.

The findings of the study conclude that reading games are effective in improving the reading proficiency of the frustrated readers both in word recognition and comprehension.

The study, on the other hand, recommended the following: Elementary teachers teaching English should administer reading diagnosis at the onset of the school year to discern the reading grade level of their pupils; Elementary teachers teaching English should give attention to pupils with reading difficulty by recommending them for remedial reading instruction; The remedial reading teachers should utilize the reading games in teaching frustrated readers for meaningful reading instruction that would spare the learners from boredom; The principal and the English chairperson should provide the materials needed by the remedial reading teacher to address the instructional needs of the frustrated readers; and Remedial reading teacher should utilize the output of the study for a longer period to further validate the results of the study.

Keywords**:** *Reading Grade Level, Frequency counts, Functional Reading Level, and Remedial Reading Instruction*

INTRODUCTION

The definition of reading has moved beyond decoding printed symbols and recognizing words, thus, reading is a process of constructing meaning to a written text. It is a dream of any teacher that every student may acquire knowledge, skill, and understanding to combat the challenges of life in order to meet the global demands. According to Davis, et.al (2016), through the teaching of reading, knowledge in different areas can be ascertained. We can safely say that reading is the backbone in learning Mathematics, Science, Social Studies and other subjects, because these are just mere written texts, without understanding.

Read On, Get On Campaign (2014) affirms that being a good reader is crucial for every child. It is the key to developing much of their potential. Children first learn to read; then they read to learn.

To support this assertion, Cox (2016) reveals that in the early grades, the main focus of language arts is teaching students how to read. Later on, this shifts into reading comprehension. As students climb the ranks in grade level, the subjects and texts climb equally in complexity – and students still struggling to read tend to fall behind. It's because of this that catching the problem as early as possible – and fixing it – is absolutely essential in order for students to become competent readers.

In Maharlika Elementary School, although it is not definite the observable problems among Grade Six pupils are manifested by their lack of strong receptive and expressive language, large vocabularies, and ability to comprehend what they read. The basis of saying this is the result of the classroom-based reading activities where a superior percentage of pupils fall under frustrated level or with a remark "For Remediation." Pupils are identified to read slowly, and even if they can pronounce words in a sentence they cannot comprehend what the sentence is all about.

The presumption is supported by Blickenstaff, Hallquist and Kopel (2013) who state that knowing how to read words has ultimately little value if the student is unable to construct meaning from the text.

This matter calls the attention of the reading teachers in Maharlika Elementary School. It also brings to their awareness the manner of reading strategy they use that might be better and more effective. Thus, the researcher as an elementary teacher in the said school is interested to help the pupils with reading difficulty. Since Tejero (1998) recommends the use of reading games in teaching reading with students with reading difficulty, the researcher wants to venture on the use of reading games to develop the pupils' phonological and print awareness, knowledge of letter-sound relationship, large vocabulary, and comprehension.

Giving reading importance across the curriculum using the Reading Games, the pupils' reading proficiency are hoped to improve.

It is in this view that the researcher finds this action research very important.

Literature Review

The Nature, Definition, and Importance of Reading

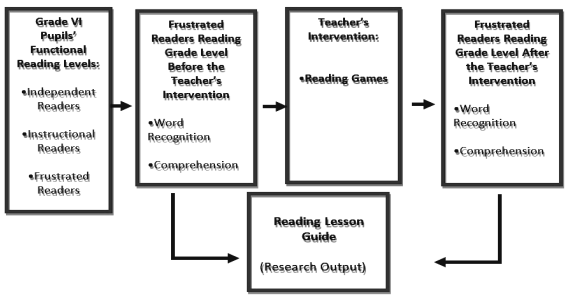
Ozdemir (2009) stresses that reading is fundamental in getting knowledge as all the lessons and learning activities are mostly based on the power of comprehensive reading; indeed, it is really necessary to read comprehensively. According to Al -Khateeb (2010) reading Comprehension is the peak of the reading skills and the basis for all reading processes. It is viewed by some researchers as the ultimate objective of the reading process since he who does not comprehend what he reads is considered as if he has not read.

The skills such as acquiring the correct meaning, analyzing the author's point of view and applying what one learns from reading to real- life situations are what constitute reading comprehension.

Thus, reading alone is not enough; there must be comprehension so that learners may not only focus on the text but also on the interpretation of its deeper meanings.

Bellosillo (2013) reveals that reading is the process in which information from the text and the knowledge possessed by the reader get together to produce meaning.

The Conceptual Framework



The Reading Games

According to Seroy (1997), the teaching methods under group are primarily designed to involve the learners in all the classroom activities. No learner is left behind in his/her seat; hence the class using these methods is highly interactive in

both oral and written activities. The teacher is expected to explain the rules and procedures of the games so that the expected output is achieved.

This study is anchored on the idea of Villamin (1984) which points out that the use of games which profoundly provide insights which reveal that reading games and devices are intended to supplement, not replace, and work with readers and other books, the materials are valuable in contributing variety and fun to a well-rounded reading program.

Figure 1. Conceptual Paradigm

Figure 1 is the paradigm showing the presentation of the conceptual framework of the study. Five (5) boxes are shown in the conceptual paradigm.

The first box at the left side is the three (3) functional reading levels which classify the pupils into independent readers, instructional readers, and frustrated readers through administering a pretest in reading to the 52 Grade VI pupils who are the focus of the study. After the pupils' classification, the frustrated readers as shown in the second box were taken and served as the subjects of this study. This is indicated by an arrow from the first box pointing to the second box.

The frustrated readers on the second box were given another reading skill tests to determine their reading level (scores) before the teacher's intervention is introduced as indicated by another arrow from the second box to the third box, the teacher's intervention.

The fourth box at the right side is the reading level (scores) of the frustrated readers after the teacher's intervention (the reading games) is introduced as indicated by another arrow from the third box pointing to the fourth box. The arrows from the second and fourth boxes pointing to the fifth box below the third box suggest the kind of research output to be formulated based on the results of the study.

Research Questions

This action research found out the effects of reading games to the reading proficiency of the Grade Six-Jacinto of Maharlika Elementary School during the school year 2016-2017.

Specifically, this action research sought to answer the following questions:

1. What is the functional reading level of the grade VI pupils in terms of:

1.1. word recognition and

1.2. comprehension?

2. What are the reading grade levels of the frustrated readers before the reading games are introduced in terms of:

2.1. word recognition and

2.2. comprehension?

3. What are the reading grade levels of the frustrated readers after the reading games are introduced in terms of:

3.1. word recognition and

3.2. comprehension?

4. Is there a significant difference between the reading grade levels of the frustrated readers in word recognition and comprehension before and after the reading games are introduced?

5. Based on the findings, what reading lesson guide can be formulated?

METHODOLOGY

Sampling. The Grade Six-Jacinto pupils of Maharlika Elementary SchooL were the subjects of the action research. There were a total of forty (40) Grade Six pupils properly chosen from fifty-two (52) pupils, total population of Grade Six, Jacinto. These fifty-two (52) pupils were advisees of the researcher himself. Out of 52 pupils, 40 of them were identified frustrated readers and could read with minimal comprehension.

The researcher utilized quasi-experimental method using pre-test- post- test one group design. In this method, the researcher let the grade VI pupils take the Informal Reading Inventory (IRI) before the reading intervention. After which, the intervention was applied using the reading games. After the reading intervention was done, the researcher gave a posttest using the same material to the same pupils. The purpose of this will be to make conclusions whether the frustrated readers improve their reading grade level or not after the intervention.

Data Collection. The study used the Modified Informal Reading Inventory (IRI) of Silver Burdett and Ginn (1989) adopted from the study of Angkad (2015). It was an individually administered diagnostic reading test, which was a valuable aid in helping the teachers determine the pupil's reading levels. Informal Reading Inventory test could gauge the grade level of the pupils in word recognition and comprehension.

The Modified Informal Reading Inventory was composed of seven passages marked as level 1 up to level 7. Each passage was divided into two.

The first part was for the oral reading and the second part was for the silent reading.

Each part was followed by comprehension questions. Levels 1, 2, and 3 had six comprehension questions for the silent reading. Level 4 had eight comprehension questions for the oral reading and another eight questions for the silent reading. Levels 5 and 6 had ten comprehension questions for oral reading and another ten questions for the silent reading.

Upon approval of the requests, the researcher coordinated with the concerned Grade Six pupils for the conduct of the study. To ensure the validity and reliability of the reading passages and games, the researcher solicited suggestions and comments from Mr. Noel T. Balubal, Division English Coordinator, Dr. Erlinda O. Butcon, principal of the school where the research was conducted, and Ms. Jojeth B. Hermogenes, District English Coordinator and a co-teacher of the researcher. On the other hand, pilot testing of the reading passages and reading games was also conducted to selected frustrated readers who were also Grade Six pupils in order to identify possible problems to be encountered during the application of the reading games. After which, the researcher administered the IRI passage 6 to 52 grade VI Jacinto pupils. From the fifty-two grade VI pupils, 40 frustrated readers were singled out based on the result of the IRI. The researcher prepared his teaching materials to teach reading using the reading games. When the intervention was fully applied, the post-test followed.

The pre-test and the post-test were administered only for the frustrated readers.

Plan for Data Analysis. After the pre-test and post-test were administered and the interventions were applied, all the data gathered were collected, tallied and tabulated for the analysis. The data were submitted to the statistician for the fixing of tabular presentation. The data were interpreted and analyzed as bases of making the conclusions and recommendations.

The research made use of frequency counts, percentage, mean, standard deviation and t-test using SPSS or Statistical Package for the Social Science which was set at 0.05 level of significance.

For problem numbers one, and three, the mean was used.

Problem number four was treated with t-test using SPSS for paired variables to compare whether the difference between the pupils' functional reading levels before and after the reading games were introduced was significant or not significant at 0.05 level. In the same manner, to compare if the difference between the pupils' reading grade level in their actual mean grade level before and after the reading games were introduced, the t-test at the 5% level of significance was also used.

RESULTS AND DISCUSSION

The following data presents the data that were gathered, analyzed, and interpreted based on the research problems. The data gathered are presented in tabular form with their corresponding analysis and interpretation. The data include the following: (a) The Functional Reading Level of Grade VI Pupils, (b) The Functional Reading Level of the Grade VI Pupils in Comprehension, (c) The Reading Grade Level of the Frustrated Readers in Word Recognition Before the Reading Games Are Introduced, (d) The Reading Grade Level of the Frustrated Readers in Comprehension Before the Reading Games Are Introduced, (e) The Reading Grade Level of the Frustrated Readers in Word Recognition After the Reading Games Are Introduced, (f) The Reading Grade Level of the Frustrated Readers in Comprehension After the Reading Games Are Introduced, and (g) The Comparison Between The Reading Grade Level of the Frustrated Readers in Word Recognition and Comprehension Before and After the Reading Games Are Introduced.

The Functional Reading Level Of The Grade VI Pupils

Table 1 shows the frequency distribution of the functional reading levels of the grade VI pupils.

Table 1

The Frequency Distribution of the Functional Reading Level of the Grade VI Pupils in Word Recognition

Range Of Errors	*Frequency*	*Percent*	*Functional Reading Level*
0-1	20	38.46%	**Independent**
2-8	28	53.85%	**Instructional**
9 or more than 15	4	7.69%	**Frustration**
Total	**52**	**100.00**	
Mean =3			

The functional reading level of the grade VI pupils was assessed through the Informal Inventory Test. The result is shown in Table 1. Hence, Table 1 shows that out of the 52 grade VI pupils 28 or 53.85 percent belongs to instructional level. It indicates that majority of the grade VI pupils have committed 2 to 8 errors in the printed text level 6 reading passage; however, they still need little assistance from their teachers or from the adult learners to achieve the highest functional reading level which is the independent level. The data is justified by Gillet and Temple (quoted in Angkad, 2015) that the instructional reading level is the second category of the functional reading levels

where the readers can recognize ninety-five percent of the words; they have a good accuracy in word recognition, but need help in the analysis of some words.

On the other hand, twenty (20) or 38.46 percent is labeled as independent readers. This connotes that almost one half of the grade six pupils have excellent accuracy with word recognition with very minimal errors in word recognition and they can read the grade VI text even without the assistance of their teacher or adult learners, for they only committed 0-1 error for the level 6 reading materials. This contention is backed up by Farris et.al. (2004) by describing the independent level as recreational level, for it is the functional reading level where students can read freely on their own without assistance, and they can read fluently with high interest and excellent comprehension.

Moreover, Table 1 indicated that among 52 grade VI pupils, only 4 or 7.69% belongs to frustration level for they committed more than 9 errors in the level 6 reading passage. In this functional reading level, the pupils have difficulty reading the passage in level 6; they have a poor rate in reading; and they are unable to pronounce many of the words in the text. The data suggest for meaningful reading instruction to help these 4 frustrated readers overcome their reading difficulty. Gillet and Temple (as quoted in Angkad, 2015) opine that if the learners belong to the frustration functional reading level in word recognition, they have a poor rate in reading, and they have difficulty in pronouncing many of the words in the text. Thus, they find the text too difficult to read. To address their reading difficulty, Villamin (1984) suggests to provide meaningful reading instruction.

Generally, Table 1 has shown a mean of error of 3.25 described as instructional. This means that considering the errors of the grade 6 pupils for level 6 reading passage, their functional reading level is instructional which indicates that the grade 6 pupils still need assistance from their reading teachers or adult learners to reach the independent reading level.

The Functional Reading Level of the Grade VI Pupils in Comprehension

The frequency distribution of the functional reading level of the grade VI pupils in comprehension is shown in Table 2.

Range Of Errors	*Frequency*	*Percent*	*Functional Reading Level*
0-10	0	0%	**Independent**
11-49	12	23.08%	**Instructional**
50 or more	40	76.92%	**Frustration**
Total	**52**	**100.00**	
Mean =57.12			

The functional reading level of the grade 6 pupils is gauged through the Informal Inventory Test. The result is shown in Table 2. Thus, Table 2 depicts that out of 52 grade VI pupils 40 or 76.92 percent of the pupils are frustrated readers. The data further explains that majority of the grade VI pupils have difficulty in comprehension due to their massive errors in answering the comprehension questions after reading the level 6 passage. They committed errors ranging from 50 and above. In consequence, they only comprehend less than seventy percent of what they read. This is an indication of poor comprehension skills that suggest for meaningful reading instruction that would harness their comprehension skills. The idea is strengthened by Gillet and Temple (as quoted in Angkad, 2015) that frustration reading level is the lowest reading level where the learners are unable to comprehend the material adequately. She further suggests to remediate this comprehension difficulty through meaningful reading instruction.

Moreover, it can be gleaned in Table 2 that 12 or 23.08% of the grade VI pupils have instructional functional reading level. This means that only 20% of the pupils have satisfactory comprehension; though, they still need little assistance from their teacher or adult learner to progress their reading competency under the teacher's guidance and reach out the highest reading level. In line with the idea, Farris et.al. (2004) affirm that the students who reach the instructional level in reading comprehension have satisfactory comprehension, but they still need assistance from their teacher through the provision of challenging reading materials which are not too difficult but of moderate difficulty to level up their reading comprehension to independent level.

In addition, none of the pupils have achieved the independent functional reading level. This means that all of the 52 grade VI pupils have difficulty understanding the reading passage level 6 and because of this, it needs immediate remediation and meaningful reading instruction so their comprehension skills will be heightened and eventually become independent readers. In line with this, Villamin (1984) justifies that if the learners are categorized as independent readers, they can read freely without the guidance of the teachers, for they thoroughly understand what they read.

In totality, the mean of errors of the grade 6 pupils in reading comprehension is 57.12 which fall on the frustration level. The data disclose that in comprehension the grade 6 pupils' functional reading level is in the frustration level.

The Reading Grade Level of the Frustrated Readers in Word Recognition Before the Reading Games Are Introduced

The reading grade level of the frustrated

readers before the reading games are introduced is shown in Table 3.

Reading *Passage Level*	*Frequency*	*Percent*
3	10	25%
4	11	27.5%
5	8	20%
6	11	27.5%
Total	40	100%

Before the reading games are introduced in the grade 6 pupils, their word recognition skill was evaluated through the Modified Informal Inventory Test. The result of the IRI is shown in Table 3. It is clearly indicated in Table 3 that the reading grade levels of grade VI frustrated readers are grades 3, 4, 5 and 6. These are their reading grade level prior to the use of reading games in reading instruction. It is clearly shown in Table 3 that 11 0r 27.5% whose reading grade level is grade 6 in word recognition. This means that they reach the independent functional reading level in passage 6 which is good for their grade level. There are also 11 or 27.5% grade VI pupils who have grade 4 reading level in word recognition. This indicates that these pupils can only read materials intended for grade 4 for they are independent readers in grade 4 or level four passage.

Plus, the data also shows that only 8 or 20 percent have grade 5 reading grade level, for they can only recognize words, phrases, and sentences for grade 5 level. Finally, Table 3 shows that there are 10 or 25 percent have grade 3 reading grade level although they are grade VI pupils.

The Reading Grade Level of the Frustrated Readers in Comprehension Before the Reading Games Are Introduced

The reading grade level of the frustrated readers in comprehension before the reading games are introduced is shown in Table 4.

Reading *Passage Level*	*Frequency*	*Percent*
1	36	90%
2	1	2.5%
3	1	2.5%
4	2	5%
Total	40	100%

Table 4 reflects data on the reading grade level of the frustrated grade VI readers. Based on the data, 36 or 90% percent of the grade VI frustrated readers in comprehension before the reading games are introduced belong to grade 1 level only. This means that majority of the grade VI frustrated readers can only comprehend ninety-eight percent of what they read when provided with grade 1 or passage 1 reading material. This further reveals that they really need to struggle practicing reading to reach the appropriate reading level for their present grade level.

In some ways, there are only 2 or 5 percent with grade 4 reading grade level at grade 4. Meaning, these students need to double their efforts to cope with the recommended reading grade level at grade 6. Thus, the teacher also needs to devise reading methodologies to help the students reach the supposed reading grade level which is at grade VI.

It can also be gleaned in Table 4 that 1 or 2.5 percent out of 40 frustrated readers have both grade 2 and 3 reading grade level. This means that even though they are already grade VI, they can only manage to read independently with grade 2 and 3 reading materials. Thus, the data suggest for meaningful reading instruction to overcome the pupils' reading difficulty in comprehension.

The Reading Grade Level of the Frustrated Readers in Word Recognition After the Reading Games Are Introduced

The reading grade level of the grade VI frustrated readers in word recognition after the reading games are introduced is shown in Table 5.

Reading Grade level	*Frequency*	*Percent*
4	4	10%
5	20	50%
6	16	40%
Total	**40**	**100.00**

The data in Table 5 introduce the reading grade level of the frustrated readers in word recognition after the reading games are introduced. It can be inferred in Table 5 that after the reading games, there are twenty or 50 percent frustrated readers whose reading grade level belongs to grade 5. Meaning, they can only recognize the text in grade 5 level with 98 percent accuracy although they are grade VI pupils. This suggests that they can freely read the grade 5 materials independently even without the assistance of their teacher.

The same Table shows that there are 16 or 40 percent of the frustrated readers after the reading games are introduced who have obtained grade 6 reading level in word recognition. Meaning, they can recognize the text for grade 6 level without difficulty. This suggests that these pupils do not need assistance from their teacher to read effectively for they can manage to read the grade VI reading material independently.

Finally, Table 5 reveals that there are 4 or 10 percent of the frustrated readers who obtained grade 4 reading level. The data disclose that these

pupils can only recognize the grade IV text with 98 percent accuracy. Thus, they still need to be subjected to further meaningful reading instruction.

The Reading Grade Level of the Frustrated Readers in Comprehension After the Reading Games Are Introduced

The reading grade level of the frustrated readers in comprehension after the reading games are introduced is shown in Table 6.

Table 6

The Reading Grade Level of the Frustrated Readers in Comprehension After The Reading Games Are Introduced

Reading Grade level	*Frequency*	*Percent*
2	10	25%
3	5	12.5%
4	10	25.%
5	**5**	12.5%
6	**10**	**25%**
Total	**40**	**100.00**

It is reflected in the data in Table 6 that after the reading games are introduced, there are 10 or 25 percent of the grade VI frustrated readers who successfully reach the appropriate reading grade level which is grade 6, meaning; they can already comprehend the text with grade 6 level of difficulty. Thus, they do not need remedial reading instruction anymore for their reading level is in place.

It is also shown in the same table that there are another 10 or 25% of the frustrated readers belong to grade 4 and 2 reading level in comprehension. This means that after the reading games are introduced, there are ten frustrated readers who can independently comprehend 98 percent of what they read with grade 4 and 2 reading passages.

Moreover, five or 12.5 percent is grade 5 and 3, meaning, only one fourth of the grade 6 who are assessed frustrated readers before the reading games are introduced are categorized to have grade 5 and 3 reading in comprehension level after the reading games are introduced. Meaning, they can comprehend eighty-five percent of what they read if given grade five and three reading materials. The data imply that these five pupils need only minimal effort to reach the desired reading grade level for their actual grade level and the remaining five needs to double their effort in reading to reach the appropriate reading level.

The Reading Grade Level of the Frustrated Readers in Word Recognition and Comprehension Before and After the Reading Games Are Introduced

The reading grade level of the frustrated readers in word recognition and comprehension is presented in Table 7.

Table 7

The Comparison between the Reading Grade Level of the Frustrated Readers in Word Recognition and Comprehension Before and After the Reading Games Are Introduced

Variable Compared	N	Mean Pre	Mean Post	SD Pre	SD Post	Significant Value	Interpretation
Word Recognitions	40	3.88	3.10	2.92	2.23	0.000	There is statistically significant difference.
Comprehension	40	1.90	7.18	1.08	2.43	0.000	There is statistically Significant difference.

Legend: t to be significant at 5% level should be lower than 0.05 with df of 39
N = The total number of pupil- respondents
M = The mean of pretest and posttest
SD = The standard deviation of the pretest and posttest
Sig Value = The significant value of the pretest over posttest

The data reflected in Table 7 indicate the pupils' grade level in word recognition and comprehension before and after the reading games are introduced. It can be gleaned in Table 7 that the difference in the students grade level in word recognition before and after the reading games are introduced was tested using the SPSS. The result manifests the sig value of 0.000 described as significant since the computed SPSS is lower than the sig value which is 0.05. This means that the reading grade level of the pupils in word recognition has improved through the reading games. Meaning, the reading games are effective tools to improve the grade level of the frustrated readers. According to Tejero (2000), the pupils with reading difficulty should be taught using meaningful activity like reading games so that they will enjoy and appreciate the activity that will motivate them to learn reading in a meaningful way.

On the other hand, the difference in the pupils' reading comprehension level was also tested using the SPSS and it obtained a sig value of 0.000 described as significant. Its sig value is lower than the sig value of 0.05. The data explicate that the reading games may have contributed to the pupils' reading grade level of the frustrated readers.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the findings of the study, it is concluded that reading games are effective in improving the reading grade level of the frustrated readers both in word recognition and comprehension.

Recommendations

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

1. The elementary teachers teaching English should administer reading diagnosis at the onset of the school year to evaluate the reading grade level of their pupils;
2. The elementary teachers teaching English should give attention to pupils with reading difficulty by recommending them for remedial reading instruction;
3. The remedial reading teachers should utilize the reading games in teaching the frustrated readers for meaningful reading instruction would spare the learners from boredom;
4. The principal and the English chairperson should support the materials needed by the remedial reading teacher to address the instructional needs of the frustrated readers;
5. Remedial reading teacher may utilize the output of the research for a longer period to further validate the results of the research; and
6. Upcoming researchers must conduct similar studies to other subjects to further find out the effects of reading games to the reading grade level of frustrated readers.

REFERENCES

Kral, T. (1994). *The Lighter Side Of TEFL. Materials Development and Review Branch English Language Programs Division* United States Information Agency, Washington, DC. 20547

Saldajeno, A. (2000). *SPONGES-And Who Said You're Boring, Eh?,* International Learning Styles Network, St. John University, New York

Seroy, J.L. (1997). *Methods Of Classroom Teaching Revisited.* The Modern Teacher

Tejero, E.G. (2000). *Beginning Reading Skillbook.* Quezon City: White Orchids Publishing Company

Villamin, A.M. (1984). *Innovative Strategies in Teaching Reading.* Quezon City: Phoenix Publishing House, Inc.

UNPUBLISHED THESES

Ukas, U.D. (2014), *The Pupils' Performance In Thirteen Language Competencies In The Mother Tongue-Based Multilingual Education*

Angkad, N.B. (2015), *The Effect of Reading Games on the Frustrated Pupils' Reading Grade Level: Bases of Constructing Reading Activities*

Al-Khateeb, O. (2010). *The Impact of Using KWL Strategy on Grade Ten Female Students' Reading Comprehension of Religious Concepts in Ma'an City*. Retrieved June 8, 2014 from World Wide Web http:// www.eurojournals.com/ejss 12_3_14.pdf.

Bellosillo, K. (2013). *Factors Affecting The Reading and Comprehension Skills Among Grade-V Pupils at Dulangan Elementary School.* Retrieved June 12, 2014 from World Wide Web http://www.Studymode.com/essays/ Factors-Affecting-The Reading-And-Comprehension-1381873.html

Blickenstaff, J., Hallquist, E., & Kopel, K. (2013). *The Effects of Reading Strategies in Comprehension for Elementary Age Learners*. Retrieved January 15, 2017 from World Wide Web http://sophia.stkate.edu/ cgi/viewcontent.cgi? article=1001&context=maed

Cox, Janelle (2016). *Teaching Strategies to Assist Struggling Readers*. 2009-2017 K-12 Teachers Alliance. Retrieved January 15, 2017 from World Wide Web http:// www.teachhub.com/teaching-strategies-assist-struggling-readers

Davis, Y. T., Datulayta, F.C., Dacalos, J.S., Cordova, B.B., Clerigo, K.A., Canoy, N.E., & Inocian, R.B. (2016). *Effective Teaching Practices in Handling Non-Readers*. Asia Pacific Journal of Multidisciplinary Research, Vol. 4 No. 3. 50-61 August 2016. Retrieved January 14, 2016 from World Wide Web http://www.apjmr.com/wp-content/uploads/2016/07/APJMR-2016.4.3.07.pdf

Ozdemir, A. (2009). *The Effect of Reading Comprehension Abilities Primary School Students Over Their Problem Solving Achievement*. Retrieved June 8, 2014 from World Wide Web http://findarticles.com/p/ articles/mi_hb6516/is_2_46/ai_n32 _067948/

Read on Get on Campaign, (2014). How reading can help children escape from poverty .London: Save the Children. Retrieved January 15, 2016 from http:// www.savethechildren.org.uk/sites/default/ files/ images/Read_On_Get_On.pdf

I love science. I hate supposition, superstition, exaggeration and falsified data. Show me the research, show me the results, show me the conclusions - and then show me some qualified peer reviews of all that.

Claire Scovell LaZebnik

THE USE OF MATH TASK CARDS TO IMPROVE THE MASTERY IN THE FUNDAMENTAL OPERATIONS IN MATH

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ABSTRACT

This study aimed to obtain information on the effectiveness of task cards in improving the mastery of Grade VI pupils in the fundamental operations in Math.

To obtain the objectives of the study, the researchers used the descriptive-analytical method of research. The study was conducted in Ciriaco P. Tinga School which involved two sections: VI-Del Pilar and VI-Jacinto. Fifty pupils from each section were selected as respondents. Section Del Pilar was the control group and section Jacinto was the experimental group.

Based on the findings of the story, the following conclusions were formulated: There is an increase in the mean percentage score during the post test when they used the Math task cards. There is significant difference between the pre test and post test of both groups. There is a marked of improvement in the performance of pupils when the Math task cards are used. The use of Math Task Cards is effective in improving the mastery of pupils on the four fundamental operations.

Keywords: Math Task Cards, fundamental operations in Math

INTRODUCTION

One of the purposes of K-12 curriculum in Math is to develop pupils who are numerates. Pupils who are numerates can basically perform the basic fundamental operations before they can proceed to more complicated skills in Mathematics.

The researchers found interested on this study because upon administering the Diagnostic Drill test. It was noted that only few Grade VI pupils master the four fundamental operations. They got very low in division combinations and subtractions skills.

Basically, the researchers thought of a way on how to address this problem. Task Cards are indeed one of the ideal ways to differentiate math instruction. They are perfect for use in small groups, centers and during Math workshop. The use of this manipulative can greatly increase the mastery of pupils with regards to the four fundamental operations in Mathematics.

The purpose of the study was to find out if the Math Task Cards can improve the mastery of the pupils thus can improve their performance and increase their interest in Math.

Literature Review

Teaching for understanding in mathematics involves presenting the curriculum through multiple representations. Representations, which can be used in mathematics education, include physical (concrete), pictorial (static visual), and virtual dynamic electronic) representations. In addition to the abstract (also referred to as symbolic) representation, math educators can use math manipulative to model Multiple representations of math concepts. Each major math standards document published in the past 20 years has advocated for the use of manipulative. The fourth Mathematical Practice Standard in the Common Core State Standards for Mathematics (hereafter CCSSM) (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010), "mode l with mathematics" highlights students' use of models to communicate their thinking when solving math problems. Teachers striving to develop students' capacity to "model with mathematics" should explicitly make connections between real-world scenarios and mathematical representations of those scenarios during their instruction. Moreover, The National Council of Teachers of Mathematics (NCTM, 2000) Principles and Standards for School Mathematics (PSSM) encourage teachers and students to use multiple representations during mathematics instruction. The PSSM states that all students should "create and use representations to organize, record, and communicate mathematical ideas; select, apply, and translate among mathematical

representations to solve problems; [and] use representations to model and interpret physical, social, and mathematical phenomena" (p. 67). The primary purpose of this research review is to survey the literature regarding the effectiveness of using physical, pictorial, and virtual manipulative at enhancing students' conceptual understanding of abstract concepts. Prior to evaluating the efficacy of physical, pictorial, and virtual manipulative, this article will define each form as well as their potential applications. Next, this article will examine the theoretical foundation supporting the use of manipulative. Subsequently, this article will present the findings of contemporary research studies on the advantages and disadvantages of the use of manipulative. The author hopes that this research review uncovers the factors and conditions that contribute to educators' successes and struggles with using manipulative. A physical manipulative is an object, "designed to be moved or arranged by hand as a means of developing motor skills or understanding abstractions, especially in mathematics" ("Manipulative," 2009). Physical manipulative ranges from low-cost, simple, everyday items, such as buttons, paper clips, tooth picks, dominoes, money, string, playing cards, rulers, number cubes, graph paper, empty egg cartons, measuring cups, and film canisters to more complex and discipline-specific items, such as calculators, two-color counters, thermometers, decimal tiles, pattern blocks, Cuisenaire rods, geo-boards, tangrams, algebra tiles, and pentominoes (Bellonio, 2001). According to CCSS-I.APR.A.1, students in high school should develop an understanding of how to "multiply polynomials" (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). As seen in Figure 1, students can use algebra tiles to model the multiplication of polynomials.

All students will benefit from a variety of teaching styles and classroom activities. Students with mild general learning disabilities will benefit particularly if the teacher is aware of their individual talents, strengths, and needs before embarking on a new activity. Consultation and/or involvement in the Individual Education Planning process as well as teacher observation will assist the teacher of Mathematical Studies and Applications in organizing an appropriate learning program for a student with mild general learning disabilities. Such an approach will assist the teacher in selecting suitably differentiated methods for the class. If learning activities are to be made meaningful, relevant, and achievable for all students then it is the role of the teacher to find ways to respond to that diversity by using differentiated approaches and methodologies. This can be achieved by ensuring that objectives are realistic for the students setting short and varied tasks ensuring that the learning task is compatible with prior learning providing opportunities for interacting and working with other students in small groups allowing students to spend more time on tasks organizing the learning task into small stages ensuring that the language used is pitched at the students' level of comprehension and does not hinder understanding the activity using task analysis in outlining the steps to be learned/ completed in any given task modeling task analysis by talking through the steps of a task as it is being done posing key questions to guide students through the stages/processes, and to assist in self-direction and correction.

Sullivan framed his review by tackling head on the issues around the debate about who mathematics education should be for and consequently what should form the core of a curriculum. He argues that there are basically two views on mathematics curriculum – the 'functional' or practical approach that equips learners for what we might expect to be their needs as future citizens, and the 'specialist' view of the mathematics needed for those who may go on a study it later. As Sullivan eloquently argues, we need to move beyond debates of 'either/ or' with respect to these two perspectives, towards 'and', recognizing the complementarily of both perspectives. While coming down on the side of more attention being paid to the 'practical' aspects of mathematics in the compulsory years of schooling, Sullivan argues that this should not be at the cost of also introducing students to aspects of formal mathematical rigor. Getting this balance right would seem to be an ongoing challenge to teachers everywhere, especially in the light of rapid technological changes that show no signs of abating. With the increased use of spreadsheets and other technologies that expose more people to mathematical models, the distinction between the functional and the specialist becomes increasingly fuzzy, with specialist knowledge crossing over into the practical domain. Rather than trying to delineate the functional from the specialist, a chief aim of mathematics education in this age of uncertainty must be to go beyond motivating students to learn the mathematics that we think they are going to need (which is impossible to predict), to convincing them that they can learn mathematics, in the hope that they will continue to learn, to adapt to the mathematical challenges with which their future lives will present them.

Perhaps more challenging than this dismantling of the dichotomy of functional versus academic is Sullivan's finding that while it is possible to address both aspects current evidence points to neither approach being done particularly well in Australian schools. I would add that I do not think that is a problem unique to Australia: in the United Kingdom the pressure from National Tests has reduced much teaching to the purely instrumental.

Drawing on his own extensive research and the findings of the significant the National Research Council's review (Kilpatrick, Swafford & Findell, 2001), Sullivan examines the importance of five mathematical actions in linking the functional with the specialist. Two of these actions – procedural fluency and conceptual understanding – will be familiar to teachers, while the actions of strategic competence and adaptive reasoning, nicely illustrated by Sullivan in later sections of the review, are probably less familiar. The research shows that students can learn strategic competence and adaptive reasoning but the styles of teaching required to support such learning, even when we know what these look like, present still further challenges to current styles of mathematics teaching. These four strands of mathematical action – understanding, fluency, problem solving and reasoning – have been included the new national Australian mathematics curriculum.

The fifth strand that Sullivan discusses – productive disposition is, interestingly, not explicitly taken up in the ACARA model, for reasons not made clear in the review. If teachers have a duty to support learners in developing the disposition to continue to learn mathematics, then one wonders why this strand of action is absent. Of course, it may be that developing this is taken as a given across the whole of the curriculum. Looking back to the first version of England's national curriculum for mathematics in 1990 there was a whole learning profile given over to what might have been considered 'productive dispositions'. But difficulties in assessing learner progress on this strand led to its rapid demise in subsequent revisions of the curriculum. I hope that the Australian curriculum is not so driven by such assessment considerations.

In considering assessment, Sullivan points out that the PISA 2009 Australian data show that, despite central initiatives, the attainment gap between children from high and low SES home backgrounds seems to be widening. This resonates with a similar finding from the Leverhulme Numeracy Research Program (LNRP) in England that I was involved in with colleagues, data from which showed that the attainment gap had widened slightly, despite the claim that England's National Numeracy Strategy had been set up to narrow it (Brown, Askew, Hodgen, Rhodes & Wiliam, 2003). Improving the chances of children who do not come from supportive 'middle class' backgrounds seems to be one of mathematics education's intractable problems, particularly when addressed through large -scale, systemic, interventions. It is encouraging to read the evidence Sullivan locates as he explores the topic in Section 7 that carefully targeted intervention programs can make a difference in raising attainment for all.

The review contains interesting test items from Australia's national assessments, showing the range of student responses to different types of problem and how facilities drop as questions become less like those one might find in textbooks. As Sullivan points out, more attention needs to be paid to developing students' abilities to work adaptively – that is to be able to apply what they have previously learnt in answering non-routine questions – and that this in turn has implications for the curriculum and associated pedagogies.

Looking at definitions of numeracy, Sullivan makes the important argument that numeracy is not simply the arithmetical parts of the mathematics curriculum and is certainly not the drilling of procedural methods, as the term is sometimes interpreted. He points out that a full definition of numeracy requires greater emphasis be placed on estimation, problem solving and reasoning – elements that go toward helping learners be adaptive with their mathematics. Alongside this, Sullivan argues, an important aspect to consider in using mathematics is the 'social perspective' on numeracy: introducing students to problems where the 'authenticity' of the context has to take into consideration the relationships between people in order to shape solutions. For example, having students recognize that interpersonal aspects, such as 'fairness', can impact on acceptable solutions. A 'social perspective' is more than simply the application of previously learnt mathematics to 'realistic' contexts; it also generates the potential that using students' familiarity with the social context can lead to engagement with the mathematics. The researcher Terezhina Nunes makes a similar point when she talks about children's 'action schemas' – the practical solving of everyday problems – as providing a basis from which to develop mathematics (Nunes, Bryant & Watson, 2009). As she has pointed out, while young children may not be able to calculate with 3 divided by 4 in the abstract, few groups of four children would refuse three bars of chocolate on the basis of not being able to share them out fairly.

While Sullivan points to the importance of contexts needing to be chosen to be relevant

to children's lives, I think we have to be cautious about assuming that any 'real world' context will be meaningful for all students. Drawing on 'everyday' examples that appeal to values and expectations that might be termed 'middle class' – such as mortgage rates, savings interests, and so forth – could prove alienating to some students, rather than encompassing or relevant.

At the time of writing, Finland is being reported in the press as having solved the 'problem' of difference, but commentators within Finland note that until recently the largely monocultural make-up of Finnish society meant that teachers' own backgrounds were very similar to those of the

majority of students that they taught. As immigration into Finland has risen, with increased diversity within classrooms, so educators within Finland are far from confident that Finland will continue to maintain its high ranking in international studies as teachers work with students who come from backgrounds very different to their own. A key issue across the globe is how to broaden teachers' awareness of the concerns of families with whom they do not share similar backgrounds.

We need to remember that school mathematics has a 'social perspective' in and of itself and that some students will find meaning in contexts that are purely mathematical. Psychologist Ellen Langer (1997) refers to a 'mindful' approach to knowledge and has reminded us that human agency over choices is at the heart of most 'facts', including mathematical ones. For example take the classic representation of a quarter as one out of four squares shaded: engaging with this representation mindfully would mean being aware of the possibility that the image could equally well have been decided upon as the representation of one-third, by comparing the shaded part to the unshaded part. Indeed many students will 'read' such a diagram as one third. A social, or mindful, perspective reminds us that students who 'read' the diagram as 1⁄3 rather than .are not simply 'misunderstanding' here, but are interpreting the diagram in a way that, in other circumstances, could be considered appropriate.

Nor should we dismiss the role of fantasy and imagination in young learners lives – a problem that is essentially a mathematical puzzle involving pigs and chickens may be just as 'meaningful' to some learners when the context is changed to aliens with differing numbers of legs, as it is in changing it to humans and dogs. Contexts can doubtless make more mathematics meaningful and more engaging to more learners, but no context will make all mathematics meaningful to all learners. Sullivan further develops the issue of meaningfulness in his section on tasks, noting that students do have a diversity of preferences, and so affirming the importance of teachers providing variety in the tasks at the core of their mathematics lessons. I agree and would add that one of the great challenges in teacher preparation is helping teachers to recognize their interests (possibly, 'I definitely prefer the 'purely' mathematical over the 'applied' and the algebraic over the geometric') and to then step outside their own range of preferred problems, to broaden the range of what they are drawn to offer. Part of developing a social perspective means looking at the opportunities for numeracy in other curriculum areas. All too often this is interpreted as numeracy travelling out into other curriculum areas, but Sullivan raises the important issue of making opportunities within the mathematics lesson to explore other aspects of the curriculum. Again, as Sullivan indicates, we should not underestimate the challenges that this places on all teachers, for whom adopting a collaborative approach to teaching may not be 'natural'. It is also not simply a case of identifying 'topics' that might lend themselves to a mathematical treatment, but of opening up conversations amongst teachers of different subjects about their views of the possible role of mathematics in their classes, together with how to introduce the mathematics so that there is consistency of approaches.

One of Sullivan's principles is about the importance of sharing with students the goals of mathematics lessons. I'm old enough to have taught through a time when it was thought good practice to 'dress-up' mathematics so that, in my experience, children might not even have known that they were in a mathematics lesson. There is now no doubting that learning is improved when learners explicitly engage in thinking about what they are learning. In England, however, this quest for explicitness turned into a ritual of always writing the lesson objective on the board at the start of a lesson and students copying it down into their books. The LNRP data showed that while this may have been a positive framing for lessons, when routinely followed some unintended outcomes occurred. These included: focusing on learning outcomes that could most easily be communicated to students; lessons based on what seems obviously 'teachable'; the use of statements that communicated rather little in the way of learning outcomes, for example, 'today we are learning to solve problems' seems unlikely to raise much learner awareness. In many lessons observed as part of the LNRP evaluation, it would have been more valuable to have had a discussion at the end of the lesson to elaborate what had been learnt rather than trying to closely pre-specify learning outcomes at the beginning of a lesson. In the final section of this research review, Sullivan summarizes the implications for teacher education and professional development. As he indicates, there is still much work that needs to be done to improve mathematics teaching and learning. This research review makes a strong contribution to the beginning of that work.

Research Questions

This study attempted to obtain information on the effectiveness of Task Cards in improving the mastery of Grade VI pupils in the Fundamentals Operations in Math.

Specific Problems: Specifically, it sought to answer the following specific problems:

1. What is the performance of Grade VI pupils in the Diagnostic Drill Test?
   1a. Pre test

Experimental Group
Control Group
1b. Post test
Experimental Group
Control Group

Is there significant difference between the pre test and post test of both groups?
Is there a marked of improvement in the performance of pupils when the Math Task Cards are used?
Is the use of Math Task Card effective in improving the mastery of pupils on the four fundamental operations?

Scope and Limitations

The study was conducted in Ciriaco P. Tinga Elementary School. Two sections in Grade VI, Del Pilar and Jacinto were utilized in this study. Fifty from each section were selected as respondents. Section Del Pilar was the control group and section Jacinto was the experimental group.

The research was started and implemented on August 24, 2016 to October 28, 2016. Only after October 28, 2016, results and data gathered were available for interpretation.

RESEARCH METHODS

This chapter encompassed the research design, respondents of the study, the research instrument, the data gathering procedures and the statistical treatments used in answering the four questions.

Sampling:

The target population was consisted of two sections, Del Pilar (control group) and Jacinto (experimental group) and through draw lots, 50 pupils in each section were selected.

Data Collection

At the start of the implementation of the research plan, both classes underwent an Assessment test to compare the performance of the two classes. At the end of the implementation, another assessment exam was given to both classes and compared again the performance of the two.

Ethical Issues

Before the implementation, the two sample groups were informed that they will be subject to a research study but they will not be informed on the nature of the study that will be conducted because the students are not controlled after class hours so they might indulge to the other class what they are doing for their class which defeats the purpose of the study.

RESULTS AND DISCUSSION

This presents the analysis of the organized data collected from the respondents. Each group of the data was analyzed and interpreted in the context of the problems raised in this study with their corresponding tables presented sequentially to give further clarity on the data presentation and analysis.

Table 1
Performance of Grade VI Pupils in the Diagnostic Drill Test – Pre Test

SECTION	MPS			
	A-1	**S-1**	**M-1**	**D-1**
Del Pilar	67.08	54.17	59.06	40.90
Jacinto	64.68	49.16	56.14	38.10

Table 1 presents the performance of the two sections in the diagnostic drill test during pre-test. Section Del Pilar got an MPS of 67.08 in A-1; 54.17 in S-1; 59.06 in M-1 and 40.90 in D-1. While section Jacinto got 64.68 in A-1; 49.16 in S-1; 56.14 in M-1 and 38.10 in D-1.

Table 2
Performance of Grade VI Pupils in the Diagnostic Drill Test – Post Test

SECTION	MPS			
	A-1	S-1	M-1	D-1
Del Pilar	97.42	90.77	95.65	82.33
Jacinto	98.86	95.58	97.60	84.96

Table 2 shows the performance of the two sections in the post test in diagnostic drill test. Section Del Pilar got an MPS of 97.42 in A-1; 90.77 in S-1; 95.65 in M-1 and 82.33 in D-1. While section Jacinto got 98.86 in A-1; 95.58 in S-1; 97.60 in M-1 and 84.96 in D-1.

The Table 3 shows the analysis of variance test of the difference between the pre test and post test of VI-Del Pilar and Vi-Jacinto. The computed F-value is 10.852 while the critical value of F at 5% significance level is 3.68. Since the computed value of F is greater than the critical value, the null hypothesis is rejected. This means that there is significant difference between the pre test and post test of both groups after using the Math task cards.

CONCLUSION AND RECOMMENDATION

This chapter presents a brief summary of the relevant findings based on the data gathered corresponding, conclusions and recommendations offered.

Table 3

Analysis of Variance (ANOVA) of the Significant Difference Between the Pre Test and Post Test of VI-Del PIlar and VI -Jacinto

Source of Variation	Sum of Squares	Mean Sum of Squares	Computed F-value	Critical Value of F at 5%	Decision	Remarks
Between Colum	18,249.32	9,124.66				
Within Column	12,612.14	840.809	10.852	3.68	Reject H_o	Significant

Conclusions

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

1. In pre test diagnostic test, Section Del Pilar got an MPS of 67.08 in A-1; 54.17 in S-1; 59.06 in M-1 and 40.90 in D-1. While section Jacinto got 64.68 in A-1; 49.16 in S-1; 56.14 in M-1 and 38.10 in D-1.
2. During the post test, section Del Pilar got an MPS of 97.42 in A-1; 90.77 in S-1; 95.65 in M-1 and 82.33 in D-1. While section Jacinto got 98.86 in A-1; 95.58 in S-1; 97.60 in M-1 and 84.96 in D-1.
3. There is an increase in the mean percentage score during the post test when they used the Math task cards.
4. There is significant difference between the pre test and post test of sections Del Pilar and Jacinto.
5. There is a marked of improvement in the performance of pupils when the Math task cards are used.
6. The use of Math Task Cards is effective in improving the mastery of pupils on the four fundamental operations.

Recommendations

In view of the aforementioned conclusions, the following recommendations are hereby offered:

1. Teachers must use Task Cards in other skills in Mathematics to make the pupils feel easier and lighter in doing their activities and tests.
2. Task cards must be used in other subjects because these are colorful and interesting that may help arouse the children's interests.
3. Further studies be conducted in another locale to determine the effectiveness of task cards in improving the mastery pupils in the fundamental operations in Math and other subjects like English, Science and Filipino.

REFERENCES

Book

Arcavi, A. (2003). The Role of Visual Representations in the Learning of Mathematics. Educational Studies in Mathematics, 52 (3), 215 – 241.

Ball, D. L. (1992). Magical Hopes: Manipulative and the Reform of Math Education. American Educator, 16 (2), 14 - 8, 46-47.

Baroody, A. J. (1989). Manipulative Don't Come with Guarantees. Arithmetic Teacher. 37 (2), 4 - 5.

Dienes, Z. P. (1960). Building Up Mathematics. London: Hutchison Education.

Hiebert, J., & Wearne, D. (1992). Links Between Teaching and Learning Place Value with Understanding in First Grade. Journal for Research in Mathematics Education, 23, 98-122.

Gardner, H. (1997). Fostering Diversity Through Personalized Education: Implications of a New Understanding of Human Intelligence. Prospects, 27 (3), 347 – 363. doi:10.1007/ BF02736635

Gardner, H. (2002). On the Three Faces of Intelligence. Daedalus, 131 (1), 139-142.

Meira, L. (1998). Making Sense of Instructional Devices: The Emergence of Transparency in Mathematical Activity. Journal for Research in Mathematics Education 29 (2), 121-142.

Moreno, R., & Mayer, R. E. (1999). Multi-Media Supported Metaphors for Meaning Making in Mathematics. Cognition and Instruction, 17 (3), 215-248.

Thompson, P.W.,& Thompson, A.G. (1990). Salient Aspects of Experience with Concrete Manipulatives. Mexico City: International Group for the Psychology of Mathematics Education.

Von Glasersfeld, E. (1995). A Constructivist Approach to Teaching. In L.P. Steffe and J. Gale (eds.). Constructivism in Education. Erlbaum. Hillsdale, NJ.3-15.

Winograd, T., & Flores, F. (1986). Understanding Computers and Cognition: A New Foundation for Design. Norwood, NJ: Ablex.

Witzel, B. S., Mercer, C. D., & Miller, M. D. (2003). Teaching Algebra to Students with Learning Difficulties: An Investigation of an Explicit Instruction Model. Learning Disabilities Researchand Practice, 18, 121–131.

Electronic Journal Article

Bellonio, J. L. (2012). Multi-Sensory Manipulative in Mathematics: Linking the Abstract to the Concrete. Retrieved March 5, 2012 from Yale - New Haven Teachinghttp:// www.cis.yale.edu/ynhti/curriculum/ u06.12.x.html

Manipulative. (2009). In Dictionary.com. Retrieved from http://dictionary.reference.com/search? q=manipulative National Library of Virtual Manipulatives (2015). Retrieved fr http:// nlvm.usu.edu/en/nav/ frames_asid_172_g_2_t_3.html? open=activities Cope, L. Volume 5, Issue 1, Spring, 201519 © 2015

Virtual Manipulative. (2014). In Wikipedia.com. Retrieved fr. http://en.wikipedia.org/wiki/ Virtual_manipulatives_for_mat

Journal

Boulton-Lewis, G. M.(1998). Children's Strategy Use and Interpretations of Mathematical Representations. Journal of Mathematical Behavior, 17 (2), 219 - 237.

Dienes, Z. P. (1971). An Example of the Passage from the Concrete to the Manipulation of Formal Systems. Educational Studies in Mathematics, 3,337-52.

Dorward, J. (2002). Intuition and Research: Are They Compatible? Teaching Children Mathematics, 8 (6), 329 - 332. Cope, L. Volume 5, Issue 1, Spring, 2015 18 © 2015 Delta State University

Ma, L. (1999). Knowing and Teaching Elementary Mathematics: Teachers' Understanding of Fundamental Mathematics in China and the United States. Lawrence Erlbaum Associates, Inc.

Maccini, P., & Hughes, C. A. (2000). Effects of a Problem-Solving Strategy on the Introductory Algebra Performance of Secondary Students with Learning Disabilities. Learning Disabilities Research and Practice, 15 (1), 10 – 21.

Marzano, R. J. (2010). Representing Knowledge Non-Linguistically. Educational Leadership, 67 (8), 84 – 86.

Sowell, E. J. (1989). Effects of Manipulative Materials in Mathematics Instruction. Journal for Research in Mathematics Education. 20 (5), 498 - 505.

Suydam, M. N.,& Higgins, J.L. (1977). Activity-Based Learning in Elementary School Mathematics: Recommendations from Research. Center for Science, Mathematics and Environmental Education.

Suydam, M.N. (1985). Journal on Instructional Materials for Mathematics. Clearinghouse for Science, Mathematics and Environmental Education.

Van Garderen, D. (2006). Spatial Visualization, Visual Imagery and Mathematical Problem Solving of Students with Varying Abilities. Journal of Learning Disabilities, 39 (6), 496-506.

Woleck, K. R. (2001). Listen to Their Pictures: An Investigation of Children's Mathematical Drawings. In A. A. Cuoco& F. R. Curcio (Eds.), 2001 Yearbook: The roles of representation in school mathematics, 215-227. Reston, VA: NCTM

Bruner, J. S. (1966). Toward a Theory of Instruction. Cambridge, MA: Harvard University Press.

Butler, F. M., Miller, S. P., Crehan, K., Babbitt, B., & Pierce, T. (2003). Fraction Instruction for Students with Mathematics Disabilities: Comparing Two Teaching Sequences. Learning Disabilities Research and Practice, 18, 99 – 111.

Cass, M., Cates, D., Smith, M., & Jackson, C. (2003). Effects of Manipulative Instruction Solving Area and Perimeter Problems by Students with Learning Disabilities. Learning Disabilities Research & Practice, 18,112-120. doi: 10.1111/1540-5826.00067

Driscoll, M. J. (1983). Research Within Reach: Elementary School Mathematics and Reading. St. Louis: CEMREL, Inc.

Dunlap, W. P., & Brennan, A. H. (1979). Developing Mental Images of Mathematical Processes. Learning Disability Quarterly, 2, 89-96.

Grant, S. G., & Peterson, P.L.,& Shogreen-Downer, A. (1996). Learning to Teach Mathematics in the Context of System Reform. American Educational Research Journal, 33 (2), 509-

541.

Marsh, L. G., & Cooke, N. L. (1996). The Effects of Using Manipulative in Teaching Math Problem Solving to Students with Learning Disabilities, Learning Disabilities Research & Practice, 11, 58-65

Moyer, P. S., Bolyard, J. J., &Spikell, M. A. (2002). What are Virtual Manipulatives? Teaching Children Mathematics, 8(6), 372-377.Moyer-Packenham, P. S.,

Westenskow, A., & Salkind, G. (2012). Effects of Virtual Manipulatives on Student Achievement and Mathematics Learning. Paper presented at the American Educational Research Association Annual Meeting, Vancouver, Canada.

Musser, G.L, Peterson, B.E., Burger, W.F. (2014). Mathematics for Elementary Teachers: A Contemporary Approach, 10th Edition, Wiley.

National Council of Teachers of Mathematics. (2000). Principles and standards. Reston, VA:NCTM. National Governors Association Center for Best Practices, Council of Chief State School Officers (2010). Common core state standards mathematics. National Governors Association Center for Best Practices, Council of Chief State School Officers, Washington D.C.

Delta State University Paivio, A. (2007). Mind and its evolution: A dual coding theoretical approach. Mahwah, NJ: Erlbaum.

Piaget, J. (1952). The Child's Conception of Number. New York: Humanities Press. Piaget, J. (1971). The Psychology of Intelligence. Boston: Routledge and Kegan.

Raphael, D., & Wahlstrom, M. (1989). The Influence of Instructional Aids on Mathematics Achievement. Journal for Research in Mathematics Education. 20 (2), 173 - 190.

Research on the Benefits of Manipulatives. (2015, February 18). https://www.hand2mind.com/pdf/learning_place/
research_math_manips.pdf Ross, R., & Kurtz, R. (1993). Making manipulatives work: A strategy for success. Arithmetic Teacher, 40 (5), 254 - 257.

Van Garderen, D. (2006). Spatial Visualization, Visual Imagery and Mathematical Problem Solving of Students with Varying Abilities. Journal of Learning Disabilities, 39 (6), 496-506

The more important reason is that the research itself provides an important long-run perspective on the issues that we face on a day-to-day basis.

Ben Bernanke

EMPLOYING EXPLICIT TEACHING OF METACOGNITIVE STRATEGIES TO ENHANCE THE COMPREHENSION SKILLS AND VOCABULARY SIZEOF SELECTED GRADE EIGHT STUDENTS OF PASAY CITY SOUTH HIGH SCHOOL

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ABSTRACT

One of the problems face by every learner in dealing with reading text or selection is the lack of comprehension skills and vocabulary size. Test results from the standardized and teacher made tests continue to decline despite the efforts made by the teacher and students. In this regard, this research entitled "Explicit Teaching of Metacognitive Strategies to Enhance the Comprehension Skills and Vocabulary Size of Some Selected Grade Eight Students of Pasay City South High School S.Y. 2014-2015 wanted to discover the effect of using explicit or direct teaching of metacognitive strategies on the basic skills of reading-i.e. comprehension skills and vocabulary.

Forty (40) students from Grade 8 were randomly selected as participants of the study with the consent of their parents and guardians.These students were almost identical in terms of grade average in the English subject, age and economic status.They served as the controlled and experimental group. The performance of the two groups in comprehension and vocabulary were compared using the pre- test and post test. With the used of the two-tailed t-test of dependent and independent samples, the significant difference between the two groups was determined.

Based on the results of the study, students' comprehension and vocabulary size could be improved using explicit or direct teaching of metacognitive strategies.

Keywords: Explicit Teaching; Comprehension Skills; Vocabulary Size; Metacognitive Strategy

Introduction

Undeniably, various activities and strategies have been developed and employed and were even included in textbooks. Nevertheless, the effort to develop the student's comprehension skills and vocabulary skills tends to be ineffective since most materials mainly focused on strategies where learners do not think and evaluate their own learning and thinking.

The researcher believes that by introducing to the students the skills of acquiring metacognitive strategies, students would become more productive in their studies and will yield positive results in thier performance on text comprehension and even meaningful conversation and substantive comprehension. By employing explicit teaching of metacognitive strategies, the researcher has a conviction that this can help in enhancing the comprehension skills and vocabulary size of some Grade 8 students of Pasay City South High School, who would served as the variables. Specifically, this study will be deemed important to the following:

1. Students- as future takers of different standardized tests, it will be very helpful to have a wide grasp on how to attack reading texts and on how to arrive meaning of words by just using inflections, semantics, and even the contexts where words are used. These are all part of metacognitive strategies that learners will acquire in this intervention program. It would also be of advantage for a student to be aware on how wide is his/her vocabulary size and how far he/ she can comprehend reading text which are part of reflecting and thinking one's own learning or metacognitive strategies. This proposed remediation program will allow them to develop self-awareness on comprehending text which they can use in answering test items that involve reading selection.

2. Faculty- developing the vocabulary and comprehension skills of every language learner has been a recurrent problem of most language teachers. In fact , there is an alarming situation now a days that test results in language has continuously declined for several years. This problem can be attributed to the student's limited ability to understand even the simplest

and familiar words which they are already expected learning them in their elementary years. Despite the availability of materials to improve the comprehension skills and vocabulary size of these particular students, there are still a number of them who cannot comprehend short and easy selections because of the poor comprehension skills and limited vocabulary size they possess. Hence, English language teachers should try employing direct teaching of metacognitive strategies as part of developing a well rounded learners.

3. English Department- The Explicit Teaching of Metacognitive Strategies Program will similarly be important to the PCSHS-English department since the framework and result of this study will serve as the basis for reviewing and reconstructing the English language intervention program.

4. Curriculum Designers- The same to the previously mentioned significance of study to the PCSHs English department, the study will be deemed important to the curriculum designers in general. The syllabus/program that will be presented in this study may be adapted to aid the comprehension and vocabulary skills programs that are presently being used in the different high schools in our country.

5. Researchers- This study will also be deemed helpful to the other language researchers as it may provide with benchmarks data that they may use if they wish to develop a similar intervention program. Moreover, the methodology that will be employed in this study may also be helpful in future related researches. The course design/program of this study may also be further developed and modified to suit a particular clientele or group of students.

Statement of the Problem

Some of the most difficult tasks when understanding a reading text or when expressing thoughtful feelings from reading materials is the lack of comprehension skills and mastery of words or the limited vocabulary size of students. For the past years, this has been considered as the cause of the low scores in the National Achievement Test and other standardized tests of our students as well as the deteriorating performance in reading and language classes. These problems also prevent them in the active participation in school and in the opportunities which awaits him/her in the future. Unfortunately, in the past, language teaching focused mainly on the prescribed curriculum given to the teachers, and in return teachers just simply execute the tasks without realizing the need of incorporating the teaching of metacognitive strategies.

Although metacognition has been a buzzword in education for the past several years, it seems that the meaning is often taken for granted and assumed. For clarification purposes, this study adapted the definition offered by Liebert and Harris (1994). They defined metacognitive strategies "learning how to learn", a new offshoot from the field of developmental psychology. It involves the cognitive process such as memory, attention, and comprehension. They also added that using rehearsal to keep from forgetting is a metacognitive strategy on memory. However, even though metacognitive strategies are considered to be of value for developing comprehension and vocabulary skills that can lead to ample text comprehension, most classroom teachers now a days often fail to teach this process. For instance, Gooden, et al. (2007) conducted a research study on ten Fourth and Fifth Grade classrooms to investigate instructional practices inside the classrooms that most teachers employed. They found out that explicit or direct teaching of metacognitive strategies were minimal. This scenario is also similar to the local educational setting where prescribed activities from instructional materials are closely followed by language teacher without any time allotment for direct teaching of metacognitive strategies to the learners. This means that if we really want to produce metacognitically equipped learners who know how to attack any reading texts, there must be serious implementation to include in the present Basic Education Curriculum or to train our teachers on how to conduct explicit teaching of metacognitive strategies in every classroom.

Scope and Limitations

Despite the eclecticism of the study, the following limitations will be observed:

1. There are several metacognitive strategies that are being used in different schools around the world. This study, however, will focus only on the use of metacognitive strategies offered by Smith (1997).

2. The study will only involve forty (40) students from the cream sections of second year high school students of Pasay City South High School, S.Y. 2014-2015. The students were equally distributed into two groups, one group is used as the intervention

group and the other as a comparison or controlled group. All of the students are from the upper members of the batch with the average grades in their English 7 subject of 85% and above. Thus, the benchmark for evaluating their vocabulary size will be expected to be above average and the activities that will be involved in this studies may be more advanced.

3. Vocabulary skills to be used in this program will include word recognition, semantic webbing, multiple word, contextual clues and inflections.

4. The program will run for a period of four sessions, with a minimum of sixty minutes per session. Two sessions would be intended for the explicit teaching of metacognitive strategies and another two sessions would focus on vocabulary development with a total of 240 minutes.

Related Literature

In 1998, Pressley et al. conducted a research study on the use of explicit teaching of metacognitive strategies in the classroom. They found out that the intervention group improved significantly over the comparison group in their reading comprehension skills and vocabulary size. This means that direct or explicit teaching of metacognitive strategies can be of great help to the learners.

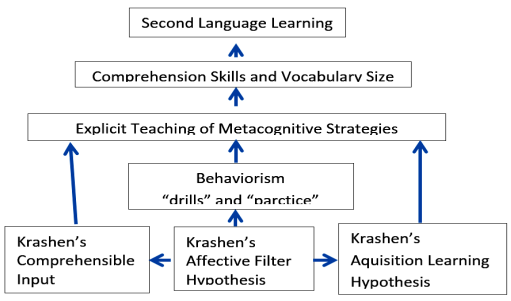
Comprehending or understanding a reading text involves one's used of vocabulary skill. Since comprehension is the reason for reading and vocabulary plays a significant role, it is important that every teacher be equipped with the best instructions that can promote the development and enhancement of one's vocabulary knowledge for him/her to be considered competent of the English language. This is supported by Richards (2001) who stated that "one of the simple facts of life in the present time is that the English language skills of a good proportion of citizenry are seen as a vital if a country is to participate actively in the global economy and to have access to the information and knowledge that provide the basis for both social and economic development."

It is equally important to learn vocabulary in a direct way. According to Hubbard (1986), direct instruction help students learn difficult words, such as words that represent complex concepts that are not part of students word-learning strategies. These vocabulary strategies came out of different perspectives and theories on how a person enhances his/her vocabulary skill. When the theories behind vocabulary learning grow, the strategies also increase.

One of the biggest factors that have contributed to the failures of students to pass in the standardized or commercial tests is the limited vocabulary size. This phenomenon is also blamed for the poor communicative skills of students in the classroom or even adults applying for a job. Newton and Nation (1997), pointed out that about two thousand (2,000) high frequency words should be mastered by second language learners to communicate effectively and another eight thousand (8000) words above for academic vocabulary. These words can be learned through self -initiative of every learner (i.e. love of reading various text genres) or by way of formal instructions in school. Decarrico (2001), discusses that there are two effective vocabulary learning strategies: ***explicit*** and ***implicit*** learning. Explicit, which is the traditional strategy, focuses on the student's attention to vocabulary items. They also learn vocabulary directly when they are explicitly taught both individual words and word-learning strategies Teale and Yokota (2000) added.

On the other hand, implicit learning occurs when the mind is focused elsewhere or on the other stimulus. Again, Teale and Yokota (2000), stated that students learn vocabulary indirectly when they hear and see words used in many different contexts- for example, through conversation with adults, through being read to, and through reading extensively on their own. Although, both kinds of strategies aid to the enhancement of student's vocabulary knowledge, the big weight of learning remains the frontier of explicit teaching of vocabulary strategies. Again, according to Teale and Yokota (2000), direct or explicit instruction helps students learn difficult words, such as words that represents complex concepts that are not part of student's everyday experiences. It also aids to better reading comprehension. Moreover, direct instruction of vocabulary includes 1)providing students with specific word instruction ; and 2) teaching students word learning strategies that are both important parts of this study.

Theoritical/Conceptual Framework



This study has followed the eclectic ideas drawn from several schools of thought and theories both in behavioral and cognitive learning of language.

To achieve optimum learning of the second language, a student must first posses exceptional skills in comprehension and vocabulary. Through explicit teaching of metacognitive strategies, he/she would learn to aquire those skills and even learn to monitor his/her own thinking and progress. This study adheres to the belief that teaching of metacognitive strategies involves important school of thoughts in learning a second language.

According to Richard R. (2001), instructions and activities should be above the level of the student's learning or should be more challenging, thus teaching the students to use metacognitive strategies will help them equip in learning target language and even their comprehension skills and vocabulary. The researcher also believes that every students has a capability to learn new skills, since according to Krashen's acquisition learning hypothesis every learner possesses inate ability to acquire new learning if given enough and accurate training. As indicated in the research done by Richard (2001), all these learnings are possible if the teacher learns to have a compassionate heart in dealing with his/her learners which is the basis of Krashen's affective filter hypothesis.

On the other hand, learning to acquire metacognitive strategies which lead to the increase of comprehension and vocabulary size of the students and eventually reaching to the second language learning which is the ultimate goal is the desire of every teacher. B.F. Skinner, the proponent of "Behaviorism" believes that constant practice and drills can lead to learning. The same belief that if students are given enough time and frequent practice on how to use all the metacognitive strategies, they can be more productive in their studies.

II. Methodology

This part of the paper presents the methods used in conducting the study. This is composed of the selection of the research design, participants/respondents, the measurement tools used, the procedure of the study, the plan of action and the data analysis.

Research Design

This research study primarily used the Quantitative Descriptive Method since the main goal is to measure the comprehension skills and vocabulary size which will be achieved through written test. This study also described and analyzed the feedback that were gathered from the Metacognitive Strategies Self Assessment Survey of the participants. The responses that were gathered from the students who have provided essential information on how the program have affected the respondents' skills in comprehension and vocabulary.

In relation to that, the study have also employed a pre-test-post-test pre-experimental design. This design is defined as a research method that "will provide some improvement over the first ...(because) the effects of the treatment will be judged by the difference between the pre-test and the post-test scores", (Bert and Kahn, 2003; Nepomuceno, 2009). Hence, this is very helpful as it determined the use of the Explicit Teaching of Metacognitive Strategies program as it measured the significant difference on the comprehension and vocabulary size of the respondents. Moreover, this research study had employed the t-test of Equal Variance. This statistical tool used to examine the mean scores (per-criterion) that were obtained in the pre-test and had compared them to the scores that were obtained in the post-test.

Participants of the Study

Selected Grade Eight students from sections Maaasahan and Maagap with ages ranging from twelve to fourteen (12-14) years old were used as the respondents of the study. The study requires forty (40) students who served as the respondents in the intervention. Half of them or the twenty (20) students who have undergone the intervention program were almost identical with the twenty (20) students in the independent group in terms of age, knowledge, and grades in the English subject as well as economic status.

Measurement Tool

Specifically, this study made used of a paper and pen test in both the comprehension and vocabulary skills of the respondents. To determine the significance of the study, this paper used the t-Test of Equal Variance which have established the mean scores of the Pre-Test and the Post-Test of both respondents, i. e. the experimental group and the comparative group.

Research Procedure

The following steps have undertaken to carry out this research.

1. Identification of the participants
2. Development of the Comprehension and Vocabulary test

3. Administration of Comprehension and Vocabulary test (pre-test)

4. Designing/Preparing of the Explicit Teaching of Metacognitive Strategies Program

5. Implementation of the Use of Explicit Teaching of Metacognitive Strategies program

6. Administration of Comprehension and Vocabulary test (Post-test)

Ethical Consideration and Plan of Action

Before the start of the program, the selected students were be given a letter of consent for their parents. Only the students with affirmative reply from their parents were used in the study. Half of the respondents with approved consent letters, or twenty students will undergo the intervention program while the other twenty respondents served as the controlled group. This activity were carried out through a four- session training of the explicit teaching of metacognitive strategies. The program were conducted in an off-session scheme with one hour time allotment in each session. For the first two sessions, instructions on metacognitive strategies were discussed explicitly and was followed by an activity which the skills in metacognitive strategies learned have been applied. A reinforcement activities shall also be used until the respondents become confident enough in using the metacognitive strategies to improve their comprehensions.

For the third and last sessions, a continuation of direct teaching of metacognitive strategies that focuses on how to unlock words without using a dictionary have been conducted. Respondents in the intervention group were informed on their scores in the vocabulary Pre-Test to somehow challenge them to improve their vocabulary size and was followed by the explicit teaching of meatcognitive strategies on how to improve one's vocabulary. The sessions include the teaching of using context clues, word formation and inflections as well as semantic webbing. After the short direct instruction of each strategy for vocabulary development, the intervention group participants were given sample activities which required to use the metacognitive strategies that have been taught to them.

For the Post Test administration, the experimental and comparison group have taken the test simultaneously with the same kind of test used from the Pre Test.

Data Analysis

The different data from comprehension and vocabulary tests will be analyzed and interpreted accordingly. Mean scores of the different tests from the comparative and experimental group were obtained using the t-Test of Equal Variance. These were composed of the test results from the Pre-test and the results from the Post –test. The standard deviation from the two sets of test were also obtained using the t-test.

III. Results

This part of the study shows the different results gathered before and after the intervention program. These were derived from the pre test results of comprehension skills and vocabulary size, as well as the post test results of the same type of test conducted after the explicit teaching of metacognitive strategies to the experimental group. The following tables below showed the results of the different tests.

Table 1. Test of Difference Between Pretest- Posttest

	Mean	SD	Computed t-value	Tabular t-value	Decision	Interpretation
Pretest	13.50	1.685	5.365	2.682	Reject Ho	Significant
Post-test	22.10	2.024				

Mean of the Experimental Group in Reading Comprehension

Table 1 above shows the scores achieved by the experimental group in the reading comprehension test. The group has the mean score of thirteen and a half (13.50) in the pre test and more tah twenty two points (22.100 mean in the post test . At 0.05 level of significance and 28 degrees of freedom the computed t-value was 5.365 which was higher than the tabular t-value of 2.682. This means that there was only a significant gains in the pre test-post test mean scores of the experimental group after the explicit teaching of metacognitive strategies.

Gooden and Carreker (2006) shared the same findings in their study on Grade 5 students from different schools in the United States. They found out that students who were explicitly taught to use metacognitive strategies flared in their academic and reading comprehension performance. Their studies also showed that vocabulary size of the students who were used in the intervention program increased compared to those who did not undergo the same training, hence the outcomes of this paper shed light to its purpose.

Table 2. Test of Difference Between Pretest- Posttest Mean Scores of the Comparison Group in Reading Comprehension

	Mean	SD	Computed t-value	Tabular t-value	Decision	Interpretation
Pre-test	10.35	1.68	0.0008	0.0004	Reject Ho	Significant
Post test	13.4	2.02				

Table 2 above shows the scores achieved by the experimental group in the reading test. The group has the mean score of more than ten points (10.35) in the pre test and more than thirteen points (13.4) mean in the posttest . At 0.05 level of significance and 28 degrees of freedom the computed t-value was 0.0008 which is almost identical with the tabular t-value of 0.0004. This means that there was only slight significant gains in the pretest-posttest mean scores of the experimental group since this group did not undergo the intervention program.

Table 3. The Pre Test and Post Test Results of the Experimental Group in Vocabulary Test

	Mean	Standard Deviation	Computed t-value	Tabular t-value	Decision	Interpretation
Pre-test	11.05	1.68	9.445	4.722	Reject Ho	Significant
Post -test	21.35	2.02				

Table 3 above shows the scores achieved by the experimental group in the vocabulary test. The group has the mean score of 11.05 in the pre test and a 21.35 mean in the posttest . At 0.05 level of significance and 28 degrees of freedom the computed t-value was 9.445 which was higher than the tabular t-value of 4.772. This means that there is a significant gains in the pretest-posttest mean scores of the experimental group after the explicit teaching of metacognitive strategies.

Table 4. The Pre Test and Post Test Results of the Comparison Group in Vocabulary Test

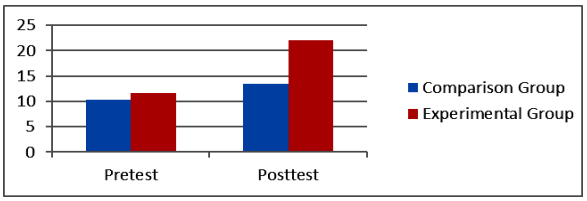
	Mean	Standard Deviation	Computed t-value	Tabular t-value	Decision	Interpretation
Pre-test	11.15	1.685	3.994	1.997	Reject Ho	Significant
Post-test	17.9	2.024				

For the comparison group, Table 4 above shows the scores obtained by them in the vocabulary test. The group has the mean score of more than eleven pints (11.55) in the pre test and almost eighteen points (17.9) mean in the post test . At 0.05 level of significance and 28 degrees of freedom the computed t-value was 3.994 which was higher than the tabular t-value of 1.997. This means that there is slight significant gains in the pretest-posttest mean scores of the comparison group although this group did not undergo the intervention program. However, the experimental group's score is still higher than the score of the comparison group in this kind of test.

In order to show efficacy of the intervention, students' pre- and posttest scores on vocabulary and reading comprehension test are presented above to show the statistically significant difference of performance between the two group of respondents. For the reading comprehension test, the posttest mean of the comparison group increases only by three points (3.05) over the pretest scores. On the other hand, the posttest mean scores of the experimental group increases by over ten points (10.45) over the pretest.

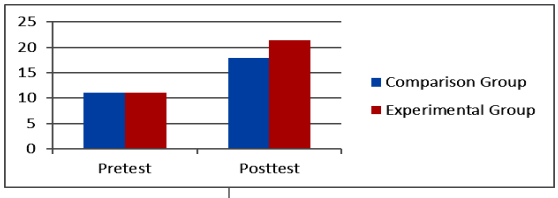
There is also a significant difference of the scores in the vocabulary test. For the comparison group, the pretest mean increases by more than six points (6.80) in the post test. For the experimental group, the increase from the pretest mean is more than ten points (10.30) after the direct instruction of metacognitive strategies to the group. It also shows that the difference of mean for the vocabulary test between the two group is over four and a half points (4.50).

Table 5. Increase of Performance in Reading Comprehension of the Comparison and Experimental Group



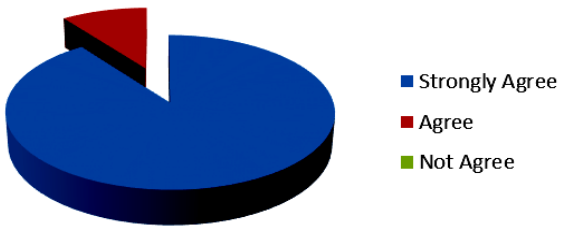
The graphic representation in Table 6 shows the Experimental Group's leap of performance in reading comprehension. The group increased their performance in reading by fifty one (51%) compared to the performance of the comparison group with only fifteen percent (15%) increase. Prior to the intervention program, both group almost have identical mean scores in the pre-test. However, the experimental group manifested significant increase in its post test performance due to the direct teaching of metacognitive strategies that they have been trained with.

Table 6. Increase of Performance in Vocabulary Test of the Comparison and Experimental Group



The vocabulary sizes of both group increased significantly in the post test. Comparison group increases its mean by 6.80 or from 11.1 to 17.9 in the posttest. On the other hand, the experimental group increases its mean by 10.30 in the posttest. Although there is only a slight difference of 3.50 mean gain between the two groups, experimental group's increased is significantly higher by fifty percent (50%) in its pretest performance. The graphic representation also shows the identical performance of both groups in the vocabulary pretest but with unparallel result in the posttest.

Table 7. Results of the Self-Assessment Survey of the Experimental Group



Results of the Self –Assessment Survey sheet from the experimental group reflects their affirmative response on the conduction of the interventionprogram. It shows that eighty percent (80%) of the respondents from the group strongly agreed that the program has helped them a lot in improving their comprehension and vocabulary skills. The graph shows that the remaining twenty percent (20%) of the respondents from the group also agreed that the program helped them enhance their comprehension and vocabulary. Representation above also shows 0% do not agree the intervention which means no one perceived the program as a worthless endeavour.

IV. Discussions

This study provides further evidence to support the effectiveness of direct or explicit teaching of metacognitive strategies. Respondents in the experimental group whose vocabulary instructions included in the metacognitive strategies required generating synonyms, antonyms, semantic webbing, contextual clues, and other related vocabulary skills development saw greater increase on vocabulary measure or size of fifty percent (50%) than students who did not undergo explicit instructions of metacognitive strategies. The use of vocabulary webs or semantic webbing created a more visualrepresentation of the word's meaning and conceptual understanding (Bech and Mc Keown, 1991) over the traditional use of memorizing a word's definition and using it in a sentence. Direct and explicit teaching of metacognitive strategies help the students underscore the meaning of difficult words without the aid of a dictionary and help the students retain in their minds the words learn by transforming the difficult words into semantic webbing.

On the other hand, comprehension enhancements were also found to be greater in the experimental group's fifty one percent (51%) compared to the comparison group's fifteen percent (15%) increase. This seems to be the results of the explicit instructions of metacognitive strategies that were used in the experimental group. For instance, in the posttest session, both groups read the same expository texts, answered many of the same questions, and were engaged in the same introductory activities. However, the experimental group used almost all the metacognitive strategies they learned in the explicit instructions of metacognitive strategies which include summarizing, getting the main idea, making inference, noting details, analysis, self-questioning and evaluating his/her own progress and learning.

Since the study involved only a limited number of respondent and within the Grade 8 level only, it may be more effective if it will be conducted in a large number of respondents to realize if this is really effective to be applied in the context of the entire school population.

It was noted that respondents expressed positive attitude of the intervention program based on the Self- Assessment activity conducted after the program. Majority of the respondents in the experimental group agreed that the program has helped them a lot in enhancing their reading comprehension skills and in improving their vocabulary sizes.

V. Conclusion

This study found out that the explicit teaching of metacognitive strategies has significantly improved the comprehension skills and vocabulary size of the selected Grade Eight students who served as the respondents in the intervention group. Although both groups increased their performance in the post-test, still there was a wide gap in the comprehension skills of thirty four percent (34%) in terms of difference between the experimental and comparative group.

It can be concluded that students in the Grade Eight age bracket can still improve their comprehension skills and vocabulary size if given enough training on how to use metacognitive strategies. This study has also realized the answers from the questions raised in the early part of the studies, that

a. there is a significant effect on

comprehension skills and vocabulary size in the experimental group who undergo explicit teaching of metacognitive strategies compared to the group who did not experience the intervention.

b. students in the experimental group expressed affirmation on the use of metacognitive strategies which majority of them believed that the intervention helped them a lot.

c. there is a significant difference in reading performance as well as vocabulary size between the experimental group who have undergone the metacognitive strategies training compared to the performance of the comparison group.

VI. Recommendation

The intensity of the study and the systematic explicit instruction of metacognitive strategies led to the positive effects for understanding written text, which is the reason for reading. Vocabulary sizes of the students were also enhanced after the intervention program . Given this vantage point, the researcher strongly recommend the following:

1. To the English Department- Conduct a special training for all language teachers on how to teach metacognitive strategies to their students.

2. To the Curriculum Planner Developer- Incorporate teaching of metacognitive strategies in the learning package in all grade levels and allot time to have the strategies be taught explicitly.

3. To the Future Researcher- Modify and enhance the list of metacognitive strategies for a more comprehensive instructions , and conduct a research in a wider scale of respondents.

VII. Bibliography

Bert, I. L., & Kahn, M.G. Developing metacognitve skills vocabulary and comprehension. In R. Barr, M. L. Kamil, P. Mosenthal, & P.D. Pearson.(Eds.), *Handbook of reading research* (Vol.2,pp.789-8140). White Plains, NY: Longman, 2003.

Decarrio, M. L. Ways of acquiring vocabulary. Brown Heart, NJ: Longman, 2001.

Gooden, A. L. , & Rogers , R. B. *Developing metacognitive skills. Vocabulary and comprehension*.Bellaire, TX: Newhaus Education Center, 1984.

Hubbard, B. T. Theories on vocabulary acquisition. Jackman. NY: JJ Press, 1986.

Liebert, H. O., & Harris, J.R. Developing metacognitive strategies. Person Jackson. TX: Herlium Group, 1994.

Nation, I.S. P., & Newton P. *Learning Vocabulary in Another Language.* Freeman, Cambridge England: Cambridge University Press, 1997.

Pressley, M. Wharton-McDonald, R.,Mistretta-Hampston, J.,& Echevarria, M. The nature of literacy instruction in ten grade 4/5 classrooms in Upstate New York. Scientific Studies of Reading, 1994.

Richard, R. Methodologies in second language learning. Hurt & Son, Cambridge England: Cambridge University Press, 2001.

Teale, V. R., & Yokota,G.N. Explicit and reciprocal teaching. Hughs & Hughs. MY. Grann Press, 2000.

Don't be afraid to take a big step if one is indicated. You can't cross a chasm in two small jumps.

David Lloyd George

DEVELOPMENT OF PATTERNED LANGUAGE APPROACH TO IMPROVE THE WRITTEN LANGUAGE SKILL OF GRADE 7 STUDENTS WITH HEARING IMPAIRMENT

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ABSTRACT

The main purpose of the study was to prepare a Patterned Language Instructional material through the use of colour coded pattern and illustrated pictures to help children with hearing impairment improve their communication and written language skill. The use of structured Patterned Language Approach primarily aims of making knowledge easily applicable. By surrounding the student with different sentence pattern models, the student will be able to incorporate them when she or he gained a degree of maturity and proficiency in language structure thus, help them in their language problem brought about by deafness. Development of Patterned Language approach is a sincere effort to explore new device in teaching language. In order to realize the basic thrust of this study, the researcher utilized the single group pre-test post-test descriptive experimental design. The respondents were Grade 7 students with hearing impairment. Initially, eighteen students were subjected to pre-test and to post-test after the intervention was given using the Patterned Language Approach in teaching. The post test scores (Mean=22.944) are higher than the Pre-test scores (Mean=18.333). Using the Wilcoxon signed ranks, the result showed significant increase in Post-test scores (Z=3.418, p=.001). This means that the intervention given was effective in helping the students construct sentences in different sentence pattern.

Keywords: *Apple Tree Program, Fitzgerald Key, Patterned Language Approach*

Rationale of the Study

In the social media a deaf student, was cyber bullied because of his poor grammar. After he has posted his feeling about how different a college to high school life, it shocks many and earned remarkable insults not knowing it comes from a deaf student.
source:http://philippinesdaily.org/deaf-pinoy-cyberbullied-grammar-police).

Teaching English Language to students who are deaf and hard of hearing can be very challenging and sometimes frustrating. Even for those who can hear, professionals understand that English is a very difficult language to learn. The challenge is to accelerate language development among children with hearing impairment.

When a normal hearing children enters pre-school at the age of 3-5, she is expected to have a more abstract and complex conversations. She will begin to use language for all kind of things. She can even talk about past experiences and can connect her thoughts to variety of things around her. She is not only trying to get things At the age of 5-6 she will learn more words and start to understand how the sounds within the language work together. She is already good in discussing ideas and opinion. She will become a better story teller, as she learns to put words together in a variety of ways and build different type of sentences. She might as well show that he understands the basic rules of grammar, as she experiments with more complex sentences.

On the other hand, these communication skills and abilities are often missed completely by a child with hearing impairment primarily because deafness affects his acquisition of language. Document indicates that, on average, deaf students lag years behind their hearing peers in knowledge of English grammar (Berent,1988, 1996; Quigley & King 1980; Wilbur , Goodhart, & Montadon, 1983.

Not known to many specially the hearing people, hearing loss delays the development of receptive and expressive communications skills (speech and language). His vocabulary develops more slowly than his hearing counterpart. He has difficulty in understanding words. He also comprehends and produces shorter and simpler sentences. He cannot hear words endings such as –s or –ed which leads to misunderstandings and misuse of verb tense, pluralization, non- agreement of subject and verb, and possessives. Due to these problems, the gap between the hearing children widens as they progress to school.

The main thrust of the development of the Patterned Language Approach is to help the student with hearing impairment to develop written language. The Patterned

Language Approach was developed in a highly structured approach to language instructions in keeping with the tenets of the structuralist linguists that words are the basic building blocks of sentences and that sentences are formed by left-to-right combination of words into strings.

With some modifications and refinement the researcher developed a Patterned Language structure inspired by different linguist and structuralist. The columns were based on Edith Fitzgerald Key, which entailed the use of columns for each part of the sentence to be developed. Each column is headed by words or symbols as follows: subject (who, what), verb, noun or adjective complement, direct and indirect object (what, whom), phrases and adverbs of place (where), other phrases and word modifiers (e.g, how often, how much), and words concerning the concept of time (e.g., when).

The color coded column is designed to facilitate visual means of internalizing the unspoken rules of language. Yellow is used to denote subject (who, what), green for verb, blue for complement (noun or verb), white (direct and indirect object), brown for adverbials.

The teacher using the Patterned Language Approach may use the Apple Tree (A Patterned Program of Linguistic Expansion Through Reinforced Experiences and Evaluation) strategies; Comprehension, Manipulation, Substitution, Production, and Transformation. Comprehension is developing student's understanding of vocabulary, concepts, and the structure of written language pattern. The manipulation of sentence segments into proper positions gives the students a visual image of language structure. Substitution may allow the student to use the known to explore the unknown. Production results when student has comprehended and internalized the structure. Finally, Transformation can be made from simple sentence pattern to a more complex language.

This Patterned Language material contains five (5) lessons aiming in the development of basic sentence pattern. Each lesson consist of skills to be developed, objectives which are stated in behavioral terms, the materials in teaching the lesson, the teachers' and students' activities and lastly the evaluation.

This action research is a response to the challenge to Special Education teachers who are teaching English language to children with hearing impairment. The need for tested instructional materials could be of help to accelerate the English grammatical knowledge of the hearing impaired students. The teacher using the developed language pattern may use it separately or gradually moving from a simple to complex pattern until student discover and internalize the rules and principle of grammar and later gain confidence in sentence construction.

The materials developed in this research will give information to school administrators and Special Education teachers in planning innovative curriculum and teaching strategies to high school students with hearing impairment.

Development of Patterned Language approach is a sincere effort to explore new device in teaching language. The Patterned Language approach provides the visual means to help the students with hearing impairment develop the ability to function with the printed word symbol as he/she acquires the ability to write the English language sentence pattern.

Materials developed may serve as another available means for Special Education teachers and curriculum developers towards the development of language of the hearing impaired.

C. Literature Review

A review of related literature and studies showed that a number of investigators have developed and applied novel techniques and methods in a continuing attempt to reduce the problems and difficulties encountered by children with hearing impairment in learning a language.

In 1977, Cole (cited in Bergman, ed., 1977) advocated a system which is called a Patterned Program of Linguistic expansion Through Reinforced Experiences and Evaluation with acronym, APPLE Tree Approach. This approach involved the use of highly structured sentence patterns. The children need to see visually the sentence and understand why that particular construction is necessary for comparison. The goal of the system is to enable deaf children speak and write with understanding and fluency.

Blackwell et.al. (cited in Kretschmer, 1978) evolved the most comprehensive transformational grammar program in 1978 which was design to integrate principles of language development with Piagetian developmental psychology. Concentration is placed on the development of of five basic sentence pattern: (1) noun phrase; (2) verb ; (3) noun phrase + verb + noun phrase; (4) noun phrase "linking verb" adjectives; and (5) noun phrase + linking verb + adverbial. More complex sentences are then taught in the transformation in the five basic sentence patterns.

Sicad (cited in Moores, 1978) developed in 1951 the theory of ciphers. He believed that the deaf could learn to construct sentences by means of grammatical patterns. He divided the sentence pattern into five parts, namely, nominative case, verb, objective case, preposition and object of preposition which were used to developed correct word order.

Hartford or Storrs symbols (cited in Moores 1978) were developed in 1880 by Storrs in the belief that the natural method was confusing to children with hearing impairment. This approach involves a step by step process of sentence construction and provides visual representation of syntactic relations. Sentence pictures are presented in boxlike forms. Through analytic method, children could memorize three hundred conversational formulas that would serve their everyday needs.

D. Theoretical/ Conceptual Framework

The conceptual framework of the study was centered on the Grade 7 students with hearing impairment at the Philippine School for the Deaf. It is imperative and challenging to provide appropriate approach for language development. Children with hearing impairment cannot hear what people say or can only hear part of what people are saying. The input they receive is much less that the hearing child receives as she misses out on lots of incidental learning which may be taken from radio, televisions and conversations from people around them.

The respondents of this study are eighteen (18) Grade 7 students with hearing impairment. They belong to the first two sections of Grade 7 students. The subjects have knowledge of the parts of speech but have less exposure to English as a complete language and in constructing sentences particularly using the basic sentence pattern. These students have an awareness of the difference between Sign Language English but have difficulty in separating the two languages.

The input refers to the color coded Patterned Language developed by the researcher. It was used in teaching the basic sentence pattern. As soon as the participants finished each lesson, post- test was given. The desired output is realized which is improved sentence construction in different patterns.

ll. METHOD

The researcher presents the research design of the study, the participants in the study, measurement tool, research design and statistical procedure utilized in the research.

A. Participants of the study

The participants of the study were the grade 7 students at the Philippine School for the Deaf. They were chosen since this is the level where the students have already acquired vocabulary skills that is useful to construct basic sentences.

B. Measurement Tool

The researcher made use of rating scale to evaluate the materials based on its objectives, content and evaluation. It was presented to five (4) Sped Teachers who are teaching English language, three (3) experts in the language for comments and evaluation. The materials were revised according to the result of the rating scale and feedbacks of the evaluator.

After the material has been evaluated by language expert and Sped teachers, it was subjected to a pre-test and post- test to find out if there is a significant difference in the scores. Wilcoxon signed-rank test is used to compare the pre-test and post-test scores that come from the same participants.

C. Research Design

This study used the descriptive experimental method design of research. Descriptive research is used to describe characteristics of a population or phenomenon being studied (Wikipedia, the free encyclopedia) and experimental since the researcher select and construct, validate instruments to measure an outcome.

E. Procedure

The development of the material underwent five stages representing the process phase of this study.

Stage1. Preliminary Preparation

At this stage the researcher decided to what the Patterned Language Instructional Material ought to accomplish and analyze and examined the different materials and symbols which will help in the development of the pattern. The most important of which were:

Fitzgerald Key
Apple Tree Program
Natural Basic Sentence

To make the foregoing decisions it is necessitates to seek professional advice from experts and Sped teachers teaching English.

Stage 2. Planning

This was the period where the objectives for each lesson are specified. The identification of language background or the entry behaviour that is pre requisite if learners are to profit most effectively to the material is done in this stage. The particular language vocabulary and patterns that are associated with the lesson had likewise been chosen during this period. The preparation of the scope and sequence is incorporated in this stage.

Stage 3. Preparation of the first draft

The first draft of the material was done in this stage. The researcher included the outlining of the Language Pattern. Moreover, selecting pictures and activities to include in the preparation of the material was actualized in this stage.

Stage 4. Evaluation and Validation

This was the stage where the researcher submitted the developed Language Pattern material to a pool of experts for the purpose of revising and improving the content. It also included the trying out of the material to Grade 7 students. In December 12, 2014, the pre- test was given to 18 Grade 7 students.

Five pictures each Lesson (Sentence Pattern) was presented and the students were ask to construct one sentence for each picture. The pupils do not have a formal instruction in Patterned Language however, the students are already familiar with the parts of speech like noun, verb, adjective and adverb.

In January 9, 2015, the Patterned Language was used in teaching the basic sentence pattern. As soon as the participants finished each lesson, post- test was given. Similar procedure was followed. For each lesson, students were given five pictures for sentence construction.

Stage 5. Revision and Finalization

The researcher considered the revisions and suggestions given by the experts in this stage for the finalization of the Language Pattern.

F. Analysis of Data

Initially, eighteen (18) Grade 7 students were subjected to pre-test to gather the baseline data. They were selected because they have already the basic knowledge and vocabulary necessary to construct basic sentences. Afterwards, the lessons in the constructions of basic sentence pattern using the Patterned Language Approach were introduced. A post-test and pre -test was given to identify if there were significant differences in test scores. The Wilcoxon signed ranks test was used to compute for the significant differences as there are relatively fewer students in the sample.

The researcher made use of rating scale to evaluate the materials based on its objectives, content, and evaluation. It was presented to three (3) language experts and four (4) Sped teachers handling English. The material was then revised according to the result of the rating scale and the feedbacks of the evaluators. The evaluative instrument was prepared based on the objectives of each pattern or lesson.

G. General Findings of the Research

This study used the descriptive experimental method design of research. A pre-test post-test was given to eighteen (18) Grade 7 students with hearing impairment to identify if there were significant differences in test scores.

Based on the analysis of the data, the following findings were revealed:

Using Wilcoxon signed ranks test to compute for the significant differences as there are relatively fewer students in the sample, it was found out that there was a significant difference between the pre-test and post-test mean obtained by the students with hearing impairment in different sentence patterns or lessons. The computation shows that there is a significant increase in the post-test in five sentence patterns or lessons. It may therefore be concluded that the Patterned Language approach is effective in helping the students in their sentence construction and may help in further development of the language.

The Patterned Language Approach with illustrated pictures prepared by the researcher was validated by three (3) experts in the English Language and four (4) Special Education teachers. In the weighted mean result of the validation of the Patterned Language structure, the evaluators strongly agree that each pattern represents the grammatical structures of English with 5.00 score. The use of Who, What, Verb, Noun which is equivalent to (SLVC-N), Who, What, Verb, Adjective Complement (SLVC-Adjective), and Who, What, Verb, Adverb (SIV) pattern are clearly and definitely stated in the column with 4.57 mean score. The columns similarly display graphically the syntactic relationships of words in the sentence has 4.71. The use of illustrated pictures is helpful assistive device in forming ideas to construction of sentences and it conveys the ideas clearly in each lesson or pattern 4.85. They also strongly agree that procedures are relevant to the lesson to be taken up with 5.00 weighted mean.

Sped Teachers and teachers who evaluated the material strongly agree (5.00 weighted mean) that the objectives express the at the end of each lesson and it is stated in behavioral manner. The contents are congruent with the scope of the lesson and it contributes to the enhancement of language development 4.86). The activities are properly sequenced and appropriate to the target skill and specific knowledge and skills to be developed the materials used are interesting and appropriate to the learners (4.71). The illustration and graphics help a lot for better understanding of the lesson (4.86). The vocabulary words and word strings in every lesson are suitable to the needs of Grade 7 Hearing Impaired learners (4.71).

Hearing impaired students have difficulty in acquiring language due to hearing loss. As a result, they commit errors in syntax, word forms and has a very limited vocabulary. They have the tendency to put words incorrectly, add unnecessary words, omit others and use inappropriate endings.

RESULTS

The result of the research can be seen in the following table:

Table I shows that the evaluators strongly agree (5.00) that each pattern represents the grammatical structures of English. The use of Who, What, Verb, Noun and Adjective Complement, and Adverb are clearly and definitely stated in the column (4.57). The columns similarly display graphically the syntactic relationships of words in the sentence (4.71). The use of illustrated pictures is helpful assistive device in forming ideas to construction of sentences and it conveys the ideas clearly in each lesson or pattern (4.850. The procedures are relevant to the lesson to be taken up (5.00).

Similarly, the above table shows that all evaluators strongly agree in all items presented. The objectives express the specific knowledge (5.00) and skills to be developed at the end of each lesson and it is stated in behavioural manner (4.86). The contents are congruent with the scope of the lesson (4.71) and the activities are properly sequenced and appropriate to the target skill (4.86). The activities and materials used are interesting and appropriate to the learner (4.86). The illustration and graphics help a lot for better understanding of the lesson (4.71). The vocabulary words and word strings in every lesson are suitable to the needs of Grade 7 Hearing Impaired learners (4.71) and it contributes to the enhancement of language development (4.71). The evaluation procedure attained the stated objectives and measured the learning concepts presented in each lesson both got 4.57.

Table 1
Weighted mean result of the Validation of Patterned Language Approach

1= Strongly disagree
2= Disagree
3= Undecided
4= Agree
5= Strongly agree

Lessons	Sped Teachers Validation				Language Expert Validation			Weighted mean	Interpretation
	1	2	3	4	5	6	7		
Each pattern represents the grammatical structures of English	5	5	5	5	5	5	5	5.00	Strongly agree
The use of Who, What, Verb, Noun and Adjective Complement, and Adverb are clearly and definitely stated in column or key.	5	4	5	4	4	5	5	4.57	Strongly agree
The columns or keys display graphically the syntactic relationship of words in sentences.	5	4	5	5	4	5	5	4.71	Strongly agree
The use of illustrated pictures is helpful assistive device in forming ideas to construction of sentences.	5	5	5	5	5	5	4	4.85	Strongly agree
The illustrated pictures for each lesson convey the ideas clearly.	5	5	5	5	5	5	4	4.85	Strongly agree
The procedures are relevant to the lesson to be taken up.	5	5	5	5	5	5	5	5.00	

Table 3
Summary of Mean Score

	MEAN	MEAN	MEAN DIF	
LESSON	Post-test	Pre-test	$X_{2,I} - X_{1,i}$	
i	$X_{2,i}$	$X_{1,i}$	Sgn	Abs.
Lesson 1. Who/What+ Verb (Action Words)	4.50	3.61	0.89	0.89
Lesson 2. Who/What+ Verb (Be) + Who/ What (Noun Complement)	4.17	3.44	0.72	0.72
Lesson 3. Who/What+ Verb (Be) Adjective	4.94	4.67	0.28	0.28
Lesson 4. Who/What (Subject)+ Verb + Who / What Direct Object/Indirect Object	4.72	3.39	1.33	1.33
Lesson 5. Who/What+ Verb +Adverbials	4.61	3.22	1.39	1.39
TOTAL MEAN	4.59	3.67	0.92	0.92

It can be seen that the Post-test scores in all areas or lessons are higher than the pre- test scores. This means that the Patterned Language is effective in helping the students construct sentences in different sentence pattern. It can also be seen from the result that students find it easier to construct sentences in Who/What+ Verb (Be) + Adjective pattern with 4.67 mean score in the pre-test and got 4.94 in the post test while the lesson in Who/What+ Verb +Adverbials, students got the highest mean difference 1.39 which means that great improvement was noted in this particular lesson or pattern.

The reason for the improvement scores in the post test maybe explained in terms of clearer visual image as to where the words fit in the structure. The colour coded column also facilitate to denote subject (who, what), green for verb, blue for complement (noun or verb), white (direct and indirect object), brown for adverbials. The word chart provided in each lesson helps the students identify whether the description fit in the word being describe.

Result shows the rank of each lesson based on the mean difference. It is noted that sentence construction in Lesson 3 Who/What +Verb (Be)+ Adjective, has the least improvement 0.28 but it has the highest mean score among the five lesson in the post-test 4.94 which means that the students find it easier to construct sentences under this pattern. The use of adverbials has the highest improvement or mean difference 1.39 from its pre-test 3.22 it recorded 4.61 in the post-test.

DISCUSSION

The inability to hear limits the children with hearing impairment acquire knowledge in language development. The teaching of language to the deaf learners is a very challenging one since they commonly omit errors in syntax, word forms and vocabulary. They have the tendency to put words incorrectly, add unnecessary words and omit others. They use inappropriate endings, and have limited vocabulary. These communication skills and abilities are often missed completely by a child with hearing impairment primarily because deafness affects his acquisition of language

To address this problem the researcher developed a Patterned Language Approach which can be used in teaching to help the students develop their written language skill. After referring to different materials vital to the development of the pattern such as Fitzgerald Key, Apple Tree Program, and the natural basic sentence pattern, it was submitted to language expert and sped teachers for validation.

The researcher chose 18 Grade 7 students with hearing impairment as participants. In the pre-test, students were given five (5) pictures for each lesson for sentence construction. The student will produce five sentences for each lesson.

Lesson 1. Who/What + Verb (action word)
Lesson 2. Who/What+ Verb (Be) + Who/ What (Noun Complement),
Lesson 3, Who/What+ Verb (Be) Adjective,
Lesson 4. Who/What (Subject)+ Verb + Who /What Direct Object/Indirect Object,
Lesson 5. Who/What+ Verb +Adverbials

After the intervention using the Patterned Language Approach the same group of students were given Post-test. The Wilcoxon signed ranks test was used to compute for the significant differences as there are relatively fewer students in the sample. It can be seen that the Post-test scores in all areas or lessons are higher than the pre- test scores. This means that the Patterned Language is effective in helping the students construct sentences in different sentence pattern. It can also be seen from the result that students find it easier to construct sentences in Who/What+ Verb (Be) + Adjective pattern with 4.67 mean score in the pre-test and got 4.94 in the post test while the lesson in Who/ What+ Verb +Adverbials, students got the highest mean difference 1.39 which means that great improvement was noted in this particular lesson or pattern.

The reason for the improvement scores in the post test maybe explained in terms of clearer visual image as to where the words fit in the structure. The colour coded column also facilitate to denote subject (who, what), green for verb, blue for complement (noun or verb), white (direct and indirect object), brown for adverbials. The word wall provided helps the students identify whether the description is an appearance, colour, condition, time, sound, feeling, size shape adjectives.

The use of the Patterned Language Approach does not attend to all aspects of communication and this should not be considered as the sum total of the students' language need. The teacher using this pattern should not also expect that students to produce spontaneous written language immediately. A student may be proficient in writing in a controlled classroom environment buy may not have internalized this proficiency to the point where he or she can use it in other situations.

CONCLUSION

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

1. The Patterned Language Approach proved to be effective and may greatly help the students develop their written language skill.

2. The student first pre requisite for developing the written language is a meaningful vocabulary base and this vocabulary should be closely related to the leaner's environment.

3. Students can easily produce sentences using the Who/What+ Verb (Be)+ adjective.

4. Structure Language Pattern provides the

syntactic relationships of words in sentences.

There was a significant difference between the pre-test and post-test mean obtained by students with hearing impairment in all areas or lessons.

RECOMMENDATIONS

Based on the findings and conclusions of this study, the researcher presents the following recommendations:

1. The materials may be validated to other hearing impaired students in both public and private schools and may be encourage to use the prepared instructional materials.
2. Teacher teaching the language needs to provide the student first meaningful vocabulary base and this vocabulary should be closely related to the leaner's environment.
3. Instructional materials based on Patterned Language Approach may be developed for all grade levels.
4. An in depth study on the Patterned Language Approach and its feasibility as an innovative procedure may be done for teaching hearing impaired students.
5. The structures should be presented in a gradual sequence so that the learner can build sentences from the known to unknown, form simple to complex sentences.

REFERENCES

Books:

Aaron, Little, Brown (2007) Essential Handbook (6th Edition) Spiral-bound – November 16, 2007

A.Sanchez, (2010) Lesson Plan in English 1, SEMP/ TEEP Edition, Reevee Book Supply

Jonh E. Warriner, (1977), English Grammar and Composition, Harcourt Brace Jovanovich, Inc.

On line Document

Apple Tree Curriculum for Developing Written Language – Second Edition http:// www.appletreeinstitute.org/school/program/

Fitzgerald Key
https://www.google.com.ph/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=fitzgerald%20key

Wicoxon Signed Rank Test
http://en.wikipedia.org/wiki/Wilcoxon_signed-rank_test

Special Progject

Bacera, Lovelynn Jane: Patterned Language Instructional Materials with Illustrated Pictures

After all, the ultimate goal of all research is not objectivity, but truth.

Helene Deutsch

THE IMPACT OF QUIPPER SCHOOL–ONLINE TEACHING ON THE PERFORMANCE IN SCIENCE OF SELECTED GRADE 9 STUDENTS AT PASAY CITY SOUTH HIGH SCHOOL

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ABSTRACT

This study aimed to determine the impact of Quipper School -online teaching– on the performance in Science 9 of selected Grade 9 students at Pasay City South High School. There were thirty (30) participants from selected Grade 9 students of the school year 2014-2015. Only the second grading topics were included in the conduct of this study; namely: Naming and Writing Chemical Formula, Ionic and Covalent Bonding, Carbon Compounds and Mole – ALL ABOUT MATTER- the Chemistry Components of Grade 9 Science.

It was the pretest-posttest results of the control and experimental group and the posttest – posttest results of the control and experimental group that determined whether online teaching using Quipper School has impact on the performance level in Science 9 of selected grade 9 students at Pasay City South High School.

The two tailed t-test for dependent sample was used to determine the significant gain between the pretest and posttest mean scores of the control and experimental groups. On the other hand, the two tailed t-test for independent sample was used to determine the significant difference in the posttest - posttest mean scores of the two groups.

Based from the results of this study, a face-to-face instruction would be more effective when combined with online teaching using Quipper School.
Keywords: *Quipper School; Online teaching; Classroom Intervention; Innovative strategy*

Introduction

There is a relationship between student's achievement and the condition of the school building as stated in the study conducted by Vandiver (2011) about "The Impact of School Facilities on the Learning Environment." Similarly, Bullock (2007) have the discovery that students performed better in schools that were new or renovated recently than in older building, wherein the overall building condition, the age of the building and the windows in the instructional areas were positively related to student achievement. In addition, many research literatures indicated that student achievement depended upon the physical school facility, its age, the design and the condition of the school (Broome, 2003; Hughes, 2005; Lyons, 2001).

Our school, the Pasay City South High School, somehow, meets this requirement being new and with an up of date building design. This makes our school an appropriate environment for learning.

But, in spite the condition of our school building, an emergency meeting was called by our principal on the last week of July, 2014 with the agenda about the rehabilitation of the school building having major and minor cracks in the walls, ceilings and floors that might cause the collapse of the whole structure detrimental to the school populace.

To avoid the danger that will happen sooner, we decided to fix and pack up our things and send the students home for the meantime while preparing the contingency plan of the school.

Due to the situation, changes will be expected in every aspect as to the schedule of the students and specifically our daily teaching activities.

On July 30, 2014, the contingency plan started. The school quadrangle was being converted into a 20-huge makeshift classroom. As expected, the students will report once a week to get their modules and submit them the following week while the makeshift classrooms are not yet available for use. This schedule lasted for about a month.

After the construction of the makeshift classrooms, new schedule of the students was given. The students were expected to come to school thrice (3x) a week for a face to face regular classroom situation and team teaching. The grade 9 students were given the schedule as having a forty (40) minute meeting twice a week, that is, every Tuesday and Thursday, for a face to face regular classroom situation and a fifty (50) minute once a week team teaching. The team teaching accommodated four (4) sections with two (2) separate time schedule within a day. There were three (3) sets of team teaching: A, B, and C. Every Monday is the team teaching for Set A, every Wednesday for Set B and every Friday for Set C. The two (2) day free from school was allotted for answering their modules at home and for the online teaching to compensate the five (5) day regular classroom meeting.

Online teaching was included in the contingency plan of the school primarily because the

school administrators and teachers believed in the importance of technology as an effective teaching and learning tool. Since today's generation of the students have grown up in a technological world with television, cellular phones, tablets, and the internet, they are accustomed to receiving and processing information through multi-sensory sources. Bringing technology into the aspect of education and incorporate it with the school curriculum is indeed a great solution to the problem our school is facing right now. That's where Quipper School came into the picture. As a teacher, I believed that it will serve as a learning medium for the students to learn at home and be able to enhance their skills academically specially with emphasis in Science.

Several studies were done about the effect of online teaching and online independent learning on the achievement of the students. In the paper presented by Barbara Means, et.al, about the "Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Studies", she stated some of the key findings from the literature review. Two (2) of which were the following:

1. *"Students in online conditions performed modestly better, on average, than those learning the same material through traditional face-to-face instruction."* Learning outcomes for students who engaged in online learning exceeded those of students receiving face-to-face instruction, with an average effect size of +0.20 favoring online conditions across the 50 contrasts is statistically significant at the $p<.001$ level. Interpretations of this result, however, should take into consideration the fact that online and face-to-face conditions generally differed on multiple dimensions, including the amount of time that learners spent on task. The advantage observed for online learning conditions therefore maybe the product of aspects of those treatment conditions other than the instructional delivery medium per se.

2. *"Instruction combining online and face-to-face elements had a larger advantage relative to purely face-to-face instruction than did purely online instruction."* The mean effect size in studies comparing blended with face-to-face instruction was +0.35, $p<.001$. This effect size is larger than that for studies comparing purely online and purely face-to-face conditions, which had an average effect size of +0.05, $p=.46$. In fact, the learning outcomes for students in purely online conditions and those for students in purely face-to-face conditions were statistically equivalent.

Barbara Brink (1993) noted, "… students look to us [teachers] to prepare them for an increasingly technological world. Fortunately, with online education portals, we are meeting the challenge by delivering curriculums in ways that engage, motivate and thrill our students."

As online learning moves from a marginal to an integral part of the overall educational and training arenas, questions and interventions related to learner success are of both theoretical and practical importance (Berge & Yi-Ping, 2004). Communication technologies are used in education to enhance interaction between participants in the education transaction. The innovation was very quickly adopted and adapted by millions around the world, including educators at different levels, who were inspired by the philosophy of user engagement and interactive information sharing, in contrast to the former concept of knowledge transmission from teachers to students.

Garrison & Cleveland-Innes (2005) reported on the primary importance of student interaction in the virtual environment and reason that if purpose of educational experience is predicated on structure designed to achieve acceptable outcomes, online schooling must therefore be structured and systematic in order to achieve predetermined goals.

In later studies, Harasim pointed out that learners often perceive more learning in online interactions compared with a face-to-face class or on the phone. Althaus said, "In theory, online discussions help more students learn better by placing them in an intellectual environment that encourages active, thoughtful, and equal participation from all comers." Althaus examines whether supplementing face-to-face discussion with computer-mediated discussion (CMD) enhances the academic performance of undergraduate students in large lecture classes. One hundred and forty-two undergraduates were involved in this study which found that a combination of face-to-face and computer-mediated discussion provides a superior learning environment compared to the traditional classroom alone. Hein and Irvine presented data results from a pilot study at American University.

It is therefore the purpose of this action research to determine whether on-line teaching using "Quipper School" has impact on the performance in Science 9 of selected grade 9 students at Pasay City South High School.

Statement of the Problem

This action research aimed to determine the impact of Quipper School -online teaching– on the performance in Science 9 of selected grade 9 students at Pasay City South High School. Specifically, it aimed to answer the following questions:

1. Is there a significant gain on the performance level in Science 9 of the control group as evidenced by the pretest – posttest results;

2. Is there a significant gain on the performance level in Science 9 of the experimental group as evidenced by the pretest – posttest results ; and

3. Is there a significant difference on the performance level in Science 9 of the control group and experimental group as evidenced by the posttest – posttest results.

Hypothesis

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant gain on the performance level in Science 9 of the control group as evidenced by the pretest- posttest results.
2. There is no significant gain on the performance level in Science 9 of the experimental group as evidenced by the pretest- posttest results.
3. There is no significant difference on the performance level in Science 9 of the control group and experimental group as evidenced by the posttest- posttest results.

Significance of the Study

This action research was significant because it determined the impact of Quipper school – online – teaching - on the performance in Science 9 of selected Grade 9 students at Pasay City South High School. Moreover, the researcher wanted to determine whether the students still learn at home using this modern technology even without the complete five-day regular classroom activities.

Hopefully, this action research can make the administrators realize the potential of online – teaching which can be used to the students who for one reason or another cannot come to school regularly.

Scope and Limitation of the Study

This action research was conducted at Pasay City South High School. There were thirty (30) participants from selected Grade 9 students of section Rizal and Aguinaldo, both handled by the teacher researcher this school year 2014-2015 since the two sections were under homogeneous sectioning.

Only the second grading topics were included in the conduct of this study, namely: Naming and Writing Chemical Formula, Ionic and Covalent Bonding, Carbon Compounds and Mole – ALL ABOUT MATTER- the Chemistry Components of Grade 9 Science.

The action research was focused only in determining the impact of Quipper School – online-teaching on the performance in Science 9 of selected grade 9 students at Pasay City South High School.

Methods

The participants of the action research were selected Grade 9 students from section Rizal and Aguinaldo, both handled by the teacher researcher since the two sections were under homogeneous sectioning.

To choose the experimental and control group, the teacher gave pre-test to all the students of 9-Rizal and 9- Aguinaldo. . The pre-test covered the 4 subtopics namely: Naming and Writing Chemical Formula, Ionic and Covalent Bonding, Carbon Compounds and Mole in the Second Grading lessons about MATTER- the Chemistry Components of grade 9 Science. Then, after checking the paper, matching and pairing of the students were done based on their scores. Thirty (30) of them had their matched in the scores; they were chosen as the participants of this research. To identify the experimental and control group, the teacher divided the thirty (30) participants as to whether they have computers/netbooks/laptops at home with WIFI or internet connections and to whether they do not have at all.

The experimental group was those participants with their computers/net books/ laptops at home with WIFI or internet connections and the control group was those without.

Both groups were taught thrice a week for the period covering the Second Grading, 40 minutes per meeting of the two-day face to face teaching and 50 minutes for one (1) day team teaching, as what was in the contingency plan of the school. Although, team teaching was included in the plan, the teacher researcher was the one who taught both groups. Both groups were also asked to bring modules at home for them to study and to answer the given extension activities for submission the next meeting. Every meeting was a new lesson to study in order to maximize the twice a week regular meeting schedule and one day (1) team teaching.

The experimental group was given additional task at home, which was, to have an online - teaching using Quipper School. They were given access code by the teacher researcher. The topics assigned by the teacher were the same or related to both groups, the experimental and control; the only difference was that the experimental group was using the Quipper School online – teaching.

After the twice a week regular classroom meeting and oneday (1) team teaching for the whole Second Grading Period, both groups were given a posttest to determine the extent of their learning. The posttest covered the 4 subtopics namely: Naming and Writing Chemical Formula, Ionic and Covalent

Bonding, Carbon Compounds and Mole in the Second Grading lessons about MATTER- the Chemistry Components of Science Grade 9.

It was the pretest-posttest results of the control group and the experimental group and the posttest – posttest results of the control group and the experimental group that determined whether on-line teaching using Quipper School has impact on the performance level in Science 9 of selected Grade 9 students at Pasay City South High School.

The two tailed t-test for dependent sample was used to determine the significant gain between the pretest and posttest mean scores of the control and experimental groups. On the other hand, the two tailed t-test for independent sample was used to determine the significant difference in the posttest-posttest mean scores of the two groups.

Research Design

This action research used Quasi Experimental Design.

The Pretest-Posttest Control Group Design

R O1 X O2

R O3 O4

where

R = Random Assignment O3 = Control Pretest

O1 = Experimental Pretest O4 = Control Posttest

O2 = Experimental Posttest X = Treatment

This design involved two groups, both of which were formed by random assignment. Both groups were pretested and post tested but only one group was given treatment.

Measurement Tools

Pretest and posttest in the following topics: Naming and Writing Chemical Formula, Ionic and Covalent Bonding, Carbon Compounds and Mole made by the experts written in the Learners Module Science 9 under K to 12 Program were used in this action research. These topics covered the Second Grading Period as written in the Desired Learning Competencies for Science Grade 9.

Results and Discussion

The two-tailed t-test for dependent sample was used to test the significant gain between the pretest and posttest mean scores of the control group. This was done to determine the mean achievement of the control group before and after being taught through a face-to-face instruction.

Table 4.1

Test of Difference between Pretest - Posttest Mean Scores of the Control Group

	Mean	**Standard Deviation**	**Computed t-value**	**Tabular t-value**	**Decision**	**Interpre-tation**
Pre-test	10.86	1.40	8.77	2.04	Reject Ho	Signifi-cant
Pos t-test	27.53	4.12				

Based on Table 4.1, the control group has a mean score of 10.867 during the pretest and a mean score of 27.533 during the posttest. At 0.05 level of significance and 28 degrees of freedom, the computed t-value was 8.770, which was higher than the tabular t- value of 2.048. This indicates that there was significant gains in the pretest-posttest mean scores of the control group after being taught through face-to-face instruction.

Means, et.al, noted in her findings that the learning outcomes for students in purely online conditions and those for students in purely face-to-face conditions were statistically equivalent, thus, the results of this study justify this findings.

The two-tailed t-test for dependent sample was again utilized to test the significant gain between the pretest and posttest mean scores of the experimental group. This was done to determine the mean achievement of the experimental group before and after being taught through face-to-face instruction combined with online teaching using Quipper School.

Table 4.2
Test of Difference between Pretest - Posttest Mean Scores of the Experimental Group

	Mean	Standard Deviation	Computed t-value	Tabular t-value	Decision	Interpreta-tion
Pre	10.867	1.407	8.469	2.048	Reject Ho	Significant
Post	35.533	5.283				

As shown in Table 4.2, the experimental group's pretest mean score was 10.867 while the posttests mean score was 35.533. The mean difference of the two tests was 24.666. The computed t-value of 8.469 exceeded the tabular t-value of 2.048 at 0.05 level of significance and 28 degrees of freedom. This implies that there was a significant gain in the pretest-posttest means scores of the experimental group after being taught through face-to-face instruction combined with online teaching using Quipper School.

Thus, results agreed with the key findings stated in the paper of Means, et.al that is,

instruction combining online and face-to-face elements had a larger advantage relative to purely face-to-face instruction than did purely online instruction. In addition, Althaus [10, p. 158] said, "In theory, online discussions help more students learn better by placing them in an intellectual environment that encourages active, thoughtful, and equal participation from all comers."

The two-tailed t-test for independent sample was used to test the significant difference between the posttest -posttest mean scores of the control group and experimental group. This was done to determine the mean difference of the control group and experimental group after being taught both groups through face-to-face instruction situation but with the use of Quipper School - online teaching at home in the experimental group in order to determine its impact on the performance in Science 9 of selected grade 9 students at Pasay City South High School.

Table 4.3
Test of Difference between Posttest - Posttest Mean Scores of the Control Group and Experimental Group

		Mean	SD	Computed t-value	Tabular t-value	Decision	Interpretation
Control group	Post test	27.53	4.121	6.639	2.048	Reject Ho	Significant
Exp't group	Post test	35.53	5.283				

Table 4.3 showed the comparison of the posttest mean scores of both groups- the control and the experimental group.

As shown in table 4.3, the computed t-value of 6.639 indicates that there was significant differences between the posttest mean scores of the experimental and the control group. Furthermore, it must be noted that the experimental group achieved a significantly greater gain in the pretest-posttest mean scores than did the control group.

The same result was examined by Althaus in his study which he found out that a combination of face-to-face and computer-mediated discussion provides a superior learning environment compared to the traditional classroom alone.

Table 4.4

Pretest and Posttest Mean Scores of the Experimental Group and Control Group

	Experimental Group Mean	Control Group Mean	Mean Difference
Pretest Mean	10.867	10.867	0
Posttest Mean	35.533	27.533	8.000
Mean Gain	24.666	16.666	8.000

An examination of the data in table 4.4 revealed that the experimental group has a mean gain of 24.666 and the control group has a mean gain of 16.666. The mean difference of both groups in the pretest and posttest is 8.000. This proves to show that the experimental group gained significantly in their posttest mean than the control group.

Students in online conditions performed modestly better, on average, than those learning the same material through traditional face-to-face instruction as revealed in the study of Means, et.al. The results of this study also agreed with this finding.

Based from the results of my study, I strongly believe that a face-to-face instruction would be more effective when combined with online teaching using Quipper School.

Findings

The following are the findings of the study:

1. The experimental group has a mean gain of 24.666 and the control group has a mean gain of 16.666. The mean difference of both groups in the pretest and posttest is 8.000. This proves to show that the experimental group gained significantly in their posttest mean than the control group.
2. The experimental group's pretest mean score was 10.867 while the posttests mean score was 35.533. The mean difference of the two tests implies that there was significant gains in the pretest -posttest mean scores of the experimental group after being taught in a face- to- face regular classroom situation combined with online teaching using Quipper School at home.
3. The computed t-value of 6.639 indicates that there was significant differences between the posttest .

Conclusion

In the light of the foregoing findings, I therefore conclude that the face- to- face regular classroom situation combined with online teaching using Quipper School has an impact on the performance in Science 9 of selected Grade 9 students at Pasay City South High School as shown in the results of the pretest and posttest of the control and experimental group.

Recommendations

Based on the conclusion of this study, the following are recommended:

1. Subject teachers of Math, Science and English can use this Quipper School as an

enhancement to conventional face-to-face instruction.

2. Teachers can use the Quipper School online teaching to those students who for one reason or another cannot come to school on a regular face-to-face classroom instruction.

3. Teachers can use Quipper School online teaching to improve students' performance in the particular subject.

4. Teachers can use Quipper School online teaching to develop active learners by developing knowledge through inquiry-based manipulation of online drills, quizzes and simulation activities.

References

Althaus, S. Computer- Mediated Communication in the University Classroom: An Experiment with Online Discussions. Communication Education,46:158-174, July, 1997.

Dixon Robert C. and Dixon Kathryn C. Online Student-Centered Discussion: Creating a Collaborative Learning Environment. Curtin University of Technology, Perth, Western Australia, 2008.

Harashim, L. M. Teaching and Learning Online: Issues in Computer- Mediated Graduate Courses Canadian, Journal of Educational Communication; 117-135, 1997.

Means, Barbara et.al. Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies. U.S Department of Education, September, 2010.

Meyer, W.R. Independent Learning: A literature Review and a New Project. A Paper Presented at the British Educational Research Association Annual Conference, University of Warwick, 1-4 September 2010.

Vandiver Bert. The Impact of School Facilities on the Learning Environment, A Dissertation, Capella University, January 2011.

The effort to understand the universe is one of the very few things that lifts human life a little above the level of farce, and gives it some of the grace of tragedy.

Steven Weinberg

THE IMPACT OF BUDDY SYSTEM APPROACH ON THE ACADEMIC PERFORMANCE IN SCIENCE OF SELECTED GRADE 10 STUDENTS OF PASAY CITY SOUTH HIGH SCHOOL

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ABSTRACT

Assessment of the Buddy System approach as a tool to increase the achievement of learners is deemed important for formal analysis. This prompted the researcher to conduct this study to find out the impact of the Buddy System on the achievement in Science among selected grade 10 students of Pasay City South High School.

A total of 36 students from grade 10 Agate were the participants in this study. They were grouped into three based on their pretest scores. These were the experimental, the mentor and the control groups. The experimental group was paired with the mentor group to act as buddies while the control group was not assigned any buddy.

A pretest and posttest were given to all the participants but only the pretest and posttest results of the experimental and the control groups were analyzed using the two-tailed t-test.

Based on the statistical results of this study, it showed that there was a significant gain in the pretest-posttest mean scores of both the control group (without buddies) and the experimental group (with buddies), however, it was noted that the experimental group achieved a significantly greater gain in the pretest-posttest mean scores than the control group which means that there is an increase in the academic performance of the learners resulting from the Buddy System Approach.

***Keywords**: Buddy System Approach; Intervention Strategy; Academic Achievement*

INTRODUCTION

A great teacher should love educating his students. One of the main goals many teachers set for themselves is to be the best mentor they can be. The researcher believes that the test results of her students are one of the barometers in assessing herself if she has been effective in teaching her students well.

In a classroom set-up, a teacher faces different and contrasting kinds of learners - some students learn fast while others are slow; some learners are enthusiastic to learn while others are not; others are active while others are passive, these among many other differences are observed among learners in a classroom particularly in a public school like Pasay City South High School. These differences among learners somehow affect the teaching-learning process which is a great challenge for the teacher to find ways and means as to how she can reach out to every learner in her class. In doing so, the researcher believes that students can perform better academically which can be manifested in the achievement and summative test results of the students. The researcher then considered the buddy system approach to bridge the gap between the identified differences among her students in her class so to improve their achievement in class. This action research is therefore conducted to have a formal assessment on the impact of Buddy System approach as a tool in improving learners' achievement.

Webster defines the buddy system as an arrangement in which two individuals are paired (as for mutual safety in a hazardous situation). The buddy system is basically working together in pairs in large group or alone. Both the individuals have to do the job. The job could be to ensure that the work is finished safely or the skill/learning is transferred effectively from one individual to the other.

As mentioned in The Cochlear Implant School Toolkit by KDH Research and Communication, a buddy system can be established by pairing students in the class and ask them to support one another with specific tasks or skills. It further mentioned that the benefits for children in buddy system includes greater social integration, development of leadership skills, better classroom management, and improved academic outcomes.

As Merriam-Webster mentioned, the buddy system goes far back as 1942. Since then, the use of the buddy system approach were conducted in different areas as in the Armed Forces ("Buddy System in Swimming, Boating, Rapelling and other activities, 2011"), medicine (Zuyderduin, et. al. 2002), education (Abdullah, et.al. 2006), religious

organizations (LDS Missionary Handbook), Psychology (Fo, W.S. & O'Donnell, C.R. (1975), other organizations such as in marketing, and in other fields. The use of buddy system approach in these different areas produced positive results. Apparently, the use of buddy system approach is currently being adapted in many areas.

According to the journal of Child Health and Wellbeing of Victoria State Government, the students learn and share from their peers and learn collaboratively. The students actively participate with each other and enjoy the informal setting and feel comfortable discussing with peers rather than a teacher. The opportunity for active participation, clearing doubts and discussions help students to increase self-confidence for all involved in the system and in the process helps build trust and co-operation within individuals. It benefits the buddies, buddy learner, school and the parents as well.

Based on the result of the research of Johanna R. Zuyderduin, et. al. entitled "The Impact of a Buddy System on the Self-care Behaviours of Women Living with HIV/AIDS in Botswana, 2002", the hypothesis that the implementation of a buddy system improved patients' self-care behaviours of disclosing their HIV+ve status, adhering to TB treatment/prophylaxis, having regular CD4 counts done and adhering to ART was accepted at the.10 significance level. It continued that the buddy system translated theory into practice because of its positive results.

Similarly in their paper, "The Effectiveness of Buddy Support System Implementation Among science Teachers: The Case of Malaysia", Dr. Abdul Ghani Kamsan Abdullah, et. al. 2006 proves that peer support training through the implementation of Buddy Support Program should be carried out continuously with emphasis given the management aspects in the process towards upgrading to develop the effectiveness of Buddy System programs in school.

It is in this premise that the researcher employed the buddy system approach in her research to find out if there is a significant impact on the academic performance in Science of selected grade 10 students of Pasay City South High School.

Research Questions

This study entitled "The Impact of the Buddy System on the Academic Performance in Science of Selected Grade 10 Students of Pasay City South High School" is aimed to determine the impact of the buddy system on the academic performance in Science of selected grade 10 students of Pasay City South High School.

Specifically, it aimed to answer the following questions:

1. What is the pretest-posttest mean scores of the experimental and control groups after the application of the Buddy System approach?
2. How significant is the application of the Buddy System approach in improving the academic achievement in Science as evident in the pretest-posttest mean scores?

Scope and Limitation

This action research was only conducted for the period covering the first module (Gases) of the Dep-Ed Grade 10 Learners' manual which is for 13 meetings due to time constraint. In addition, this action research was conducted to only one the classes handled by the teacher researcher which is Grade 10 Agate in Pasay City South High School.

It was only the Pretest-posttest results of the control and experimental groups and the posttest-posttest results of the control and experimental groups that was used to assess the impact of the Buddy System Approach on the performance level in Science 10 of selected grade 10 students of Pasay City South High School.

The two-tailed t-test for dependent sample was used to determine the significant gain between the pretest and posttest mean scores of the control and experimental groups. On the other hand, the two-tailed t-test for independent sample was used to determine the significant difference in the posttest-posttest mean scores of the two groups.

The researcher believes that the results of the study would have been different if the study was conducted for a longer period of time. Due to limited time that is, having only a 40-minute contact period with the students for only four times a week, the teacher-researcher found it difficult to meet the participants regularly for assessment and evaluation of the program. Also, another factor that was beyond the control of some of the buddies that may have affected the results of the study was the frequent absences of their respective partners.

Methods
Sampling

In this study, there were 36 students from Grade 10 Agate who participated. G10 Agate is a heterogeneous class. It is composed of students from different sections in the previous year level through random sectioning. (source: G10 level coordinator).

G10 Agate is currently one of the classes being handled by the researcher during this last quarter of schoolyear 2015-2016. The participants in this study were given the 30-item pre-assessment and summative test provided in the Dep-Ed Science 10 Learner's Manual which was the basis of the researcher in grouping and matching them. Only the first module (Gases) written in the Dep-Ed Science 10 Learner's Manual was included in this study due to time constraint.

Data Collection

The researcher ranked the pretest and summative test scores of the participants from highest to lowest then she divided the participants into three groups based on the scores. The participants were grouped as the experimental, control and the mentor. The experimental group was composed of the 33% of the participants (n=12) who scored the lowest. They were identified by the researcher as the students that need more help and so they were paired with the mentor group which was composed of the 33% of the participants (n=12) who scored the highest. The mentor group, having relatively the highest scores, were identified by the researcher as the more independent learners thus were assigned the buddies of the experimental group. The remaining 33 % of the participants (n=12) who ranked in between the 33% lowest group and 33 % highest group comprised the control group and were not assigned any buddy.

Ethical Issues

Prior to the conduct of this action research, the teacher-researcher issued a letter of consent to the parents of the participants who participated in this action research. They were assured of the confidentiality and anonymity of the results of the action research in which their children will be participating.

The teacher-researcher did not identify the names of those students who got the lowest scores to avoid the feeling of inferiority among them, however, she emphasized that those students who understand the lesson better in the course of the study on gases must exert effort in teaching his/her partner.

Plan of Action

Before the start of the research, the teacher-researcher asked the class how they would feel if they were to be assigned a study-buddy whom they can work with in regards to their lessons in Science. The class generally responded positively. Many of the students showed signs of eagerness to work or study with somebody else. The researcher then introduced the buddy system to the class. She told the class that the Buddy System approach has been applied in different fields and has been consistently giving positive results. She further explained to them that she wants to apply this also to her class to see if the buddy system will give the same positive result. Thus, she explained that the buddy system is designed to improve their academic performance in class especially the academically low performing students. To motivate the participants to participate actively in the program, the researcher further explained that in the buddy system approach, the buddies are given the opportunity to conduct mentoring between partners in an informal venue through an ordinary way. The mentor's role is to make a follow-up on the lessons taken up in class and to collaborate with his partner in making assignments, however, both buddies were advised to help one another in any way so as to make the buddy relationship reciprocal(The Cochlear Implant School Toolkit) . In addition, they were encouraged by the teacher-researcher to be good buddies by working together in a friendly manner.. The frequency and timing of meetings depended on the buddies' agreement but must be done regularly.

In order for both the researcher and the buddies to monitor and sustain the Buddy System program, the buddies were required to make a journal every time they conducted a meeting no matter how long or short the meeting was. The researcher provided a brief journal sheet for the participants to accomplish whenever the buddies meet. In doing so, the buddies found the journal writing task easier and did not also prevent them from conducting regular meetings because writing a journal may mean an additional burden to them.

Plan for Data Analysis

It was the Pretest-posttest results of the control and experimental groups and the posttest-posttest results of the control and experimental groups that determined whether the buddy system has an impact on the performance level in Science 10 of selected grade 10 students of Pasay City South High School.

The two-tailed t-test for dependent sample was used to determine the significant gain between the pretest and posttest mean scores of the control and experimental groups. On the other hand, the two -tailed t-test for independent sample was used to determine the significant difference in the posttest-posttest mean scores of the two groups.

This action research used the QUASI EXPERIMENTAL DESIGN.

The Pretest-Posttest Control Group Design

R	01	X	02
R	03		04

Where
R = Random Assignment
01= Experimental Pretest
02 = Experimental Posttest
03= Control Pretest
04= Control Posttest
X= Treatment

This design involved two groups, both of which were formed by random assignment. Both groups were pretested and post tested but only one group was given treatment.

The pretest and posttest on Gases provided in the Grade 10 Science K to 12 Learners' Manual were used, hence, there was no need to validate the test questions because the questions were assumed to have been written by experts.

Work Plan

The teacher-researcher started her plan on this research in the month of January 2016, the time for the shifting of science teachers in the different learning areas. The chemistry teachers will this time handle the Grade 10 level since Chemistry is scheduled in the fourth quarter of grade 10 level as stated in the Dep-ED K-12 learner's curriculum guide.

Results and Discussions

The following findings of the study were arrived at:

1. The experimental group has a mean gain of 11.92 while the control group has a mean gain of 5.08. The mean difference of both groups in the pretest and posttest is 6.84. This proves to show that the experimental group gained significantly in their posttest mean than the control group
2. The experimental group's pretest mean score was 7.833 while the posttest's mean score was 19.75. The mean difference of the two tests implies that there was significant gains in the pretest-posttest mean scores of the experimental group after employing the buddy system approach.
3. The computed t-value of 6.339 indicates that there was significant differences between the posttest mean scores of the experimental and the control groups.

The two-tailed t-test for dependent sample was used to test the significant gain between the pretest and posttest mean scores of the control group. This was done to determine the mean achievement of the control group before and after the implementation of the buddy system program.

Table 1

Test of Difference between the Pretest-Posttest Mean Scores of the control Group

	Mean	sd	Computed t-value	Tabular t-value	Decision	Interpretation
Pre-test	11.25	0.217	3.60	2.085	Reject Ho	Significant
Post-test	16.33	5.134				

Based on Table 1, the control group has a mean score of 11.25 during the pretest and a mean score of 16.33 during the post-test. At 0.05 level of significance and 28 degrees of freedom, the computed t-value of 3.60 is higher than the tabular t-value of 2.085 which indicates that there was a significant gain in the pretest-post-test mean scores of the control group with no assigned buddies.

The two-tailed t-test for dependent sample was again utilized to test if there was a significant gain between the pretest and posttest mean scores of the experimental group. This was done to determine the mean achievement of the experimental group before and after employing the Buddy System approach.

Table 2

Test of Difference between the Pretest-Posttest Mean Scores of the Experimental Group

	Mean	**SD**	**Computed t-value**	**Tabular t-value**	**Decision**	**Interpretation**
Pre-test	**7.83**	**1.858**	**6.339**	**2.086**	**Reject Ho**	**Significant**
Post-test	**19.75**	**6.096**				

As shown in Table 2, the experimental group's pretest mean score was 7.83 while the post-test mean score was 19.75 resulting to a mean difference of 11.92. The computed t-value of 6.339 exceeded the tabular t-value of 2.085 at 0.05 level of

significance and 28 degrees of freedom. This implies that there was a significant gain in the pretest-posttest mean scores of the experimental group after participating in the buddy system program.

This result validates with what was stated in The Cochlear Implant School Toolkit by KDH Research and communication regarding the benefits for children in buddy systems which include: greater social integration, development of leadership skills, better classroom management, and ***improved academic outcomes***.

Table 3

Test of Difference between the Posttest-Posttest Mean Scores of the Control Group and Experimental Group

		Mean	SD	Computed t-value	Tabular t-value	Decision	Interpretation
Control Group	Post-test	16.33	5.13	6.339	2.085	Reject Ho	Significant
Expt'l Group	Post-test	19.75	6.09				

Table 3 shows the comparison of the post-test mean scores of both groups- the control and experimental groups.

As shown in table 3, the computed t-value of 6.339 indicates that there were significant differences between the posttest mean scores of the experimental and the control groups. Furthermore, it must be noted that the experimental group achieved a significantly greater gain in the pretest- posttest mean scores than did the control group.

The experimental group who participated in the buddy system program performed modestly better than the control group who, on the other hand did not have any buddy. The positive and favorable result of this study also conforms with the findings of Zuyderduin, Johanna R., et.al (2002). in their research on "The Impact of a Buddy System on the Self-Care Behaviours of Women Living with HIVAIDS in Botswana", which concluded that the buddy system have assisted and empowered the patients to achieve higher levels of self-care behaviours than the controls.

Table 4

Pretest and Posttest Mean Scores of the Experimental Group and Control Group

	Experimental Group Mean	Control Group Mean	Mean Difference
Pretest Mean	7.83	11.25	3.42
Posttest Mean	19.75	16.33	3.42
Mean Gain	11.92	5.08	6.84

An analysis of the data in table 4 revealed that the experimental group has a mean gain of 11.92 as compared to the mean gain of the control group which is 5.08. The mean difference of both groups in the pretest and posttest is 6.84. This proves to show that the experimental group gained significantly in their posttest mean than the control group.

According to the journal of Child Health and Wellbeing of Victoria State Government, the students learn and share from their peers and learn collaboratively. The students actively participate with each other and enjoy the informal setting and feel comfortable discussing with peers rather than a teacher. The opportunity for active participation, clearing doubts and discussions help students to increase self-confidence for all involved in the system and in the process helps build trust and co-operation within individuals. It benefits the buddies, buddy learner, school and the parents as well. These must be the reasons why the experimental group gained significantly in their posttest mean scores than the control group.

Based from the results of this study, the researcher has proven that the Buddy System Approach has a great impact on the academic performance in Science of selected grade 10 students.

Conclusion

Based on the statistical results, there is a significant gain in the pretest-posttest mean scores of the experimental group as well as with the control group, however, it is evident in the results that after the application of the Buddy System Approach, the experimental group achieved a significantly greater gain in the pretest-posttest scores than the control group. The use of the Buddy System Approach must have increased the confidence of the learners and gave them opportunity to discuss further the lessons taken up in class with their study buddy in an informal way resulting to a higher achievement level as evident on the results of this study.

It is therefore concluded by the teacher-researcher that the use of the Buddy System Approach can be an effective tool in increasing the academic achievement of selected grade 10 students of Pasay City South High School.

Recommendation

Based on the result of this action research, the following are recommended in the next implementation of the buddy system:

1. Other methods of selecting buddies besides the pretest results may be used such as: economic status, gender, and residence.
2. Buddy System must be over a longer period of

time like over a semester or one schoolyear.

3. Switching or changing of a partner can be tried especially if the teacher observes that buddies do not work well together.

4. The Buddy System Approach can also be tested in improving the performance of teachers particularly between new teachers and experienced teachers. This can be included in the Dep-Ed program of activities at the start of the schoolyear.

5. The school administration may require all teachers to apply the Buddy System Approach in their classes to find out the result in a bigger scale.

6. It is recommended to the Supervisor of Values Education to require Values Education teachers to conduct a study on the Impact of Buddy System on the behavioral attitude of Junior High School students as there is an observed growing problem on their behavioral attitudes.

References

Abdul Ghani Kanesan Abdullah,et.al.The Effectiveness of Buddy Support System Implementation among Science Teachers: The Case of Malaysia 2006

Cooper, John Implementing A Buddy System In The Workplace October 2014

Fo, W.S., & O'Donnell, C.R. (1975). The Buddy System: Effects of Community Intervention on Delinquent Offenses. Behavior Therapy, Vol. 6, Issue 4, pp. 522-524, July 1975

Johanna R Zuyderduin, et. al. The Impact of a Buddy System On the Self-care Behaviours of Women Living with HIV/AIDS in Botswana 2002

KDH Research & Communication. The Cochlear Implant School Toolkit

Merriam- Webster 1828

Victoria State Government Child Health and Well Being "Buddy System" September 28, 2013

Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.

Albert Einstein

THE EFFECTIVENESS OF THE MODULAR OBJECT-ORIENTED DYNAMIC LEARNING ENVIRONMENT (MOODLE) ONLINE COURSE IN ARALING PANLIPUNAN KASAYSAYAN NG DAIGDIG TO THE PERFORMANCE OF SELECTED GRADE 9 LEARNERS IN THE QUARTERLY EXAMINATION: *AN EXPERIMENTAL RESEARCH*

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Abstract

This study intends to analyze the effectiveness of the Modular Object-Oriented Dynamic Learning Environment (MOODLE) Online Course in Araling Panlipunan Kasaysayan ng Daigdig (APKD) to the performance of randomly selected Grade 9 students in the quarterly examination (post-test). The pre-test and post-test experimental design was used in the study subsequently applying parallel-group technique since two groups were used. For such purpose, pre-test and post-test were administered to the experimental and control group. A 50-item pre-test was administered in a onetime seat-in examination to both the experimental and control group. Under the condition that the experimental group have access to the online course for one grading period, a 50-item post-test was administered to both the experimental and control group after the pre-test administration. Using paired-samples t-test, results show that the access of the experimental group to the online course is beneficial to attaining high scores in the post-test. Furthermore, the relationship is significant between the pre-test and post-test scores of the experimental group, hence, the access of the experimental group in the online course is contributory in achieving such significant relationship. The findings of this study could serve as a knowledge base for curriculum planners to consider MOODLE as platform in delivering activities online and improving face-to-face learning situation. To further examine the impact of MOODLE or online courses, it is recommended that future researchers can employ a multilevel evaluation to further analyze the effectiveness of online courses.

When a teacher contemplates on delivering a subject in new ways, he or she often thinks about the effect this change could influence on student learning. When students are motivated, learning easily takes place but motivating students to learn is a challenging job for the teacher. It requires a variety of teaching styles or techniques to capture students' interests (Laylo, 2015). With the advent of technology in the past decade, wide range of teaching styles and technique is laid on the table to upgrade pedagogies to not only improve instruction but also to improve student achievement and engagement that is traditionally shaped in the conventional classroom. Developing instructional materials play an important role in the teaching-learning process (Laylo, 2015). Use of instructional materials has a strong relationship with academic performance of secondary students (Dahar, 2011 in Laylo, 2015). With respect to student performance, instructional materials delivered through online courses is also deemed effective (Watson & Sutton, 2012). In this study, the Modular Object-Oriented Dynamic Learning Environment or simply called the MOODLE was used by the researcher as the online software platform to create the Araling Panlipunan Kasaysayan ng Daigdig (APKD) online course to deliver the standards of the subject *Kasaysayan ng Daigdig* or World History to Grade 9 students.

The teacher's job in delivering the standards of Araling Panlipunan to high school students is no joke. Teachers create and develop instructional materials to help achieve the objective of the lesson and provide appropriate and effective instruction to students (Laylo, 2015). Therefore, an AP teacher is responsible in providing necessary materials for use in instruction (Dy, 2011 in Laylo, 2015). Teaching Araling Panlipunan is more productive when there are available, sufficient, and purposefully designed instructional materials (Laylo, 2015) whether traditional or technology-based. One of the many choices is to provide technology-based instructional materials by designing and developing instructional software to equip students with essential ICT skills needed by a 21st century learner. Through MOODLE, the APKD online course was created by the researcher.

MOODLE is a learning platform designed to provide teacher and learners to create personalized learning environments where the teacher and learners can interact in real time or self-paced mode. It uses different approaches of delivery of learning such as: (a) online self-paced mode; (b) virtual classroom learning; and (c) distance learning. The APKD online course is an online self-paced online course where participants can access learning and supplementary activities like learning handouts, quizzes, homework, interactive PowerPoint presentations, videos, and audios. As self-paced mode, learners complete their training at their own pace and do not interact with an instructor or other learners. It is a virtual classroom as well. The learners and the instructor, although in different locations, interact in a live virtual classroom using the chatrooms and forums where participants interact in real time. It is also a form of distance learning wherein learners log into the online course to access course content, quizzes

and homework on their own time. They can also check links in the online course to different websites. The APKD online course also offers distance learning that provides a social learning space where learners and the instructor can interact through threaded discussions. The APKD Online Course in general presents rich opportunities to integrate the latest thinking in online education and to incorporate new methodologies for teaching and learning.

Many studies have reported that instruction through online courses are beneficial to students' performance in the classroom, satisfaction, and engagement in general (Watson & Sutton, 2012; Academic Partnership, 2011; Pullen, 2005; Jackson, 2014; Bidaki, Sanati, & Semnani, 2013; Burch, Good, & Heinrich, 2016; and Weber & Lennon, 2007). Despite of the array of studies that reported positive impact, there are only few studies which have looked into the effects of online courses to students' performance in major examinations and some even reported little evidence of effectiveness (Xu & Jaggars, 2011; Trawick, Lile, & Howsen, 2010; and Bergstrand and Savage, 2013).

In view of the above situation, the researcher attempted to look into the effectiveness of an online course to the performance of learners in quarterly examination to trim down multi-level evaluation of analysis since most studies that were reviewed focused on academic performance, engagement and satisfaction in general. Students' performance in the quarterly examination is a good parameter to measure the effectiveness of the online course since major examinations collates curriculum content and standards in a given period of time.

This experimental study therefore seeks to analyze the effectiveness of the APKD Online Course using the pre-test and post-test experimental design through parallel-group technique where in two groups were used: the experimental group and control group. In general, the study seeks to answer the following research questions: (a) *What is the performance of the experimental and control group in the pre-test?* (b) *What is the extent of effectiveness of the APKD Online Course to the performance of the experimental group in the post-test?* In support of the aforementioned research questions, this study also seeks to answer the question: (c) *Is there any significant difference between the pre-test and post-test results of the experimental and control group?*

This study focused only on the analysis of the effectiveness of the APKD Online Course to the performance of selected Grade 9 students of Paranaque National High School Main in the quarterly examination or post-test. Using parallel group technique, two groups were used, the experimental and the control group. Each group consists of 15 Grade 9 students which were selected using simple random sampling and lottery due to financial restrictions. The inclusion criteria set required that student-respondents be willing and voluntary. Topics coming from the fourth grading period were covered in the 50-item pre-test and post-test which were administered on separate dates.

The results of this study could become a basis for analysis, evaluation and improvement of teaching pedagogy using technology integration versus in-classroom traditional teaching strategies. It could also strengthen the knowledge of educators on how technologies can be used to build on existing knowledge and to develop new epistemologies or strengthen old ones. The results of the comparative analysis of the pre-test and post-test results could also shed light towards the knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face. The findings would also give teachers further insights on the importance of improving pedagogical techniques that use technologies in constructive ways to teach content. The findings will also be valuable for administrators in considering to offer online platforms to teachers and learners alike to deliver better service of education. In this way the administrators can take the necessary steps in promoting online courses to students aside from providing textbooks and learners' modules which are highly conventional. Moreover, the findings of the study can serve as reference for future studies related to effectiveness of online courses.

A significant part of research on online learning include studies that attempt to analyze the effectiveness of online learning. Watson and Sutton (2012) studied the effectiveness of different online case discussion methods with respect to student learning and satisfaction. It put forward to the idea that student satisfaction and perceived learning were affected by the type of technology used to implement the case method online (Watson & Sutton, 2012). Learning may also be intensified by presenting elements from the online environment. There is an evidence that students perform better online than in the traditional venue, and hundreds of researches reveal no widespread difference between face-to-face and online learning outcomes (Academic Partnership, 2011). One of which is the study of Pullen (2005) that examined the impact of Web -based learning on over 300 health care professionals by assessing several evaluative criteria. The evaluation revealed that learning online was an effective means for increasing knowledge and improving self-reported practice performance change (Pullen, 2005). Although there are evidences of online learning effectiveness, there is little evidence regarding its effectiveness among community college students. Xu and Jaggars (2011) estimated the effects of taking one's first college-level math or English course online rather than face to face, in terms of both course retention and course performance through examination. The findings showed a robust negative impact of online course taking for both subjects (Xu & Jaggars, 2011).

Many colleges and universities nowadays are depending on fully online classes to teach students. Bergstrand and Savage (2013) investigated how students evaluate online courses in comparison to traditional face-to-face courses. Data indicated that students feel they have learned less in online courses, believe they are treated with more respect in in-class courses, and rated online courses lower than in-class courses (Bergstrand and Savage, 2013). On the other hand, other studies indicated that student success is related to having an instructor who implements multimodal learning (Jackson, 2014) and high levels of collaboration (Bidaki, Sanati, & Semnani, 2013), rather than the delivery method done face-to-face. This means that the instructor includes content and activities that appeal to various learning styles. Undeniably, these findings goes back to the need for learners to experience effective teaching in all delivery methods, whether learning happens in a face-to-face, online, or blended environment (Academic Partnership, 2011) which agrees to the findings of Trawick, Lile, & Howsen, (2010) who found no significant difference in student performance between online and face-to-face classes. This puts forward to the need for students to

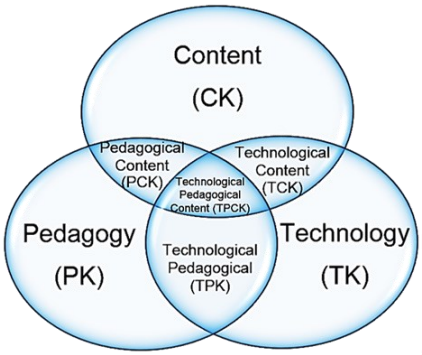
consider other factors when deciding whether to enroll in an online or blended course. In addition, blended learning can increase student achievement (Weber & Lennon, 2007). A meta-analysis established that instruction combining online and face-to-face elements is better in terms of student outcomes than purely face-to-face instruction or purely online instruction (Temple, 2013). There is also an evidence that online and blended learning options are beneficial for lifelong learners, new immigrants, and marginalized sectors. Besides studies that focused on the effectiveness of online course, there are also studies which suggest that gender plays a role in online enrollment and performance. It was found that females tend to be more likely to enroll in online classes and receive higher grades than male counterparts in the online environment (Friday, Friday-Stroud, Green, & Hill, 2006).

There is a considerable variation in how providers of digital education describe what they do, their services, how students access services, and what is delivered, complicating efforts to accurately assess its impact. Burch, Good, and Heinrich (2016) studied the effects of digital tutoring on low-income students' reading and mathematics achievement by examining the program characteristics of digital tutoring providers and then analyzing student attendance patterns. They discovered significant associations between formats, curriculum drivers, tutor locations, and other characteristics of digital providers and their effectiveness in increasing student achievement, as well as differential access by student characteristics, that warrant further investigation as digital providers' roles in K–12 instruction continue to expand (Burch, Good, & Heinrich, 2016).

It can be established from the reviewed literatures that online courses have positive and negative impact among learners and instructors. Some positive impact are highly significant in terms of how well it enhances students' academic performance, engagement and interaction with the instructor and their fellow students. It is also important to note that student satisfaction and perceived learning were affected by the type of technology used to implement courses online therefore putting light on the idea that learning online was an effective means for increasing knowledge and improving self-reported practice performance. This boils down to the point that online courses are effective in increasing student achievement and promoting teacher-to-student interaction. On the other hand, some findings indicated a strong negative impact of online courses delivered through online courses on first level studies like first year college level. Although negative effects of teaching online are not universal for all instructors and learners alike.

The theoretical framework for this study was drawn from the study of Mishra & Koehler (2006) called ''pedagogical content knowledge'' and extended it to the phenomenon of teachers integrating technology into their pedagogy. It attempts to capture some of the essential qualities of teacher knowledge required for technology integration in teaching, while addressing the complex, multifaceted, and situated nature of this knowledge. Mishra and Koehler (2006) argued that pedagogical uses of technology require the development of a complex, situated form of knowledge that they called *Technological Pedagogical Content Knowledge* (TPCK) (see Figure 1). In doing so, Mishra and Koehler (2006) theorized the complex roles of three main components of learning environments: *content*, *pedagogy*, and *technology*. They argued that this model can contribute to discussions of technology integration at multiple levels: theoretical, pedagogical, and methodological. Mishra and Koehler (2006) described the theory behind the framework, provided examples of their teaching approach based upon the framework, and illustrated the methodological contributions that have resulted from their work. The following elements and relationship are important in the framework: *Content knowledge* (CK), *Pedagogical Knowledge* (PK), *Pedagogical Content Knowledge* (PCK), *Technology Knowledge* (TK), *Technological Content Knowledge* (TCK), *Technological Pedagogical Knowledge* (TPK), and *Technological Pedagogical Content Knowledge* (TPCK).

Figure 1: ***The Technological Pedagogical Content Knowledge***



(TCPK) Framework Adapted from Mishra & Koehler (2006)

From the study of Mishra and Koehler (2006) the following elements can be briefly explained as follows: (1) CK is knowledge about the actual subject matter that is to be learned or taught; (2) PK is deep knowledge about the processes and practices or methods of teaching and learning and how it encompasses, among other things, overall educational purposes, values, and aims; (3) PCK is concerned with the representation and formulation of concepts, pedagogical techniques, knowledge of what makes concepts difficult or easy to learn, knowledge of students' prior knowledge, and theories of epistemology; (4) TK is knowledge about standard technologies and more advanced technologies which involves the skills required to operate particular technologies; (5) TCK is knowledge about the manner in which technology and content are reciprocally related; (6) TPK is knowledge of the existence, components, and capabilities of various technologies as they are used in teaching and learning settings and finally; (7) TPCK is knowledge of the representation of concepts using technologies, pedagogical techniques, knowledge of what makes concepts difficult or easy to learn, how technology can help redress problems that students face, knowledge of students' prior knowledge, and knowledge of how technologies can be used to build on existing knowledge and to develop new epistemologies or strengthen old ones.

Methods

The Research Design

The researcher used the *pre-test and post-test experimental design* in this study using the *parallel-group technique* since two groups were used: the *experimental group* and the *control group.* For the experimental group, usually a single factor or variable is manipulated or changed. For the control group, no manipulation or change is made of the customary or non-experimental conditions.

Since the study seeks to analyze the effectiveness of the APKD online course, a pre-test and a post-test will be used for both the experimental and the control group. The *independent variable* manipulated in this problem is the access of the experimental group to the supplementary materials and activities in the online course for the whole course of the fourth grading period. A 50-item pre-test was administered in a onetime seat-in examination for both the experimental and the control group on January 8, 2016. Under the condition that the experimental group have access to the online course, a 50-item post-test was administered for both the experimental and control group on March 24, 2016. The results of the pre-test and post-test examinations is the *dependent variable*.

Participants and Sampling

Due to the limited number of learners that can be enrolled in the online course, the researcher used the *simple random sampling* in choosing the 30 student-subjects. Every individual has an equal chance of being selected in the sample before the selection is done. I used the simplest method of random sampling which is *lottery*. To illustrate the procedure, consider the population of 43 which is the official number of students enrolled in Grade IX-37 for school year 2015-2016. On December 6, 2015, the researcher jotted down the names of the female and male students on slips of paper, folded, and then placed in a container altogether and jumbled thoroughly. Without looking at the slips of paper, I drew 15 slips of paper representing the experimental group. To complete the desired sample size of 30 students, I drew another 15 from the remaining slips on the same date that will represent the control group. This process ensures a representative sample because each item has the same chance of getting into the desired sample size.

The 30 chosen students came from Grade IX Section 37 which was my official advisory class. The students are officially enrolled at Paranaque National High School Main for school year 2015-2016 respectively. The 15 (50% of N=30) students from the experimental group were enrolled in the APKD online course on January 9, 2016 while the other 15 (50% of N=30) students are not enrolled in the online course. The experimental group have complete and regular access to the online course over the course of the fourth grading period and studies under normal classroom conditions while the control group who studies under normal classroom conditions together with the experimental group do not have access to the online course at all.

Instrument and the Data Gathering Procedures

Data were collected using a modified standards-based 50-item pre-test and post-test (see appendix). Fourth quarter standards and content from the DepEd Curriculum Guide for Kasaysayan ng Daigdig were used as the test coverage to get valid and more reliable results for this study. The type of test used was multiple choice where each item presents four alternatives or options. The pre-test was initially administered to both the experimental and control group on the same schedule and venue (during Homeroom Period from 1:30-2:30 PM, Rm. A418). Then the chosen 15 students from the experimental group were enrolled in the APKD online course. The researcher as the online course facilitator and the experimental group have complete and regular access to all the supplementary activities in the online course for the whole course of the fourth grading period. To ensure that the standards and content of the pre-test and post-test match with that of the online course, standards and content from the DepEd Curriculum Guide for Kasaysayan ng Daigdig were also utilized as bases in creating the supplementary activities in the online course. Oppositely, the control group was not enrolled in the online course and nonetheless treated with the usual traditional teaching-learning process method implemented in the classroom by the same teacher and same grading period. Then a 50-item post-test was administered to both the experimental and control group on the same schedule and venue (during ICL period from 1:30-2:30 PM, Rm. A418). After the papers have been checked, the results of the pre-test and post-test examinations from both the experimental and control group were then compared and analyzed using Independent-Samples T-test and Paired-Samples T-test. The results in the pre-test and post-test from both the experimental and control group were also analyzed for any significant difference. This would show whether or not the access of the experimental group in the APKD online course produced a positive effect in their performance in the quarterly examination.

Figure 2 presents the summary of the research paradigm. Four analyses were conducted to ensure validity of the results.

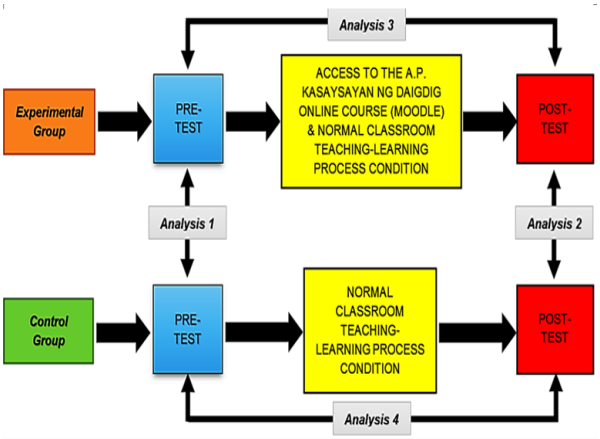


Figure 2: ***The Research Paradigm***

The 50-item pre-test and 50-item post-test were used to establish parallelism in the content covered. Both the experimental and control group were treated under normal classroom teaching-learning process condition but only the experimental group had the access to the online course for the whole course of the fourth grading period.

In Analysis 1, test of significance between the two group means of pre-test scores for both the experimental and control group was performed by performing Independent-Samples T-Test. In order to establish validity, the null hypothesis must be accepted. In Analysis 2, test of significance between the two group means of post-test scores for both the experimental and control group was performed by performing Independent-Samples T-Test. In order to establish validity, the null hypothesis must be accepted. In Analysis 3, test of significant difference between pre-test and post-test score gaps for the experimental group was performed by using Paired-Samples T-Test. In order to establish validity, the null hypothesis must be accepted. In Analysis 4, test of significant difference between pre-test and post-test score gaps for the control group was performed by using Paired-Samples T-Test. In order to establish validity, the null hypothesis must

also be accepted.

Analyses 2 and 3 revealed whether the access of the experimental group to the A.P. Kasaysayan ng Daigdig produced any significant effect in their performance in the quarterly examination.

Ethical Considerations

Before the conduct of the study, the researcher sought the permission from the school head of PNHS Main to allow the participation of the experimental and control group in the study. Given that confidential information is likely to surface in this study (Cranston et al., 2005 in Catacutan & De Guzman, 2015), a meeting was held with the student-participants prior to the administration of the pre-test to be able to inform them of the nature and purpose of the study, the plans for using the results of the pre-test and post-test, and the protocol to be observed to protect the anonymity of the participants (Creswell, 2009 in Catacutan & De Guzman, 2015).

A week before the actual pre-test administration, the student-participants were given a letter of consent to participate in the study which should be duly signed by the parent or guardian. Participants were assured that their participation in the study was strictly voluntary and that they have the freedom to withdraw their consent any time. Earnest confidentiality and commitment to protect the participants' personal information and test results were maintained from the beginning of the study until its publication. To regulate data collection, only the researcher gathered the data per methodology (Laylo, 2015). The researcher exercised integrity of data by maintaining a clear and complete record of raw data acquired (Laylo, 2015).

Results and Discussion

This part presents the findings of the study in illustrative tables and analysis as well as the interpretation based from the treatment of the data**.** The data were analyzed using the SPSS for Windows 8.1.

ANALYSIS 1:
Test of Significant Difference Between Two Group Means of Pre-Test Using Independent-Samples T-Test

Table 5: Independent-Samples T-Test Output for Pre-Test (Using SPSS)

STUDENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	x	SD
EXPERIMENTAL	26	20	17	17	17	16	16	15	15	15	14	13	12	11	11	**15.67**	**3.77**
CONTROL	21	18	16	16	15	15	14	13	13	13	13	13	11	11	10	**14.13**	**2.85**

Table 3: ***Pre-Test Results of the Experimental and Control Group***

The scores of the experimental and control group in the pre-test are shown in table 3 above.

Table 4: ***Group Statistics of the Experimental and Control Group in terms of Pre-Test Results (Using SPSS)***

Group Statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Pre-Test	Experimental	15	15.67	3.773	.974
	Control	15	14.13	2.850	.736

From the table above showing some descriptive, we see that 15 randomly selected students in the experimental group and 15 randomly selected students in the control group are included in the test. This output shows that the average score for the experimental group in the pre-test is 15.67 versus 14.31 for the control group. The difference is 0.923. The Standard Deviation for the experimental group is 3.733 versus 2.850 for the control group. Standard Error Mean is the estimated standard deviation of the sample mean. This value is estimated as the standard deviation of one sample divided by the square root of sample size: 3.773/sqrt(15) = .974 and 2.850/sqrt (15) = .736. This provides a measure of the variability of the sample mean.

As shown in table 5 above, the t-test results are reported twice which is 1.256. The first line which is the *equal variances assumed* assumes that the aforementioned assumption of equal variances has been met. If this assumption doesn't hold, the t-test results need to be corrected. These corrected results are presented in the second line which is the *equal variances not assumed*.

These corrected results are presented in the second line which is the equal variances not assumed. Whether the assumption of equal variances holds is evaluated using Levene's test for the equality of variances. As a rule of thumb, if Sig. > .05, use the first line of t-test results. Reversely, if its p-value ("Sig.") < .05 we reject the

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre-Test	Equal variances assumed	.256	.617	1.256	28	.220	1.533	1.221	-.968	4.034
	Equal variances not assumed			1.256	26.052	.220	1.533	1.221	-.976	4.043

null hypothesis of equal variances and thus use the second line of t-test results. In this case, we will use the first line of t -test results since ("Sig.") .220 > .05 and we do not reject the null hypothesis. I therefore conclude that both the experimental group and the control group performed well in the pre-test.

The difference between the pre-test scores of the experimental and control group is 1.533 as we'd already seen previously. The chance of finding this or a larger absolute difference between the two means is about 22%. Since this is a fair chance, we do not reject the hypothesis that both the experimental group and the control group performed well in the pre-test. Note that the p-value is two-tailed. This means that the 22% chance consists of an 11% chance of finding a mean difference smaller than -1.533 and another 11% chance for a difference larger than 1.533. Regarding the significance test, we will state that "on average, both the experimental and the control group performed well in the pre-test with t = 1.256 and p-value = .220".

ANALYSIS 2:
Test of Significant Difference Between Two Group Means of Post-Test Using Independent-Samples T-Test

Table 6: ***Post-Test Results of the Experimental and Control Group***

STUDENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	X	SD
EXPERIMENTAL	31	29	28	27	24	23	23	22	20	18	18	17	17	15	14	**21.73**	**5.31**
CONTROL	33	29	29	28	26	25	23	22	21	20	17	16	15	13	12	**21.93**	**6.42**

The scores of the experimental and control group in the post-test are shown in table 6.;

From the table above, showing some descriptive, we see that 15 randomly selected students in the experimental group and 15 randomly selected students in the control group are included in the test. This output shows that the average score for the experimental group in the post-test is 21.73 versus 21.93 for the control group. The difference is -0.2. The Standard Deviation for the experimental group is 5.311 versus 6.419 for the control group. Standard Error Mean is the estimated standard deviation of the sample mean. This value is estimated as the standard deviation of one sample divided by the square root of sample size: 5.311/ sqrt(15) = 1.371 and 6.419/sqrt(15) = 1.657. This provides a measure of the variability of the sample mean.

As shown in table 8 , the t-test results are reported twice which is 1.256. The first line which is the equal variances assumed assumes that the aforementioned assumption of equal variances has been met. If this assumption doesn't hold, the t-test results need to be corrected. These corrected results are presented in the second line which is the equal variances not assumed. Whether the assumption of equal variances holds is evaluated using Levene's test for the equality of variances. As a rule of thumb, if Sig. > .05, use the first line of t-test results. Reversely, if its p-value ("Sig.") < .05 we reject the null hypothesis of equal variances and thus use the second line of t-test results. In this case, we will use the first line of t-test results since ("Sig.") .927 > .05 and we do not reject the null hypothesis. I therefore conclude that both the experimental group and the control group performed well in the post-test.

The difference between the post-test scores of the experimental and control group is -0.200 as we'd already seen previously. The chance of finding this or a larger absolute difference between the two means is about 92.7%. Since this is a satisfactory chance, we do not reject the hypothesis that both the experimental group and the control group performed well in the post-test. Note that the p-value is two-tailed. This means that the 92.7% chance consists of a 46.35% chance of finding a mean difference smaller than 0.200 and another 46.35% chance for a difference larger than -0.200. Regarding the significance test, we will state that "on average, both the experimental and the control group performed well in the post-test with t = -0.093 and p-value = .927".

Table 7: ***Group Statistics of the Experimental and Control Group in terms of Post-Test Results (Using SPSS)***

Group Statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Post-Test	Experimental	15	21.73	5.311	1.371
	Control	15	21.93	6.419	1.657

Table 8: Independent-Samples T-Test Output for Post-Test (Using SPSS)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2 tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PostTest	Equal variances assumed	.583	.452	-.093	28	.927	-.200	2.151	-4.607	4.207
	Equal variances not assumed			-.093	27.051	.927	-.200	2.151	-4.614	4.214

ANALYSIS 3:
Test of Significant Difference Between Pre-Test and Post-Test Score Gaps for the Experimental Group using Paired -Samples T-Test

Table 9: ***Paired-Samples Statistics Output of the Experimental Group (Using SPSS)***

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Experimental	PRE-TEST	15.67	15	3.773	.974
	POST-TEST	21.73	15	5.311	1.371

Table 9 presents the descriptive statistics of the experimental group. Since N=15 we do not have any missing values on the test variables and as expected, the mean of the pre-test which is 15.67 is lower than the post-test which is 21.73. The difference of the means is -6.06. The standard deviation of the pre-test which is 3.773 is also lower than the standard deviation of the post-test which is 5.311.

Table 10: ***Paired-Samples Correlation of Pre-Test and Post-Test Result of the Experimental Group***

Paired Samples Correlation				
		N	Correlation	Sig.
Experimental	PRETEST & POST-TEST	15	.765	.001

(Using SPSS)

Table 10 shows that the degree of relationship between pre-test scores and post-test scores of the experimental group is *high positive correlation* using the range of values for the interpretation of correlation coefficients. Since the sign of the obtained correlation is positive, a direct relationship is present between the two variables. Thus the obtained relationship is significant because the p-value 0.001 < 0.05 level, that is, there exists a real correlation between the pre-test scores and post-test scores of the experimental group. Considering that the students from the experimental group have access in the online course and studies under normal classroom condition as that of the control group, I therefore conclude that as the score in the pre-test increases, the score in the post-test also increases. We can say that students who consistently performed well in the pre-test may also mean performing well on post-test or students who performed well on a post-test may also mean performing well in the pre-test.

Table 11 reveals that on average, the students from the experimental group who were enrolled in the Grade 9 Kasaysayan ng Daigdig Online Course and studies under normal classroom conditions as that of the control group, have attained some 6 points increase in average in the post-test. The p-value denoted by "Sig. (2-tailed)" is 0. So if the population means are equal, there is a 0% chance of finding this result. We therefore reject the null hypothesis since ("sig.") 0.000 < 0.05 level of significance. Students who have access in the online course and studies under normal classroom conditions can attain higher scores in the post-test compared to pre-test results. Note that the p-value is two-tailed. This means that the p-value consists of a 0.00% chance of finding a difference < -6.067 mean and another 0.00% chance of finding a difference > 6.067 mean. For the significance test, I therefore conclude that *"students who have access in the online course and studies under normal classroom conditions can attain higher scores in the post-test compared to pre-test results with t = -6.846 and p-value = 0.00".*

ANALYSIS 4:
Test of Significant Difference Between Pre-Test and Post-Test Score Gaps for the Control Group using Paired-Samples T-Test

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Control	PRE-TEST	14.13	15	2.850	.736
	POST-TEST	21.93	15	6.419	1.657

Table 12: ***Paired-Samples Statistics Output of the Control Group (Using SPSS)***

Table 12 presents the descriptive statistics of the control group. Since N=15 we do not have any missing values on the test variables and as expected, the mean of the pre-test which is 14.13 is lower than the post-test which is 21.93. The difference of the means is -7.8. The standard deviation of the pre-test which is 2.850 is also lower than the standard deviation of the post-test which is 6.419.

Table 13: ***Paired-Samples Correlation of Pre-Test and***

Paired Samples Correlations				
		N	Correlation	Sig.
Control	PRETEST & POSTTEST	15	.469	.078

Post-Test Result of the Control Group (Using SPSS)

Table 13 shows that the degree of relationship between pre-test scores and post-test

Table 11: ***Paired-Samples T-Test of Pre-Test and Post-Test Result of the Experimental Group (Using SPSS)***

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Experimental	PRETEST – POST-TEST	-6.067	3.432	.886	-7.967	-4.166	-6.846	14	.000

scores of the control group is *low positive correlation* using the range of values for the interpretation of correlation coefficients Since the sign of the obtained correlation is positive, a direct relationship is present between the two variables. Thus the obtained relationship is not significant since the p-value 0.078 > 0.05 level, that is, there exists no correlation between the pre-test scores and post-test scores of the control group.

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Control	PRETEST - POSTTEST	-7.800	5.672	1.465	-10.941	-4.659	-5.326	14	.000

Table 14: ***Paired-Samples T-Test of Pre-Test and Post-Test Result of the Control Group (Using SPSS)***

Table 14 reveals that on average, the students from the control group who were not enrolled in the Grade 9 Kasaysayan ng Daigdig Online Course but studies under normal classroom conditions as that of the experimental group, have attained some 7 or 8 points increase in average in the post-test. The p-value denoted by "Sig. (2-tailed)" is 0. So if the population means are equal, there is a 0% chance of finding this result. We therefore reject the null hypothesis since ("sig.") 0.000 < 0.05 level of significance. Students who studies under normal classroom conditions but do not have access in the online course can also attain higher scores in the post-test compared to pre-test results. Note that the p-value is two-tailed. This means that the p-value consists of a 0.00% chance of finding a difference < -7.800 mean and another 0.00% chance of finding a difference > 7.800 mean. For the significance test, I therefore conclude that *"students who studies under normal classroom conditions but do not have access in the online course can also attain higher scores in the post-test compared to pre-test results, with t = -5.326 and p-value = 0.00"*.

Conclusions and Recommendations

In terms of the t-test applied on both the independent sample means of pre-test results of the experimental group (with x=15.67; sd=3.77; N=15) and control group (with x=14.13; sd=2.85; N=15) and the post-test results of the experimental group (with x=21.73; sd=5.311; N=15) and control group (with x=21.93; sd=6.419; N=15), I therefore conclude that both the experimental group and the control group performed well in the pre-test (with t=1.256 and p-value=.220) as well as in the post-test (with t=-0.093 and p-value=.927).

The results of the paired-sample t-test also revealed that students from the experimental group which have access to the online course and studies under normal classroom conditions attained better scores in the post test than in the pre-test (with t=-6.846 and p-value=0.00) by improving their marks by approximately 6 points in average in reference with pre-test results and mean. This suggests that the access of the experimental group to the online course is highly relevant to attaining higher scores in the post-test and, therefore, boiling down to the point that learning online is also an effective means in increasing student knowledge and achievement in the same manner that traditional classroom conditions offer. On the other hand, there is also a strong evidence that the control group, which do not have access in the online course but studies under normal classroom conditions together with the experimental group, improved their marks in the post-test by approximately 7 to 8 points in average in reference with pre-test results and mean. This confirms that students who studies under normal classroom conditions but do not have access in the online course can also attain higher scores in the post-tests (with t=-5.326 and p-value=0.00) as that of the experimental group. This implies that traditional classroom conditions is effective in increasing student achievement especially in written examination.

The results also revealed that the degrees of relationship between pre-test scores and post-test scores of the experimental group (r=.765) and between the pre-test scores and post-test scores of the control group (r=.469) have low to high positive correlation. This gives us an impression that as the score of a student in the pre-test increases, his score in the post-test also increases. Furthermore, it is conclusive that the relationship is significant between the pre-test and post-test scores of the experimental group since .001 < 0.05 level of significance (decision: reject H_O since t=4.28 > computed value of t=2.16; and r=.765 > critical value=.514). This confirms that the access of the experimental group in the online course is contributory in achieving such significant relationship between the pre-test and post-test results. On the other hand, there is no significant correlation between the pre-test and post-test scores of the control group since .078 > 0.05 level of significance (decision: do not reject H_O since t=1.91 < computed value of t=2.16; and r=.469 < critical value=.514).

On the basis of the conclusions stated above, the following recommendations were drawn: (a) a longer period or duration of study could be taken into consideration as it may perhaps help to attain a more significant results since the current study was only conducted in a one grading-period duration; (b) a larger sample could also help attain more significant results since the current study only used 30 student-subjects to further analyze the effectiveness of the online course using larger number of samples; (c) to find more significant and qualitative observations, interviews could also be conducted to student-subjects to further understand the impact of the online course on the level of the student-subject so that results are not only reliant on statistical or empirical data; and (d) to further examine the impact of the online-course, it is recommended that future researchers can employ a multilevel evaluation by using several criteria (like participant satisfaction, learning achievement, self-reported performance change, etc.) since the current study used the pre-test and post-test experimental design to analyze the effectiveness of the online course that used a parallel-group technique.

References

Academic Partnerships (2011). Retrieved from Research on the Effectiveness of Online Learning: A Compilation of Research on Online Learning: http:// www.academicpartnerships.com/sites/default/files/

Research%20on%20the%20Effectiveness%20of%20Online%20Learning.pdf

Abdous, M., & Yen, C. (2010). A predictive study of learner satisfaction and outcomes in face-to-face, satellite broadcast, and live video-streaming learning environments. *The Internet and Higher Education, 13*(4), 248-257.

Bergstrand, K., & Savage. (2013). The Chalkboard Versus the Avatar: Comparing the Effectiveness of Online and In-class Courses. *Teaching Sociology, 41*(3), 294 –306.

Bidaki, M., Sanati, A. R., & Semnani, M. (2013). Students' Attitude Towards Two Different Virtual Methods of Course Delivery, Procedia. *Social and Behavioral Sciences, 83*, 862-866.

Bryan, V. C. (2015). Self-directed learning and technology. *The Education Digest, 80*(6), 42-44.

Burch P., G. A. (2016). Improving Access to, Quality, and the Effectiveness of Digital Tutoring in K–12 Education. *Educational Evaluation and Policy Analysis, 38*(1), 65 – 87.

Academic Partnerships (2011). Retrieved from Research on the Effectiveness of Online Learning: A Compilation of Research on Online Learning: http://www.academicpartnerships.com/sites/default/files/Research%20on%20the%20Effectiveness%20of%20Online%20Learning.pdf

Abdous, M., & Yen, C. (2010). A predictive study of learner satisfaction and outcomes in face-to-face, satellite broadcast, and live video-streaming learning environments. *The Internet and Higher Education, 13*(4), 248-257.

Bergstrand, K., & Savage. (2013). The Chalkboard Versus the Avatar: Comparing the Effectiveness of Online and In-class Courses. *Teaching Sociology, 41*(3), 294 –306.

Bidaki, M., Sanati, A. R., & Semnani, M. (2013). Students' Attitude Towards Two Different Virtual Methods of Course Delivery, Procedia. *Social and Behavioral Sciences, 83*, 862-866.

Bryan, V. C. (2015). Self-directed learning and technology. *The Education Digest, 80*(6), 42-44.

Burch P., G. A. (2016). Improving Access to, Quality, and the Effectiveness of Digital Tutoring in K–12 Education. *Educational Evaluation and Policy Analysis, 38*(1), 65 – 87.

Catacutan, M. G., & De Guzman, A. B. (2015). Bridge Over Troubled Water: Phenomenologizing Filipino College Deans' Ethical Dilemmas in Academic Administration. *Educational Management Administration & Leadership,* 1-20.

Friday, E., Friday-Stroud, S., Green, A., & Hill, A. (2006). A Multi-Semester Comparison of Student Performance between Multiple Traditional and Online Sections of Two Management Courses . *Journal of Behavioral and Applied Management, 8*(1), 66-81.

Hanover Research Council (2009). *Best Practices in Online Teaching Strategies.* Retrieved from http://www.uwec.edu/AcadAff/resources/edtech/upload/Best-Practices-in-Online-Teaching-Strategies-Membership.pdf

Jackson, S. (2014). Student reflections on multimodal course content delivery. *References Services Review, 42*(3), 467-483.

Lawrence, J., & Singhania, R. (2004). A Study of Teaching and Testing Strategies for a Required Statistics Course for Undergraduate Business Students. *Journal of Education for Business, 79*(6), 333-338.

Laylo, J.C. T. (2015). The Effectiveness of Araling Panlipunan Strategic Intervention Materials (SIM-BAKAS) in Improving the Academic Performance of Grade Seven Students of Rosario National High School.

Lewis, J. &. (2012). Online Delivery as a Course Adjunct Promotes Active Learning and Student Success. *Teaching Of Psychology, 39*(1), 72-76.

McCann, B. M. (2006). The Relationship Between Learning Styles, Learning Environments, And Student Success. *Journal of agricultural education, 47*(3), 14.

Mishra, P., & Koehler, M. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *Teachers College Record, 108*(6), 1017–1054.

Pullen. (2005). Online Continuing Professional Education: An Evaluative Case Study. *Journal of Adult and Continuing Education, 11*(2), 129-141.

Rausch, D., & Crawford, E. (2012). Cohorts, Communities of Inquiry, and Course Delivery Methods: UCT Best Practices in Learning - The Hybrid Learning Community Model. *The Journal of Continuing Higher Education, 60*(3), 175-180.

Salvador, S. M., Tolentino-Baysa, G. J., & Fua-Geronimo, E. C. (2008). *Fundamentals of Business Research.* Manila: Allen Adrian Books, Inc.

Temple, T. (2013, February). Focusing on Student Success: Assessment of Learning Outcomes in Blended Environments. *Paper presented at the Lilly Conference on College and University Teaching.* Greensboro, NC.

Trawick, M., Lile, S., & Howsen, R. (2010). Predicting Performance Students: Is it Better to be Home Alone? *Journal of Applied Economics and Policy, 29*, 34-46.

Walker, J., Brooks, D., & Baepler, P. (2011). Pedagogy and Space: Empirical Research on New Learning Environments. *EDUCAUSE Quarterly, 34*(4).

Watson, S., & Sutton. (2012). An Examination of the Effectiveness of Case Method Teaching Online: Does the Technology Matter? *Journal of Management Education, 36*(6), 802 –821.

Weber, J. M., & Lennon, R. (2007). Multi-Course Comparison of Traditional versus Web-based Course Delivery Systems. *The Journal of Educators Online, 4*(2), 1-19.

Xu, D., & Jaggars, S. (2011). The Effectiveness of Distance Education Across Virginia's Community Colleges: Evidence From Introductory College-Level Math and English Courses. *Educational Evaluation and Policy Analysis, 33*(3), 215–229.

CULTURAL DIVERSITY AND ITS PERCEIVED EFFECTS ON ACADEMIC PERFORMANCE OF STUDENTS IN A PUBLIC SCHOOL IN MAKATI CITY: BASIS FOR AN ADVOCACY PROGRAM FOR MULTICULTURAL DIVERSITY

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ABSTRACT

This study aimed to determine whether factors of cultural diversity specifically ethnicity, language and religion affects the academic performance of culturally diverse students enrolled in a public school in Makati City during the school year 2015-2016 which was the basis for the Advocacy Program for Multicultural Diversity.

The research employed descriptive method utilizing purposive sampling technique. The respondents of the study were the 150 culturally diverse students from grade 7 to grade 10 levels. The study utilized a researcher made instrument with a five point Likert scale response and were validated by the thesis panel before administering it to the respondents. The research instrument was able to obtain necessary information in determining whether factors of cultural diversity affect academic performance. For the statistical treatment, the researcher had employed a reliable statistician who had helped in data organization and computation. The data processing was done through the use of SPSS version 20 and was analyzed utilizing the following techniques in presenting the data for quantitative analyses: frequency and percentage, mean, standard deviation and Pearson r Correlation. The study sought for the answer to the statement of the problem mentioned in the beginning part of the research.

Out of the findings and conclusion obtained in this study, an Advocacy Program for Multicultural Diversity was recommended in order to help the present study achieve its ultimate goal of ensuring the delivery of quality education to all students without biases, discrimination and prejudice.

INTRODUCTION

The 1948 Universal Declaration of Human Rights under Article 26 states that "everyone has the right to education" and this statement was made even apparent when in 1990, the United Nation established the Education For All (EFA) movement for sustainable development under its sixth objective of improving the quality of education. Likewise, the Philippine government recognizing the importance of education in nation building made it imperative that the principles of having quality education must be incorporated in the 1987 Constitution under Article XIV, Sec. 5, "The State shall protect and promote the right of all citizens to quality education at all levels and shall take appropriate steps to make education accessible to all." Due to these prevailing idealisms, our society has forever transformed and it had shaped the course of our society in attaining social equity among all its citizens.

According to the Philippine Education For All 2015 Exemplar, Filipinos have deep regard for education. It occupies a central place in Philippine culture in molding its citizen to become responsible members of the society. It has always been strongly viewed as a pillar of national development and a primary avenue for social and economic mobility. Quality education in developing countries such as the Philippines must provide better opportunities for those underprivileged students who belong to the marginalized sector of our society and most especially those who come from the far flung areas with diverse cultural background. Horace Mann (1837) had mentioned that "Education then, beyond all other devices of human origin, is the great equalizer of the conditions of men" and the implication of his contemplation means that through education, Filipino students even at the early stage of their schooling age regardless of their cultural orientation and preference will be equipped with essential tools for lifelong learning. This will give them a fair chance of survival in our fast changing society.

Despite the fact that our modern society had already embraced the principles of equality in education by adopting the abovementioned provisions, it is sad to think that there are still certain aspects in our way of life that causes roadblocks in preventing certain members of the society in acquiring quality education. One influential human social aspect is cultural diversity and how it intervenes with the delivery of quality education in some learning institutions of our country. Cultural diversity as defined by Parvis (2005) is the makeup of various social structures, belief systems and strategies that other cultures use to adapt to life situations in all parts of the world. According to UNESCO, cultural diversity is a mainspring for sustainable development for individuals, communities and countries. With increased development happening in major cities in the Philippines, the social phenomenon of urbanization has attracted many families from the provinces to migrate in highly urbanized places.

The Philippine Statistics Authority under the Census of Population and Housing had reported that from the year 2005-2010, long-distance domestic migrant movers from rural to urban areas numbered to 2.9 million

persons. The continuous migration of culturally diverse Filipino families from the provinces to progressive cities because of rampant urbanization in our modern society has resulted in many social problems particularly in the education sector. Students who migrate from the provinces find themselves overwhelmed in their new school environment. Abrupt changes in their social environment and new lifestyle contribute to the distress of adjusting to new surroundings, which significantly affects their school performance. After the culturally diverse students have gone through the standard operating procedures of enrollment, they have to cope with the new atmosphere of the school. Whether they are able to cope with or left behind will depend on the individual's capacity to adapt into the new system.

Students who are unable to adapt in their learning environment because they were suddenly thrown in a new surrounding find themselves in numerous learning problems and prevents them from enjoying the full benefits of basic education. In line with the abovementioned situations, a multicultural perspective is another strong point that this research had tried to explore and how it had affected the prevalence of cultural diversity inside the classroom. This study aims to link together appreciation and understanding of other student's culture because the goal of this study is to prevent the breaking of effective teaching and learning process. The educational system in the Philippines under the Department of Education has constantly looked into this problem in schools as one area of this research. The government's goal of providing quality education to all students in all social structures brings about results for improved academic performance.

Thus, the ultimate objective of this study is to determine whether cultural diversity is a factor that affects academic performance proposes an advocacy program for multicultural diversity that will help learners with diverse cultural background enjoy their inherent right to have quality education.

Background of the Study

Because the Philippines is situated along the typhoon belt of the Pacific Ocean, typhoons are annually crossing its territory causing massive destruction to many provinces and with the prevailing confrontations between government troops and rebel militants in the far flung areas, many families are separated from each other due to these social conditions. Filipino families are forced to leave their native lands and move to cities in order for their children to have better opportunities particularly their chance to have quality education.

The researcher teaches the subject of Araling Panlipunan in a public secondary school in Barangay Pitogo, Makati City. Students in his school are residents of barangays close to the school.

The interest of the researcher started when learners with diverse cultural background were forced to continue their studies away from their familiar environment. Many of these learners transferred to the school where the researcher teaches. The researcher has been teaching in this school for the past nine years. In the course of his profession, he has not met students from far flung provinces with diverse cultural background. The researcher noted from the report cards of these students that the high grades obtained from their former school were not maintained after their transfer. He likewise observed that these culturally diverse students are aloof and socially detached from their classmates. These students are prone to ridicule and bullying by other students. They find it difficult to adapt into their new surroundings which has resulted for some to drop out of school. They simply conform to the present system unable to appreciate the benefits of lifelong learning which the researcher believes is a clear manifestation of social injustice.

The researcher observed these unfortunate situations as educational obstructions happening inside the school which isolates the culturally diverse students and prevents them from enjoying the most of schooling. This situation will become detrimental to the development of education in our country as a whole and it will reflect in the National Achievement Test results administered in schools in the country. The Department of Education's report on student enrollment, participation, completion and dropout rate will also be affected. These realities prompted and sparked the interest of the researcher to pursue a study on culturally diverse students. It is his ardent desire to help the said students with the aid of other teachers so these students can complete their studies and find joy in their pursuit of knowledge in the school.

CONCEPTUAL FRAMEWORK

This study is anchored on Lev Vgotsky's (1978) Sociocultural Theory who explained that human learning comes with a social process and it is where human intelligence originates in our society. His theory explains that social interaction plays a fundamental role in the development of human thinking and enables every leaner to determine the course of his academic performance. Vygotsky also mentioned in his book entitled *Mind in Society: The Development of Higher Psychological Processes* that every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level. First, between people (interpsychological) and then inside the child (intrapsychological). Vgotsky's theory reinforces the objective of this research in establishing whether the determinants of cultural diversity in the learning environment have a significant consequence to the learning outcomes or academic performance of culturally diverse students in a public school in Makati City.

Sociocultural theory also explains how student's mental functioning is related to cultural context. The emphasis of the sociocultural perspective is focused on the roles that the environment and culturally organized structures like language, religion and ethnicity influenced academic performances. According to Chavous (2011), during schooling age, students begin to create their general sense of identity or their personal view of who they are, what is important to them, and how will they behave appropriately. This is particular for a student belonging to a distinct ethnic group. When ethnic identity becomes significant for ethnic minority students as they explore the significance of their ethnic group in defining who they are in school, there is a strong possibility that ethnic minority levels of academic achievement are influenced in part by their ethnic identity and beliefs. It also suggests that ethnic identity may serve as a factor in affecting academic achievement. Ethnicity as factor of cultural diversity is included in the objective of this study as it tries to establish whether ethnicity can influence the academic performance of students with diverse cultural background.

Culturally related problems encountered by students have an adverse effect on learning outcomes and it may result to failure and dropping out from school. The framework also presented the creation of an advocacy program in multicultural diversity that will aim to address the issues and problems regarding cultural diversity. The researcher saw the necessity to address the problem not only through his teaching profession but also by conducting a research that will establish the effect of cultural diversity in the academic performance of public school students in Makati City. Academic achievement was measured by comparing the grades of the respondents during the first and the second grading period of school year 2015-2016.

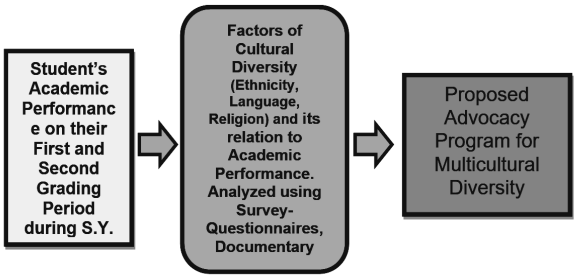

Figure 1 Research Paradigm

Figure 1 Research Paradigm

Figure 1 illustrates the input-process-output scheme of the study. Ethnicity, Language and Religion are cultural factors that students must deal with inside the school. Cultural diversity is then analyzed whether it has an effect on academic performance with the use of survey questionnaires, documentary analysis and interview sessions. The objective of the study, which will become its output, is the development of an advocacy program for multicultural diversity that will both address the needs of culturally diverse learners and nurture authentic learning that will improve the academic performance of the whole students of Makati City.

STATEMENT OF THE PROBLEM

This study aims to identify the effects of cultural diversity on the academic performance of students in a selected public secondary school in Makati City in the school year 2015-2016.

Specifically, it will seek to answer the following questions.

1. What is the profile of the students-respondents in terms of:
   - ethnicity;
   - language; and
   - Religion?
2. What is the academic performance of the student-respondents based from their first and second grading period weighted average?
3. To what extent do the following factors of cultural diversity affect the academic performance of the student-respondents:
   - ethnicity;
   - language; and
   - religion?
4. Is there a significant relationship between the academic performance of the students and the factors of cultural diversity?
5. What are the problems encountered by the students, parents and teachers of culturally diverse students?
6. Based on the findings of the study, what multicultural advocacy program can be proposed?

HYPOTHESIS

There is no significant relationship between the academic performance of students and the factors of cultural diversity.

SCOPE AND DELIMITATION

This study was conducted to utilize a survey whether culturally diversity has an effect to student academic performance in a public secondary school in Makati City for the school year 2015-2016. The study focused on the academic performance of the respondents through their general weighted during the first and second grading period. The study has delimited its respondents to the 150 cultural diverse students in terms of their ethnicity, language and religion enrolled for the school year 2015-2016. Only students who fit the profile were considered as respondents of the study. The respondents of the research were from grade 7 up to grade 10 students of a public school in Makati City. The study also utilized a self-made survey questionnaire that was validated by the thesis panel.

METHODOLOGY

The study used descriptive method. This method is described as one that helps determine if two or more variables are associated with each other by explaining their relationship but not necessarily involving that this relationship is a cause. This study had used questionnaires in gathering data and variable needed. It had involved description, recording, analysis and interpretation of data and facts regarding the student-respondents' answers on the research instrument. The actual survey had been administered to the student-respondents who belong to the cultural diverse group in a public school in Makati City during the school year 2015-2016.

RESEARCH LOCALE

The respondents of this study all came from a selected public high school in the Schools Division of Makati City under the supervision of the Schools Division Superintendent. The school is located in Negros Street, Barangay Pitogo where the researcher is also deployed as a secondary school teacher. Since the research locale is a public school, it caters to all kind of students because of the Department of Education's adherence to Education for All policy. Majority of its students come from the immediate catchment area of nearby places namely; Barangay Pitogo, Barangay South Cembo, Barangay Guadalupe Nuevo, Barangay Pinagkaisahan and Barangay Cembo. The residents of the communities have a mixture of ethnolinguistical families who migrated from the provinces since Makati City is well known for its high employment rate.

POPULATION AND SAMPLING TECHNIQUES

This study used purposive total enumeration method. This method is known for determining the target population and those to be involved in the study. It is an appropriate method since the respondents are students from

the culturally diverse group. They were chosen based on their cultural background.

Table 1
Population and Sampling of Respondents

Ethnicity	*Population*	*Sample*
Grade 7	*38*	*38*
Grade 8	*38*	*38*
Grade 9	*37*	*37*
Grade 10	*37*	*37*
Total	*150*	*150*

RESPONDENTS OF THE STUDY

The respondents were the one hundred fifty (150) learners from Grade Seven to Grade Ten who belong to the culturally diverse group of a public secondary school during the school year 2015-2016.

RESEARCH INSTRUMENTS

In the survey of data about cultural diversity and its effect on academic performance of students, the researcher made use of the following:

Survey Questionnaire – This is a teacher-made Questionnaire for the respondents. This survey consists of 30 items questions intended to measure the extent as to how the respondents are culturally diverse from the existing culture of the research locale. The content of the questionnaire focused on the learning problems met by the respondents on the aspect of cultural diversity in terms of language, ethnicity and religion following a 5 point Likert scale response. The researcher sought the help of the chairman and members of the thesis panel provided by the University of Makati for the validation of questionnaires before conducting a dry-run survey. The following categories of scale were used:

Table 2
Scale of Research Instrument

Scale	Range	Verbal Interpretation
5	4.51 – 5.00	Extremely Affected
4	3.51 – 4.50	Greatly Affected
3	2.51 – 3.50	Moderately Affected
2	1.51 – 2.50	Slightly Affected
1	1.00 – 1.50	Least Affected

Documentary Analysis – The researcher looked into the Student Report Card or F138 and Student Permanent Record or F137 as basis of academic performance. The average final ratings in the first and second grading period were used to determine the academic performance of subject students. It was acquired with permission from the **BEIS** (Basic Education Information System) office and class advisers of the respondents.

Interview - The researcher had interviewed five respondents in each group involving class advisers, students and parents in a focus group discussion manner to elicit statements that will be treated as data relevant to the study. The questions in the interview focused in identifying the experiences of the respondents in terms of ethnicity language and religion.

Table 3
Students' Academic Performance

Range	Verbal Interpretation
90 – 100	Outstanding
85 – 89	Very Satisfactory
80 – 84	Satisfactory
75 – 79	Fairly Satisfactory
74 below	Did not meet expectations

DATA GATHERING PROCEDURE

The researcher sought the permission of the Schools Division Superintendent and the Principal to conduct the study and obtain the necessary data and information needed to finish the study. The survey questionnaires were administered during off session schedule so that regular classes will not be disrupted and after the official time of the researcher.

DATA ANALYSIS

The survey data were electronically encoded in MS Excel and were transferred on the **SPSS** (Statistical Package for Social Science) software for statistical computations required in the study. The data processing was done through the use of SPSS version twenty and was analyzed utilizing frequency and percentage, mean, standard deviation and Pearson product moment correlation.

RESULTS AND DISCUSSION

As shown in table 4, majority of the student-respondents are Ilocano, which obtained the highest frequency of 33 or 22.0% out of 150 respondents. Other ethnicities, which show higher frequencies, are Bisaya with a frequency of 30 or 20.0% and Bicol with a frequency of 24 or 16.0%. Tausug and Zamboangueno are the least among the identified ethnicities of students with the same frequency of 1 or .7% out of the entire number of student-respondents.

Table 4- Student's profile in terms of Ethnicity

Ethnicity	Grade 7	Grade 8	Grade 9	Grade 10	Total Frequency	Percentage
Aklanon	0	0	1	3	4	2.7
Bicol	**8**	**5**	**5**	**6**	**24**	**16.0**
Bisaya	**5**	**9**	**9**	**7**	**30**	**20.0**
Boholanon	2	0	4	0	6	4.0
Capiznon	0	0	3	1	4	2.7
Cebuano	1	4	2	0	7	4.7
Ilocano	**9**	**7**	**6**	**11**	**33**	**22.0**
Kapampangan	3	5	3	1	12	8.0
Maguindanao	0	2	1	0	3	2.0
Maranao	0	0	0	1	2	1.3
Pangasinan	6	4	0	3	13	8.7
Tausug	0	1	0	0	1	.7
Waray	4	1	1	4	10	6.7
Zamboagueno	0	0	1	0	1	.7
Total	**38**	**38**	**36**	**37**	**150**	**100.0**

Table 5- Student's profile in terms of Language

Language	Grade 7	Grade 8	Grade 9	Grade 10	Total Frequency	Percentage
Aklanon	0	0	1	4	5	3.3
Butuanon	1	0	0	2	3	2.0
Bicolano	**8**	**5**	**5**	**6**	**24**	**16.0**
Capiznon	1	0	0	0	1	.7
Cebuano	**6**	**11**	**12**	**1**	**30**	**20.0**
Chabacano	0	2	1	0	3	2.0
Ilocano	**12**	**10**	**7**	**12**	**41**	**27.3**
Ilonggo	0	0	4	0	4	2.7
Kapampangan	3	5	3	1	12	8.0
Maranao	0	1	2	1	4	2.7
Pangasinense	3	2	0	3	8	5.3
Surigaonon	0	0	0	2	2	1.3
Sorsoganon	0	0	1	0	1	.7
Tausug	0	1	0	1	2	1.3
Waray	4	1	1	4	10	6.7
Total	**38**	**38**	**37**	**37**	**150**	**100.0**

Because of the ethnolinguistic division in the Philippines, linguistic scholars have agreed that language is a form of verbal communication used in wider land areas particularly the different major regional provinces in the country. Dialect on the other hand is any variety of a language characterized by differences in pronunciation, grammar, and vocabulary from other varieties of the same language because of distinct cultural and regional influences. One example is the Visayans who are an ethnic group native to the Visayan Islands and to the northern and eastern parts of Mindanao. They use one or more Visayan languages and the most widely spoken is Cebuano, distantly followed by Hiligaynon and Waray.

Other groups use different dialects within the rest of the Visayan islands such as Romblomanon, Kinaraya, Aklanon and Masbatenyo. The Visayas are the largest ethnolinguistic group in the country hence it has different sub-dialects.

Table 6- Student's profile in terms of Religion As shown

Religion	Grade 7	Grade 8	Grade 9	Grade 10	Total Frequency	Percentage
Aglipayan	1	2	4	0	7	4.7
Born Again	**9**	**2**	**6**	**14**	**31**	**20.7**
Roman Catholic	**12**	**23**	**18**	**14**	**67**	**44.7**
Iglesia ni Cristo	**10**	**5**	**4**	**4**	**23**	**15.3**
Protestant	0	1	0	0	1	.7
Church of God Int'l	1	1	1	2	5	3.3
Islam	0	3	3	2	8	5.3
Jehova's Witnesses	5	1	1	1	8	5.3
Total	**38**	**38**	**37**	**37**	**150**	**100.0**

in Table 6, the top three dominant religions that are evident with the student-respondents are Roman Catholic, Born Again and Iglesia ni Cristo. It also shows that the Roman Catholic Religion obtained highest frequency with 67 or 44.7% students out of 150.

Academic performance of the student-respondents based from their first and second grading period weighted average.

Table 7 - Academic Performance of Student-Respondents Based from their First and Second Grading Period Weighted Average

Academic Period	Grade 7	Grade 8	Grade 9	Grade 10	Total GWA	Interpretation
First Grading	81.44	79.70	81.38	81.27	**80.94**	**Satisfactory**
Second Grading	80.88	78.30	80.68	80.75	**80.15**	**Satisfactory**
Composite					**80.54**	**Satisfactory**

Scale: 100-90=Outstanding; 89-85=Very Satisfactory; 84-80=Satisfactory; 79-75=Fairly Satisfactory; 75 below=Did Not Meet Expectations

It could be gleaned in Table 7 that the general weighted average of student-respondents during the first and second grading periods of their studies yielded a composite value of 80.5480 with satisfactory performance across all subjects. Further analysis of the general weighted average (GWA) shows that there were no significant improvements on the present grading period compared to the previous grading period. There was also a decrement of -0.7929 indicative of no academic development since both grading period yielded satisfactory interpretation. These findings can be attributed to the effect of adjustment of culturally diverse learners in terms of their ethnicity, language and religion.

Villela (2011) pointed out in her article how ethnicity affects academic performance. She explained the role of acculturation and adjustment plays in affecting the academic performance of culturally diverse learners. Acculturation takes place when a dominant culture in a learning environment influences a minority group. The new students will gradually learn to adjust to their new environment and adapt to the dominant culture of the school. Different studies accomplished under the same theory have yielded result that it both causes positive and negative effect in student performance particularly on their academic achievement. The article also mentioned that diversity in terms of ethnicity in education can support academic growth and at the same time the undesired opposite effect. This result can also be supported by the article of Terry and Irving (2010) which stated that there is already an extensive indication suggesting that students from culturally and linguistically diverse backgrounds experience poorer educational outcomes than their peers who belong to the mainstream population. Whether examining achievement test scores, promotion rate, graduation rate, or other common indicators of school success such as the general weighted average in every end of a grading period, culturally diverse students, as a group, tend to perform worse than their counterpart. Familiarity and being able to adapt with the learning environment is also a key feature in explaining why there is a decrease in the academic performance of the culturally diverse learners. There is a struggle on the part of culturally diverse students to maintain good academic standards that may be different from what they were used to before transferring to their new surroundings.

Extent of effect of cultural diversity on the academic performance of the student-respondents.

Table 8- Composite Mean Score and Standard Deviation on the Extent of Cultural Diversity to Academic Performance of Students

Variable	Mean	Standard Deviation	Interpretation
1. Ethnicity	1.6220	1.01804	Slightly Affected
2. Language	1.4720	.92017	Least Affected
3. Religion	1.5140	.94513	Slightly Affected
Grand Mean	**1.5360**	**.96111**	**Slightly Affected**

Scale: 5.00-4.51=Extremely Affected; 4.50-3.51=Greatly Affected; 3.50-.51=Moderately Affected; 2.50-1.51=Slightly Affected; 1.50-1.00=Least Affected

As shown in Table 8, the extent of cultural diversity of students to their academic performance revealed that the respondents are least affected with their language as evident with the lowest composite mean score of 1.4720 with .92017 corresponding standard deviation. The respondents' perceptions are homogeneous which indicate that individual responses tend to vary closer from the mean score as revealed with the large value of standard deviation. Likewise, it is worthy to note that ethnicity (M=1.6220; SD=1.01804) and religion (M=1.5140; SD=.94513) had slightly affected the academic performance of respondents.

In overall, the factors of cultural diversity slightly affected the academic performance of students with the exception of the language factor which yielded a least affected interpretation. The grand mean score of all the cultural diversity factors is 1.5360 and .96111 corresponding standard deviation, which implies unity of perceptions among the respondents as evident with the small value of standard deviation.

Although there are extensive researches and related literatures that support the theory that cultural diversity during the course of time have significantly affected the education sector particularly the academic performances of the culturally diverse learners. The present study reflected the opposite outcome but this does not mean the study contradicts the theories. Chapa (2007) mentioned in her article that at the end of the twentieth century, cultural diversity will bring new wave of concerns about issues on the teaching and learning process. The modern learning environment was forever been changed because of the impact of cultural diversity. Educators today are now confronted with waves of culturally diverse learners and with this come the inevitable challenges of how diversity affects teaching instruction and student academic success. The article also cited an expressed concern regarding the current educational standard that if it will not include the aspect of cultural diversity in its curriculum and programs, many diverse learners will not able to obtain the quality education they suppose to have. This setback to education may result to social inequality and instability in the modern society and way of living. These students deserve educational equality, which is necessary for full participation in the economic and civic life of their country.

It can also be analysed that although the results of the self-made survey questionnaire showed slightly affected interpretation, this does not indicate that the present study is without significance. The questions in the survey which serves as indicators to measure the extent whether factors of cultural diversity namely: ethnicity, language and religion has an effect on the academic performance of the students may have not been sufficient in capturing the essence of cultural diversity.

It can also be explained that there are wide range of factors that considerably affect academic performance of students. The present study was delimited to utilize the general weighted average of the respondents during the first and second grading period and this basis for academic performance may have been affected by many factors like the Department of Education K12 curriculum grading system and teacher's subjective assessment which this study had failed to consider.

The concept of cultural diversity as a whole may still be insufficient in analyzing if it has a direct effect to academic performance. Other factors that can be connected to cultural diversity such as socio-economic status, teacher competency and curriculum effectiveness may help shed more explanations on the claim of the present research.

Relationship between the academic performance of the students and the factors of cultural diversity.

Table 9 Composite Mean Score and Standard Deviation on the Extent of Cultural Diversity to Academic Performance of Students

Variable	Academic Performance			
	r	sig	Decision Ho	Conclusion
1. Ethnicity	-.120	.145	Accept	Not Significant
2. Language	*-.168*	*.040*	*Reject*	*Significant*
3. Religion	-.134	.103	Accept	Not Significant
Composite	**-.141**	**.096**	**Accept**	**Not Significant**

Using Pearson r, it could be gleaned in Table 11 that among the three factors of cultural diversity only language yielded a significant correlation with an obtained r-value of -.168 and .040 corresponding significance value. The result is significant at 5% level of significance, which implies a rejection of null hypothesis. This means that among the three factors of cultural diversity, only the language factor has a significant relationship to the academic performance of the student-respondents.

Other factors of cultural diversity such as ethnicity (r=-.120; sig=.145) and religion (r=-.134; sig=.103) revealed no significant correlation to academic performance which denotes an acceptance of null hypothesis at 5% level of significance.

In overall, the strength of correlation seemed to be negligible with negative results which indicates relationship between two variables such that as the value of one variable increases, the other decreases or vice versa. Among the factors of cultural diversity that this study had tried to explore whether it has a significant relationship to the academic performance of the culturally diverse learners, only the variable of language produced significant positive correlation. Mustaq and Khan (2012) stated on their published article that the most significant factor with constructive consequence on students' performance is students' competence in communication and the use of English language. If the students have strong proficiency in

their communication skills both oral and written and have good command of the English language, it increases the performance of the students. This reinforces the present study's reference to Vygotsky's Sociocultural Theory that the performance of the student is affected by communication skills since language is one aspect that creates different cultures that many people adheres to. It is also possible to rationalize communication, as a result brought about by the factor of language in cultural diversity had become a variable, which may be positively related to performance of the student in learning.

Problems encountered by the students, parents and teachers of culturally diverse students.

In terms of ethnicity

All the respondents had expressed similar problems relating to belongingness and the need to socially bond with others similar to them. As stated by the third level of Maslow's Theory on Hierarchy of Needs, human beings need to create interpersonal connections to other people involving the feelings of belongingness. This need is especially strong in childhood where absorbing of one's culture is at its peak. There were also concerns regarding being ridiculed inside the classroom associated with bullying on a broader sense of school problems. The problem of social isolation also emerged as one concern being the consequence of not achieving the level of belongingness and as a result of being bullied inside the school.

In terms of language

The respondents shared their problems about the language barrier that leads to decrease in comprehension of many lessons. As learning is viewed as a two-way process, the language barrier prevents the culturally diverse students reach effective communication. They find it hard to understand lessons and find importance out of the lessons being taught by their teachers. They also find difficulty in answering questions if there are examinations because there is limited comprehension on their part. Bullying was also mentioned as one concern that the respondents think directly affects academic performance and because of this, students end up having low self-esteem that diminishes their positive outlook in studying and learning. They find it difficult to express their ideas, construct coherent sentences and engage in active classroom discussions.

In terms of religion

Majority of the respondents gave a common answer that religion has no direct relation and it does not affect the academic performance of students since most of them are a part of the mainstream religion that is commonly being practiced and observed in the community.

Problems associated with cultural diversity still remains a challenge for culturally diverse students and their classroom teachers. DepEd's principle of No Child Left Behind has left many teachers and educational administrators feeling anxious and overwhelmed with the pressure of school accountability. The added complexity of diversity in today's schools can make the pressure of delivering an excellent education to students feel overwhelming and arduous for teachers and parents.

SUMMARY OF FINDINGS

Enumerated hereunder is the summary of findings based on the statement of the problem presented on the first chapter, to wit:

1. Most of the student-respondents of the study were dominated by ethnic groups coming from Northern Luzon which are Ilocanos followed by ethnic groups from Central Visayas which are Bisayas and Southern Luzon which are Bicolanos. Tausug and Zamboangueno are the least among the identified ethnicities of students with the lowest and same frequency of 1 or .7% out of the entire number of student-respondents. The profile of the student-respondents in terms of language parallels that of the result of the ethnic profile in which Ilocano, Bisaya and Bicolano are the top 3 language. On the other hand, majority of the religion profile of the study were Roman Catholics, Born Again Christians and Iglesia ni Cristo.

2. Both the academic performance of the culturally diverse student-respondents was obtained from their general weighted average during the first and second grading period of the school year 2015-2016. Both GWA from the two grading periods got a satisfactory interpretation and even got a decreasing value.

3. On the extent the factors of cultural diversity namely ethnicity, language and religion has an effect on the academic performance of the student-respondents, the survey questionnaire utilized to measure this revealed that both variables ethnicity and religion got an interpretation of slightly affected while the variable language got an interpretation of least affected.

4. On the relationship between factors of cultural diversity and academic performance, statistics using Pearson r correlation had revealed that cultural factors of ethnicity and religion bears no significant relationship and this indicate acceptance of the null hypothesis. Only the language factor got a conclusion of significant relationship which means rejection of the null hypothesis

The problems that were encountered by the group of respondents (students, parents and teachers) in relation to the factors of culturaldiversity which are ethnicity, language and religion are solicited by engaging them in focus group discussion. Below are the summary of their statements.

1. In terms of ethnicity, all the respondents had expressed similar problems relating to belongingness and the need to socially bond with others similar to them. There were also concerns regarding being ridiculed inside the classroom and becoming socially isolated to other students.
2. In terms of language, the respondents had shared their problems about the language barrier that leads to miscomprehensions of many lessons. They find it hard to understand lessons and answer questions if they have examinations. Bullying also emerged as one concern that they think directly affects academic performance and the students end up having low self-esteem because they find it difficult to express their ideas, construct coherent sentences and engage in active classroom discussions.
3. In terms of religion, majority of the respondents gave a common answer that religion does not have any effect on academic

performance since most of them are part of the mainstream religion of the community.

In terms of ethnicity

All the respondents had expressed similar problems relating to belongingness and the need to socially bond with others similar to them. As stated by the third level of Maslow's Theory on Hierarchy of Needs, human beings need to create interpersonal connections to other people involving the feelings of belongingness. This need is especially strong in childhood where absorbing of one's culture is at its peak. There were also concerns regarding being ridiculed inside the classroom associated with bullying on a broader sense of school problems. The problem of social isolation also emerged as one concern being the consequence of not achieving the level of belongingness and as a result of being bullied inside the school.

In terms of language

The respondents shared their problems about the language barrier that leads to decrease in comprehension of many lessons. As learning is viewed as a two-way process, the language barrier prevents the culturally diverse students reach effective communication. They find it hard to understand lessons and find importance out of the lessons being taught by their teachers. They also find difficulty in answering questions if there are examinations because there is limited comprehension on their part. Bullying was also mentioned as one concern that the respondents think directly affects academic performance and because of this, students end up having low self-esteem that diminishes their positive outlook in studying and learning. They find it difficult to express their ideas, construct coherent sentences and engage in active classroom discussions.

In terms of religion

Majority of the respondents gave a common answer that religion has no direct relation and it does not affect the academic performance of students since most of them are a part of the mainstream religion that is commonly being practiced and observed in the community.

Problems associated with cultural diversity still remains a challenge for culturally diverse students and their classroom teachers. DepEd's principle of No Child Left Behind has left many teachers and educational administrators feeling anxious and overwhelmed with the pressure of school accountability. The added complexity of diversity in today's schools can make the pressure of delivering an excellent education to students feel overwhelming and arduous for teachers and parents.

SUMMARY OF FINDINGS

Enumerated hereunder is the summary of findings based on the statement of the problem presented on the first chapter, to wit:

1. Most of the student-respondents of the study were dominated by ethnic groups coming from Northern Luzon which are Ilocanos followed by ethnic groups from Central Visayas which are Bisayas and Southern Luzon which are Bicolanos. Tausug and Zamboangueno are the least among the identified ethnicities of students with the lowest and same frequency of 1 or .7% out of the entire number of student-respondents. The profile of the student-respondents in terms of language parallels that of the result of the ethnic profile in which Ilocano, Bisaya and Bicolano are the top 3 language. On the other hand, majority of the religion profile of the study were Roman Catholics, Born Again Christians and Iglesia ni Cristo.

2. Both the academic performance of the culturally diverse student-respondents was obtained from their general weighted average during the first and second grading period of the school year 2015-2016. Both GWA from the two grading periods got a satisfactory interpretation and even got a decreasing value.

3. On the extent the factors of cultural diversity namely ethnicity, language and religion has an effect on the academic performance of the student-respondents, the survey questionnaire utilized to measure this revealed that both variables ethnicity and religion got an interpretation of slightly affected while the variable language got an interpretation of least affected.

4. On the relationship between factors of cultural diversity and academic performance, statistics using Pearson r correlation had revealed that cultural factors of ethnicity and religion bears no significant relationship and this indicate acceptance of the null hypothesis. Only the language factor got a conclusion of significant relationship which means rejection of the null hypothesis

The problems that were encountered by the group of respondents (students, parents and teachers) in relation to the factors of cultural

diversity which are ethnicity, language and religion are solicited by engaging them in focus group discussion. Below are the summary of their statements.

1. In terms of ethnicity, all the respondents had expressed similar problems relating to belongingness and the need to socially bond with others similar to them. There were also concerns regarding being ridiculed inside the classroom and becoming socially isolated to other students.

2. In terms of language, the respondents had shared their problems about the language barrier that leads to miscomprehensions of many lessons. They find it hard to understand lessons and answer questions if they have examinations. Bullying also emerged as one concern that they think directly affects academic performance and the students end up having low self-esteem because they find it difficult to express their ideas, construct coherent sentences and engage in active classroom discussions.

3. In terms of religion, majority of the respondents gave a common answer that religion does not have any effect on academic performance since most of them are part of the mainstream religion of the community.

REFERENCES

American Psychological Association. (2003). Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. *American Psychologist, 58(5)*, 377–401.

Baker, P. B. (2005). The impact of cultural biases on African American students' education: A review of research literature regarding race-based schooling. *Education and Urban Society, 37(3)*, 243–256.

Bowman, N. A., Small, J. L. (2012). Religious Affiliation and College Student Development: A Literature Review and Synthesis, Religion & Education, 39:1, 64-75, DOI:10.1080/15507394.2012.648586

Boykin, A. W., Tyler, K. M., & Miller, O. A. (2005). In search of cultural themes and their expressions in the dynamics of classroom life. *Urban Education, 40(5)*, 521–549.

Boykin, A. W., Tyler, K. M., Watkins-Lewis, K. M., & Kizzie, K. (2006). Culture in the sanctioned classroom practices of elementary school teachers serving low-income African American students. Journal of Education of Students Placed At-Risk, 11(2), 161–173.

Burton, L. A., (2013). Mother Tongue-Based Multilingual Education in the Philippines: Studying Top-Down Policy Implementation from the Bottom Up. University of Minnesota. Retrieved from http://conservancy.umn.edu/bitstream/handle/11299/152603/burton_umn_0130e_13632.pdf?sequence=1

Castro-Salazar, R., & Bagley, C. (2010). 'ni de qaui ni from there'. navigating between contexts: Counter-narratives of undocumented mexican students in the united states. Race Ethnicity and Education, 13(1)

Chapa, O. E. (2007) Cultural Diversity Education: A Positive Focus for the Future. Diversity Education Article pp.1-6. Retrieved from http://www.ncdemocracy.org/sites/www.ncdemocracy.org/files/docs/NDEP-CorpusChristi-Article.pdf

Chavous, T. (2011). Ethnic Identity and Academic Achievement:education.com Article. Retrieved from http://www.education.com/reference/article/ethnic-identity-and -academic-achievement/

Elsworth, S. (2015). Do Language Barriers Affect Student Performance in School?. GlobalPost - International News. Retrieved from http://everydaylife.globalpost.com/language-barriers-affect-student-performance-school-5911.html

Eng, S., Kanitkar, K., Cleveland, H. H., Herbert, R., Fischer, J., & Wiersma, J. D. (2008). School achievement differences among chinese and filipino american students: Acculturation and the family. Educational Psychology, 28 (5), 536-550.

Erasga, D (2012), Theories, Realities and Trends, ISBN: 978-953-51-0460-5 Retrieved from http://www.intechopen.com/books/sociological-landscape-theories-realities-andtrends/religious-participation-and-educational-attainment-an-empirical-investigation

Honna. N (2005), English as a Multicultural Language in Asia and Intercultural Literacy. Intercultural Communication Studies XIV: 2 2005. Aoyama Gakuin University

Inglis, C (2009), Multiculturalism: New Policy Responses to Diversity. Retrieved from http://www.unesco.org/most/pp4.htm

Konan et al (2010). Cultural Diversity in the Classroom and its Effect on Academic Performance. Social Psychology pp. 230-237. Hogrefe Publishing.

Mandeville, P., James. P. (2010) Globalization and Culture. Volume 2: Globalizing Religion. SAGE Publication Ltd. ISBN978-1-4129-1953-1

Mushtaq, I., Khan, SN. (2012) Factors Affecting Students' Academic Performance. Global Journal of Management and Business Research. Vol. 12 Issue 9. Global Journals Inc. Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Otto, B. A. (2013). Language Development in Early Childhood. Pearson Allyn Bacon Prentice Hall

Parvis 2005. The Definition of Cultural Diversity and the Impact It Has in the Classroom. *StudyMode.com*. Retrieved 07, http://www.studymode .com/essays/The-Definition-Of-Cultural-Diversity-And-742001.html

Petriwskyj, E. (2010). Transition to School of Diverse Learners. Queensland University of Technology. Retrieved from http://eprints.qut.edu.au/ 34410/1/Elizabeth_Petriwskyj_Thesis.pdf

Pinnock, H. (2009). Language and education: the missing link. How the language used in schools threatens the achievement of Education For All. CfBT and Save the Children Alliance Article. Retrieved from http://www.cfbt.com/evidenceforeducation&http://www.savethechildren.org.uk

Rosado, C. (n.d.). Department of Urban Studies, Eastern University, Philadelphia, PA. Retrieved from http://www.edchange.org/multi-cultural/papers/caleb/multicultural.html

Stevens, R., Tyler K., Uqdah, A. (2009). Prevalence of Cultural Bias in Education. Retrieved from http://www.education.com/ reference/article/cultural-bias-in-teaching/#A

Stillman, J. B. (2013). Warm demander pedagogy: Culturally responsive teaching that supports a culture of achievement for African American students. *Urban Education, 41(4)*, 427–456.

Terry, P., Irving, MA. (2010) Cultural and Linguistic Diversity: Issues on Education. Retrieved from https://www.kendallhunt.com/uploaded Kendall_Hunt/Content/Higher_Education/ Uploads/Colarusso_CH04_

Villela, A. (2011) The Relationship of Ethnicity and Academic Achievement. Child Development Research Paper.

Retrieved from http://www.ccsj.edu/news/ ncate/Standard4/4exhibits/diversityreflec.pdf

Ware, F. (2006). Education Article Winter Vol.13 No.1. *Urban Education, 41(4)*, 427–456.

Yudhoyono, S. B. (2011, Nov. 2). Opening Keynote Speech, Special Plenary of the 36th Session of the General Conference, 10th Anniversary of UNESCO Universal Declaration on Cultural Diversity. Paris, France

Zhang, S. (2012). Religious Participation and Educational Attainment: An Empirical Investigation, Sociological Landscape. Retrieved from http://cdn.intechopen.com/ pdfs-wm/34152.pdf

Internet Sources

http://www.greatschools.org/find-a-school/defining-your-ideal/284-cultural-diversity-at-school.gs (1)

http://educationnext.org/the-elephant-in-the-classroom/

http://www.education.com/reference/article/culture-language/

http://www.academia.edu/7524939/ Time_Language_Culture_and_Attitude_Barriers_to_Students_Academic_Achievement

http://portal.unesco.org/education/en/ev.php-URL_ID=26925&URL_DO=DO_TOPIC&URL_SECTION=201.html

http://www.deped.gov.ph/natresults/2012

http://ncipro67.com.ph/indigenous-peoples-of-the-philippines/

http://www.ericdigests.org/pre-9218/secondary.htm

http://edglossary.org/multicultural-education/

https://en.wikipedia.org/wiki/ Ethnic_groups_in_the_Philippines

http://www.advocatesforyouth.org/publications/ publications-a-z/715-creating-culturally-competent-programs

http://www.marquette.edu/dsa/diversitycommittee/ diversityadvocates/become-advocate.shtml

https://psa.gov.ph/content/domestic-and-international-migrants-philippines-results-2010-census

Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less.

Marie Curie

THE IMPACT OF BUDDY SYSTEM APPROACH ON THE ACADEMIC PERFORMANCE IN SCIENCE OF SELECTED GRADE 10 STUDENTS OF PASAY CITY SOUTH HIGH SCHOOL

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ABSTRACT

Assessment of the Buddy System approach as a tool to increase the achievement of learners is deemed important for formal analysis. This prompted the researcher to conduct this study to find out the impact of the Buddy System on the achievement in Science among selected grade 10 students of Pasay City South High School.

A total of 36 students from grade 10 Agate were the participants in this study. They were grouped into three based on their pretest scores. These were the experimental, the mentor and the control groups. The experimental group was paired with the mentor group to act as buddies while the control group was not assigned any buddy.

A pretest and posttest were given to all the participants but only the pretest and posttest results of the experimental and the control groups were analyzed using the two-tailed t-test.

Based on the statistical results of this study, it showed that there was a significant gain in the pretest-posttest mean scores of both the control group (without buddies) and the experimental group (with buddies), however, it was noted that the experimental group achieved a significantly greater gain in the pretest-posttest mean scores than the control group which means that there is an increase in the academic performance of the learners resulting from the Buddy System Approach.

INTRODUCTION

A great teacher should love educating his students. One of the main goals many teachers set for themselves is to be the best mentor they can be. The researcher believes that the test results of her students are one of the barometers in assessing herself if she has been effective in teaching her students well.

In a classroom set-up, a teacher faces different and contrasting kinds of learners - some students learn fast while others are slow; some learners are enthusiastic to learn while others are not; others are active while others are passive, these among many other differences are observed among learners in a classroom particularly in a public school like Pasay City South High School. These differences among learners somehow affect the teaching-learning process which is a great challenge for the teacher to find ways and means as to how she can reach out to every learner in her class. In doing so, the researcher believes that students can perform better academically which can be manifested in the achievement and summative test results of the students. The researcher then considered the buddy system approach to bridge the gap between the identified differences among her students in her class so to improve their achievement in class. This action research is therefore conducted to have a formal assessment on the impact of Buddy System approach as a tool in improving learners' achievement.

Webster defines the buddy system as an arrangement in which two individuals are paired (as for mutual safety in a hazardous situation). The buddy system is basically working together in pairs in large group or alone. Both the individuals have to do the job. The job could be to ensure that the work is finished safely or the skill/learning is transferred effectively from one individual to the other.

As mentioned in The Cochlear Implant School Toolkit by KDH Research and Communication, a buddy system can be established by pairing students in the class and ask them to support one another with specific tasks or skills. It further mentioned that the benefits for children in buddy system includes greater social integration, development of leadership skills, better classroom management, and improved academic outcomes.

As Merriam-Webster mentioned, the buddy system goes far back as 1942. Since then, the use of the buddy system approach were conducted in different areas as in the Armed Forces ("Buddy System in Swimming, Boating, Rappelling and other activities, 2011"), medicine (Zuyderduin, et. al. 2002), education (Abdullah, et.al. 2006), religious

organizations (LDS Missionary Handbook), Psychology (Fo, W.S. & O'Donnell, C.R. (1975), other organizations such as in marketing, and in other fields. The use of buddy system approach in these different areas produced positive results. Apparently, the use of buddy system approach is currently being adapted in many areas.

According to the journal of Child Health and Wellbeing of Victoria State Government, the students learn and share from their peers and learn collaboratively. The students actively participate with each other and enjoy the informal setting and feel comfortable discussing with peers rather than a teacher. The opportunity for active participation, clearing doubts and discussions help students to increase self-confidence for all involved in the system and in the process helps build trust and co-operation within individuals. It benefits the buddies, buddy learner, school and the parents as well.

Based on the result of the research of Johanna R. Zuyderduin, et. al. entitled "The Impact of a Buddy System on the Self-care Behaviors of Women Living with HIV/AIDS in Botswana, 2002", the hypothesis that the implementation of a buddy system improved patients' self-care behaviors of disclosing their HIV+ve status, adhering to TB treatment/prophylaxis, having regular CD4 counts done and adhering to ART was accepted at the.10 significance level. It continued that the buddy system translated theory into practice because of its positive results.

Similarly, in their paper, "The Effectiveness of Buddy Support System Implementation Among science Teachers: The Case of Malaysia", Dr. Abdul Ghani Kamsan Abdullah, et. al. 2006 proves that peer support training through the implementation of Buddy Support Program should be carried out continuously with emphasis given the management aspects in the process towards upgrading to develop the effectiveness of Buddy System programs in school.

It is in this premise that the researcher employed the buddy system approach in her research to find out if there is a significant impact on the academic performance in Science of selected grade 10 students of Pasay City South High School.

Research Questions

This study entitled "The Impact of the Buddy System on the Academic Performance in Science of Selected Grade 10 Students of Pasay City South High School" is aimed to determine the impact of the buddy system on the academic performance in Science of selected grade 10 students of Pasay City South High School.

Specifically, it aimed to answer the following questions:

1. What is the pretest-posttest mean scores of the experimental and control groups after the application of the Buddy System approach?

2. How significant is the application of the Buddy System approach in improving the academic achievement in Science as evident in the pretest-posttest mean scores?

Scope and Limitation

This action research was only conducted for the period covering the first module (Gases) of the Dep-Ed Grade 10 Learners' manual which is for 13 meetings due to time constraint. In addition, this action research was conducted to only one the classes handled by the teacher researcher which is Grade 10 Agate in Pasay City South High School.

It was only the Pretest-posttest results of the control and experimental groups and the posttest-posttest results of the control and experimental groups that was used to assess the impact of the Buddy System Approach on the performance level in Science 10 of selected grade 10 students of Pasay City South High School.

The two-tailed t-test for dependent sample was used to determine the significant gain between the pretest and posttest mean scores of the control and experimental groups. On the other hand, the two-tailed t-test for independent sample was used to determine the significant difference in the posttest-posttest mean scores of the two groups.

The researcher believes that the results of the study would have been different if the study was conducted for a longer period of time. Due to limited time that is, having only a 40-minute contact period with the students for only four times a week, the teacher-researcher found it difficult to meet the participants regularly for assessment and evaluation of the program. Also, another factor that was beyond the control of some of the buddies that may have affected the results of the study was the frequent absences of their respective partners.

Methodology

Sampling

In this study, there were 36 students from Grade 10 Agate who participated. G10 Agate is a heterogeneous class. It is composed of students from different sections in the previous year level through random sectioning. (source: G10 level coordinator). G10 Agate is currently one of the classes being handled by the researcher during this last quarter of

schoolyear 2015-2016. The participants in this study were given the 30-item pre-assessment and summative test provided in the Dep-Ed Science 10 Learner's Manual which was the basis of the researcher in grouping and matching them. Only the first module (Gases) written in the Dep-Ed Science 10 Learner's Manual was included in this study due to time constraint.

Data Collection

The researcher ranked the pretest and summative test scores of the participants from highest to lowest then she divided the participants into three groups based on the scores. The participants were grouped as the experimental, control and the mentor. The experimental group was composed of the 33% of the participants (n=12) who scored the lowest. They were identified by the researcher as the students that need more help and so they were paired with the mentor group which was composed of the 33% of the participants (n=12) who scored the highest. The mentor group, having relatively the highest scores, were identified by the researcher as the more independent learners thus were assigned the buddies of the experimental group. The remaining 33 % of the participants (n=12) who ranked in between the 33% lowest group and 33 % highest group comprised the control group and were not assigned any buddy.

Ethical Issues

Prior to the conduct of this action research, the teacher-researcher issued a letter of consent to the parents of the participants who participated in this action research. They were assured of the confidentiality and anonymity of the results of the action research in which their children will be participating.

The teacher-researcher did not identify the names of those students who got the lowest scores to avoid the feeling of inferiority among them, however, she emphasized that those students who understand the lesson better in the course of the study on gases must exert effort in teaching his/her partner.

Plan of Action

Before the start of the research, the teacher-researcher asked the class how they would feel if they were to be assigned a study-buddy whom they can work with in regards to their lessons in Science. The class generally responded positively. Many of the students showed signs of eagerness to work or study with somebody else. The researcher then introduced the buddy system to the class. She told the class that the Buddy System approach has been applied in different fields and has been consistently giving positive results. She further explained to them that she wants to apply this also to her class to see if the buddy system will give the same positive result. Thus, she explained that the buddy system is designed to improve their academic performance in class especially the academically low performing students. To motivate the participants to participate actively in the program, the researcher further explained that in the buddy system approach, the buddies are given the opportunity to conduct mentoring between partners in an informal venue through an ordinary way. The mentor's role is to make a follow-up on the lessons taken up in class and to collaborate with his partner in making assignments, however, both buddies were advised to help one another in any way so as to make the buddy relationship reciprocal (The Cochlear Implant School Toolkit) . In addition, they were encouraged by the teacher-researcher to be good buddies by working together in a friendly manner. The frequency and timing of meetings depended on the buddies' agreement but must be done regularly.

In order for both the researcher and the buddies to monitor and sustain the Buddy System program, the buddies were required to make a journal every time they conducted a meeting no matter how long or short the meeting was. The researcher provided a brief journal sheet for the participants to accomplish whenever the buddies meet. In doing so, the buddies found the journal writing task easier and did not also prevent them from conducting regular meetings because writing a journal may mean an additional burden to them.

Plan for Data Analysis

It was the Pretest-posttest results of the control and experimental groups and the posttest-posttest results of the control and experimental groups that determined whether the buddy system has an impact on the performance level in Science 10 of selected grade 10 students of Pasay City South High School.

The two-tailed t-test for dependent sample was used to determine the significant gain between the pretest and posttest mean scores of the control and experimental groups. On the other hand, the two-tailed t-test for independent sample was used to determine the significant difference in the posttest-posttest mean scores of the two groups.

This action research used the QUASI EXPERIMENTAL DESIGN.

The Pretest-Posttest Control Group Design

R	01	X	02
R	03		04

Where R = Random Assignment
02 = Experimental Posttest
01= Experimental Pretest
04= Control Posttest
03= Control Pretest
X= Treatment

This design involved two groups, both of which were formed by random assignment. Both groups were pretested and post tested but only one group was given treatment.

The pretest and posttest on Gases provided in the Grade 10 Science K to 12 Learners' Manual were used, hence, there was no need to validate the test questions because the questions were assumed to have been written by experts.

Work Plan

The teacher-researcher started her plan on this research in the month of January 2016, the time for the shifting of science teachers in the different learning areas. The chemistry teachers will this time handle the Grade 10 level since Chemistry is scheduled in the fourth quarter of grade 10 level as stated in the Dep-ED K-12 learner's curriculum guide.

Results and Discussions

The following are the findings of the study:

1. The experimental group has a mean gain of 11.92 while the control group has a mean gain of 5.08. The mean difference of both groups in the pretest and posttest is 6.84. This proves to show that the experimental group gained significantly in their posttest mean than the control group

2. The experimental group's pretest mean score was 7.833 while the posttest's mean score was 19.75. The mean difference of the two tests implies that there is significant gains in the pretest-posttest mean scores of the experimental group after employing the buddy system approach.

3. The computed t-value of 6.339 indicates that there is significant differences between the posttest mean scores of the experimental and the control groups.

The two-tailed t-test for dependent sample was used to test the significant gain between the pretest and posttest mean scores of the control group. This was done to determine the mean achievement of the control group before and after the implementation of the buddy system program.

Based on Table 1, the control group has a mean score of 11.25 during the pretest and a mean score of 16.33 during the post-test. At 0.05 level of significance and 28 degrees of freedom, the computed t-value of 3.60 is higher than the tabular t-value of 2.085 which indicates that there was a significant gain in the pretest-post-test mean scores of the control group with no assigned buddies.

The two-tailed t-test for dependent sample was again utilized to test if there was a significant gain between the pretest and posttest mean scores of the experimental group. This was done to determine the mean achievement of the experimental group before and after employing the Buddy System approach

As shown in Table 2, the experimental group's pretest mean score was 7.83 while the post-test mean score was 19.75 resulting to a mean difference of 11.92. The computed t-value of 6.339 exceeded the tabular t-value of 2.085 at 0.05 level of significance and 28 degrees of freedom. This implies that there was a significant gain in the pretest-posttest mean scores of the experimental group after participating in the buddy system program.

This result validates with what was stated in The Cochlear Implant School Toolkit by KDH Research and communication regarding the benefits for children in buddy systems which include: greater

Table 1 Test of Difference between the Pretest-Posttest Mean Scores of the control group

	Mean	Standard Deviation	Computed t-value	Tabular t-value	Decision	Interpretation
Pretest	11.25	0.217	3.60	2.085	Reject Ho	Significant
Posttest	16.33	5.134				

Table 2 Test of Difference between the Pretest-Posttest Mean Scores of the Experimental Group

	Mean	Standard Deviation	Computed t-value	Tabular t-value	Decision	Interpretation
Pretest	7.83	1.858	6.339	2.086	Reject Ho	Significant
Posttest	19.75	6.096				

Table 3 Test of Difference between the Posttest-Posttest Mean Scores of the Control Group and Experimental Group

		Mean	SD	Computed t-value	Tabular t-value	Decision	Interpretation
Control Group	Posttest	16.333	5.134	6.339	2.085	Reject Ho	Significant
Expt'l Group	Posttest	19.75	6.096				

Table 4 Pretest and Posttest Mean Scores of the Experimental Group and Control Group

	Experimental Group Mean	Control Group Mean	Mean Difference
Pretest Mean	7.83	11.25	3.42
Posttest Mean	19.75	16.33	3.42
Mean Gain	11.92	5.08	6.84

social integration, development of leadership skills, better classroom management, and ***improved academic outcomes***..

Table 3 shows the comparison of the post-test mean scores of both groups- the control and experimental groups.

As shown in table 3, the computed t-value of 6.339 indicates that there was significant differences between the posttest mean scores of the experimental and the control groups. Furthermore, it must be noted that the experimental group achieved a significantly greater gain in the pretest- posttest mean scores than did the control group.

The experimental group who participated in the buddy system program performed modestly better than the control group who, on the other hand did not have any buddy. The positive and favorable result of this study also conforms with the findings of Zuyderduin , Johanna R., et.al. in their research on "The Impact of a Buddy System on the Self-Care Behaviors of Women Living with HIVAIDS in Botswana", which concluded that the buddy system have assisted and empowered the patients to achieve higher levels of self-care behaviors than the controls.

An analysis of the data in table 4 revealed that the experimental group has a mean gain of 11.92 as compared to the mean gain of the control group which is 5.08. The mean difference of both groups in the pretest and posttest is 6.84. This proves to show that the experimental group gained significantly in their posttest mean than the control group.

According to the journal of Child Health and Wellbeing of Victoria State Government, the students learn and share from their peers and learn collaboratively. The students actively participate with each other and enjoy the informal setting and feel comfortable discussing with peers rather than a teacher. The opportunity for active participation, clearing doubts and discussions help students to increase self-confidence for all involved in the system and in the process helps build trust and co-operation within individuals. It benefits the buddies, buddy learner, school and the parents as well. These must be the reasons why the experimental group gained significantly in their posttest mean scores than the control group.

Based from the results of this study, the researcher has proven that the Buddy System Approach has a great impact on the academic performance in Science of selected grade 10 students.

Conclusion and Recommendation

Conclusion

Based on the statistical results, there is a significant gain in the pretest-posttest mean scores of the experimental group as well as with the control group, however, it is evident in the results that after the application of the Buddy System Approach, the experimental group achieved a significantly greater gain in the pretest-posttest scores than the control group. The use of the Buddy System Approach must have increased the confidence of the learners and gave them opportunity to discuss further the lessons taken up in class with their study buddy in an informal way resulting to a higher achievement level as evident on the results of this study.

It is therefore concluded by the teacher-researcher that the use of the Buddy System Approach can be an effective tool in increasing the academic achievement of selected grade 10 students of Pasay City South High School.

Recommendation

Based on the result of this action research, the following are recommended in the next implementation of the buddy system:

1. Other methods of selecting buddies besides the pretest results may be used such as: economic status, gender, and residence.
2. Buddy System must be over a longer period of time like over a semester or one schoolyear.
3. Switching or changing of a partner can be tried especially if the teacher observes that buddies do not work well together.
4. The Buddy System Approach can also be tested in improving the performance of teachers particularly between new teachers and experienced teachers. This can be included in the Dep-Ed program of activities at the start of the schoolyear.
4. The school administration may require all teachers to apply the Buddy System Approach in their classes to find out the result in a bigger scale.

5. It is recommended to the Education Program Supervisors to initiate the conduct of research on the Impact of Buddy System to Junior High School Students as there is an observed growing problem on their behavior and attitude.

References

Abdul Ghani Kanesan Abdullah,et.al.The Effectiveness of Buddy Support System Implementation among Science Teachers: The Case of Malaysia 2006

Cooper, John Implementing A Buddy System In The Workplace October 2014

Fo, W.S., & O'Donnell, C.R. (1975). The Buddy System: Effects of Community Intervention on Delinquent Offenses. Behavior Therapy, Vol. 6, Issue 4, pp. 522-524, July 1975

Johanna R Zuyderduin, et. al. The Impact of a Buddy System On the Self-care Behaviours of Women Living with HIV/AIDS in Botswana 2002

KDH Research & Communication. The Cochlear Implant School Toolkit

Merriam- Webster 1828

Victoria State Government Child Health and Well Being "Buddy System" September 28, 2013

I believe in innovation and that the way you get innovation is you fund research and you learn the basic facts.

Bill Gates

THE USE OF ADAPTED FRAYER MODEL IN DEVELOPING VOCABULARY KNOWLEDGE OF GRADE 10 STUDENTS

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ABSTRACT

This research aims to determine the use of adapted Frayer Model in developing selected grade 10 students' vocabulary knowledge on 'giving presentations'. It also seeks to assess the learning experience of learners after being given explicit vocabulary instruction using Frayer Model.

Forty grade 10 learners were given 20 minute Frayer Model intervention for a span of three weeks. To validate the result of the study, data triangulation techniques were employed which involved the use of a teacher-made vocabulary pretest and posttest, focus group discussion following Krueger's guidelines, and analysis of accomplished worksheets using the developed rubric.

After the two-cycled action research, findings reveal that majority of learners gained increase in vocabulary test scores. FGD results show that students find the Frayer Model helpful in deeply understanding the words. Learners also cite the value of step-by-step process of teaching vocabulary. Analysis of accomplished worksheets using the developed rubric manifest that students become proficient in learning the target words.

INTRODUCTION

The need to improve the different facets of reading instruction in the high school context is an imperative to all English language arts teachers in the public education system. In the researchers' school, data from the McCall Crabb's Reading Comprehension Tests (pretest) of current grade 10 students show that majority of students read below their grade level. They are described as striving adolescent readers with majority (36% or 250 students) of them having grade 6 reading level.

Through Learning Action Cells conducted by the department, the teachers were able to identify the root causes of the students' reading ability problem. One of this is the learners' limited word knowledge and poor retention of vocabulary. With this the researchers decided to embark on an action research that would look into the need to use and develop more effective instructional strategies that promote retention and deep learning of essential vocabulary.

One learning intervention strategy that can assist students in vocabulary learning is the use of Frayer Model. Students are asked to provide a definition of the word, facts or characteristics of the word like examples and non-examples. This graphic organizer will lead students to a deeper understanding of a word and its relationship to their lives (Sullivan, 2014).

The use of Frayer Model can be even more made effective if incorporated with explicit vocabulary instruction. Nation (2001) highlighted the steps in effective explicit vocabulary teaching which include preparation, introduction of strategy, modelling, demonstrating, guided practice, independent practice and wrap-up. The effectiveness of Frayer Model in enhancing word knowledge in different content areas like Science, Mathematics, Social Studies and Language Arts can be attested by previous studies (Sullivan, 2014; Nahampun, 2014; Seirer, 2011; Adlit, *n.d.).*

Methodology

The participants of this study were Grade 10 students with approaching proficiency level in English. They were subjected to 20 minutes per day, three-week explicit vocabulary instruction lesson using adapted Frayer Model. The researchers decided to modify the original Frayer Model in order to make it fit with the demand of the vocabulary lesson. Adapting Frayer Model based on the requirements of the learning area has been done by previous researchers (Sullivan, 2014; Nahampun, 2014). The vocabulary needed to be learned by the students were focused on lexicons about 'giving presentations' since the performance standard of Grade 10 students for the third quarter based on K to 12 curriculum guide is speech presentations.

This study adopted a classroom action research design based on the framework of Mc

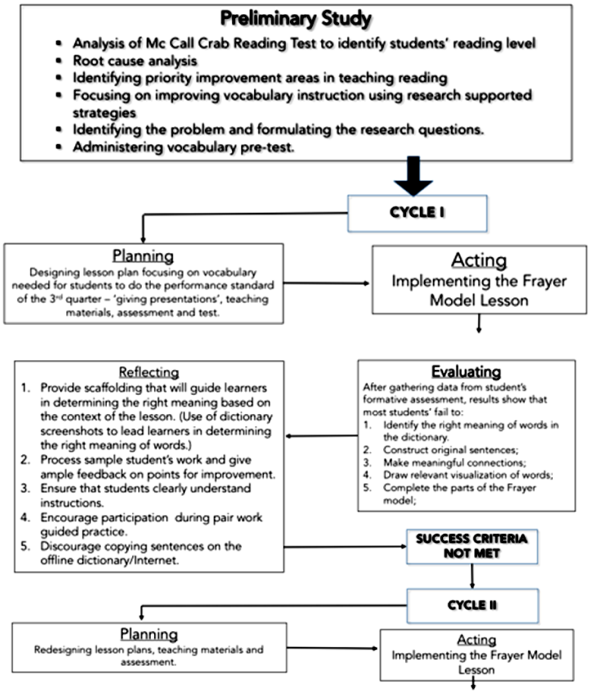
Taggart et. al. (1982) and aimed to solve a particular problem which occurs during the teaching-learning process in the classroom. A preliminary study was done to narrow down the broad problem of reading comprehension into the specific focus of improving vocabulary instruction to Grade 10 students. The researchers underwent a two-cycled action research process that consists of planning, acting, observing and reflecting (Kemmis & Mc Taggart, 1992, as cited in Manuputty and Souisa, 2012).

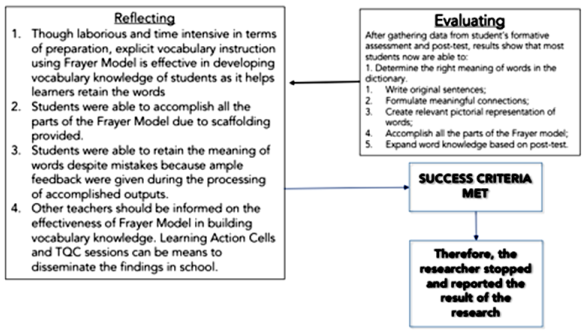
This study used the following data triangulation techniques to answer the research question. First, is the Giving Presentations vocabulary pretest and posttest, a 20 item researcher-made test composed of target words on 'giving presentations' which are based on the Grade 10 Learner's Module and are chosen based on the same relative language burden (restricted to same grammatical category, like verbs and nouns)

Second data collection method is through focus group discussion (FGD) which followed Krueger's (2002) guidelines and was composed of seven open-ended questions. Content analysis of transcribed audio-recorded interviews were done to determine the responses of the learners with regard the Frayer Model lesson. Third is the use of rubrics to examine the accomplished Frayer Model worksheets. The rubric was researcher-made is composed of four scoring criteria: definition, illustration, connections and sentence; and is evaluated using verbal descriptions: unacceptable, needs improvement and proficient.

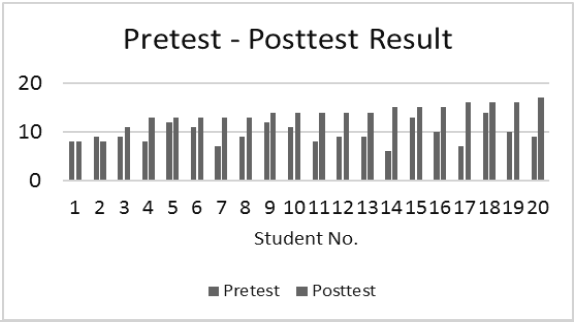
Results and Discussion

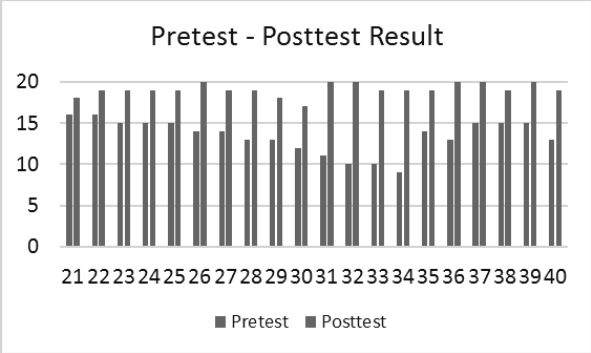
The following diagram shows the action research process that the researchers underwent :





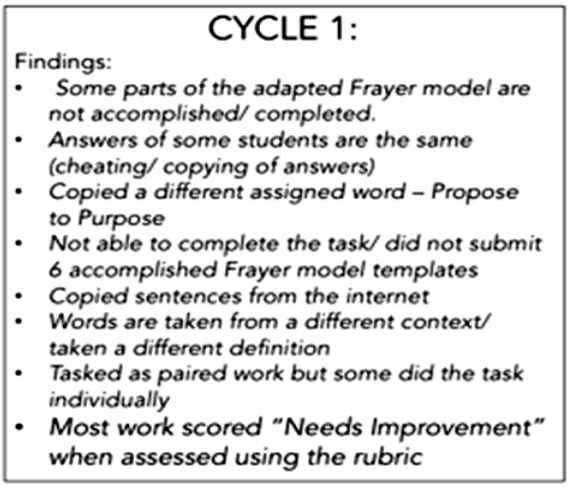
Results of pretest and posttest reveal marked gains in vocabulary knowledge on giving presentations.

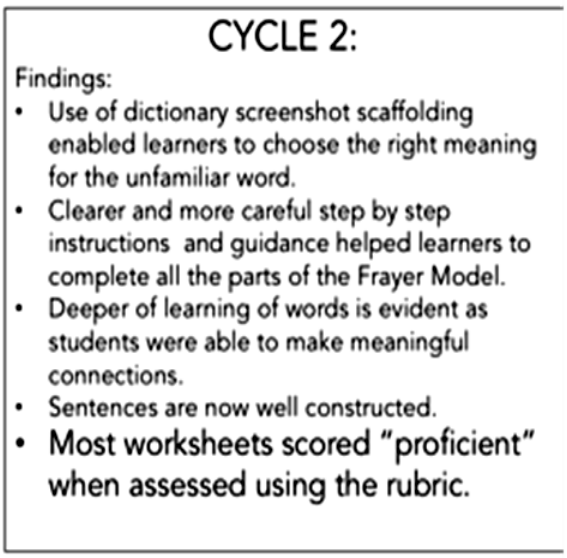




Findings of focus group discussion showed that learners were happy and has enjoyed using Frayer Model as a way to learn vocabulary. They like the *picture* and the *in my own words* component of the tool as these help theme make meaningful connections to the words being studied. They also cited that the characteristics that helped them the most in retaining the words are explicit vocabulary instruction method of the teachers, the visual scaffolding used like dictionary screen shots and the elements of word visualization and sentence construction.

The figure below shows the analysis of accomplished Frayer Model worksheets from Cycle 1 to Cycle 2.





Reflections

The researchers were able to draw the following insights after doing this action research:

1. In using research-based strategies, it is very important for a teacher to be **very mindful** as to how the students respond to the learning activity. It does not mean that if a strategy worked in one context, it will work instantly if applied to one's own context. Guided by the formative assessments and observations, teachers should be able **to contextualize** the strategy to suit the specific learning needs of the class.

2. The Frayer Model is not like a magic wand that will instantly deepen student's vocabulary knowledge. It is still the teacher's role **to monitor student's progress** and immediately **assess** which aspect of **the teaching-learning process needs tweaking** in order to provide meaningful learning experience for the students.

References:

Frayer Model. (n.d.). *Classroom strategies*. Retrieved from Adolescent Literacy website: http:// www.adlit.org/ strategies/22369/

Kemmis, S., & McTaggart, R. (1982). The action research planner. Victoria, Australia: Deakin University.

Kemmis, S., & McTaggart, R. (2000). Participatory action research. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (2nd ed., pp. 567-607). Thousand Oaks, CA: Sage.

Nation, I.S.P. (2001). Learning vocabulary in another language. Cambridge: Cambridge University Press

Nahampun, E.E. (2014). The effect of using frayer model on students' vocabulary mastery. GENRE Journal of Applied Linguistics of FBS Unimed. Vol. 3, No. 1 available online at http:// jurnal.unimed.ac.id/2012/index.php/ ellu/article/view/1395/1153

Seirer, J. (2011). Comparing Strategies for Teaching Vocabulary: Word Frames and The Frayer Model. Retrieved on January 30, 2017 at http:// seirerportfolio.weebly.com/ uploads/1/3/4/9/13492285/ seireracademicwritingfl11.pdf

Sullivan, M.T. (2014). Using adapted Frayer model as graphic organizer fpr graph vocabulary. In N. Sonda & A. Krause (Eds.), *JALT2013 Conference Proceedings*. Tokyo: JALT

Research is what I'm doing when I don't know what I'm doing.

Wernher von Braun

A FRAMEWORK OF EDUCATIONAL LEADERSHIP AS AN INPUT FOR LEARNING ENGAGEMENT AND MANAGEMENT PROGRAM (LEMP)

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ABSTRACT

As observed over the years, the Department of Education is held responsible for the various leadership programs created for the principals. As expected, programs are to be translated to the performance of the school heads and manifested in the National Achievement Test results. However, after the prolonged engagement of the principals to the leadership trainings, still there is a need for a comprehensive training program.

This study was an assessment of the School Heads Development Program (SHDP) anchored to the domains of the National Competency-Based Standards for School Heads (NCBSSH). Furthermore, it looked into the performance of the respondents in the Office Performance Commitment and Review (OPCR) ratings of SY 2013-2014 and differences between the ratings; performance of the schools in the National Capital Region (NCR) in National Achievement Test SY 2013-2014 and SY 2014-2015 and difference between the NAT results; assessment of the School Heads Development Program in the domains of school leadership, instructional leadership, creating a student centered learning climate, human resource management and professional development, parent involvement and community partnership, school management and operations and personal and professional attributes and interpersonal effectiveness; and the relationship of the assessment of SHDP to the OPCR SY 2013-2014 and SY 2014-2015.

The study is a descriptive research. To achieve the aim of this endeavor, a modified-adopted survey questionnaire was utilized and answered by the 202 principal-respondents using the online link tinyurl.com/SHDPUmak. Documentary analyses of the Office Performance and Commitment Review ratings and National Achievement Test results were conducted by the researcher. And lastly, to establish consistency and validity of the data, open-ended questionnaires were provided to the selected principal -respondents. The data were statistically treated with frequency distribution, percentage, weighted mean, standard deviation, Pearson-r and t-test.

The findings revealed that majority of the respondents are female principals; ages ranged 41-50 years old; in the service for 1-5 years and mostly managing large schools; most principals are Masters graduate and attending seminars twice a year only. The principals' performance in the Office Performance Commitment and Review Ratings for SY 2013-2014 and SY 2014-2015 are both very satisfactory. There is a significant difference between the Office Performance Commitment and Review Ratings of the principals in SY 2013-2014 and SY 2014-2015. The performance of the NCR schools in the National Achievement Test of SY 2013-2014 and SY 2014-2015 are both in average mastery level. There is a significant difference between the National Achievement Test results of the NCR schools in SY 2013-2014 and 2014-2015. The principals' assessment of the School Heads Development Program is correlated to the Office Performance Commitment and Review ratings.

The performance of NCR school principals who are new in service and who are highly associated with National Achievement Test results is reflective of the immediate concern of the officials in the department. The principals' performance is the result of the leadership development programs and workshops. To attain better school performance is to let the principals be involved and be engaged in a comprehensive learning and development programs and in the adoption of a localized learning engagement and management program.

The common facts of today are the products of yesterday's research.

Duncan Macdonald

CONTEXTUALIZE LANGUAGE ASSESSMENT AMONG GRADE ONE (1) PUPILS OF NUEVE DE FEBRERO ELEMENTARY SCHOOL

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ABSTRACT

Language is the basis of all communication and the primary instrument of thought (K to 12 English Curriculum Guide, 2013). We were able to exchange knowledge, beliefs, opinions, wishes, threats, commands and declarations – it is an exclusively human property (Littlejohn, 2005). Thinking, learning, and language are interrelated. Language is governed by rules and systems (language conventions) which are used to explore and communicate meaning.

The purpose of the study was to assets the level of achievement of Grade 1 pupils in Language education specially in English among Grade 1 pupils of Nueve De Febrero Elementary School. Specifically, this study seeks to reach the following objectives: (1) Evaluate the current language component of the K-12 curriculum. The language component is comprised of Speaking, reading, listening, and writing skills in Filipino and English. (2) Determine if proficiency in one competency correlates to proficiency in another competency. (3) Determine in what proficiency/competency the students are having difficulty in understanding and (4) Provide general data and profiling with relation to test scores. The result of the study shows that the respondents excelled the most in questions under the English Oral Competency. The students struggled the most in questions under the Filipino Listening and English Listening Competencies. On a more specific level the students struggled the most in "Nagagamit Ang mga Natutuhang Salita sa Pagbuo ng Simpleng Pangungusap". While the student excelled the most specifically "Natutukoy Ang Kasarian ng Pangngalan". Under both sections females generally scored higher than males. The total number of competencies that have a relation is 8 and they are as follows; English Oral Skills and Filipino Reading Skills; English Oral Skills and English Phonological Awareness; English Oral Skills and Filipino Speaking Skills; English Phonological Awareness and Filipino Reading Skills; English Phonological Awareness and Filipino Speaking Skills; Filipino Reading Skills and Filipino Listening Skills; Filipino Reading Skills and Filipino Speaking Skills; and Filipino Writing Skills and Filipino Listening Skills.

FACTORS AFFECTING THE ACADEMIC PERFORMANCE OF GRADE TWO (2) PUPILS OF NUEVE DE FEBRERO ELEMENTARY SCHOOL: PROFILING STUDY

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Rafa Tiongson

ABSTRACT

Basic education strengthens individuals' capacity, families and communities to access health, higher education, economic and cultural opportunities and services. The presence of all or some of the factors identified above may have resulted in the poor academic performance of pupils in most of the related studies. However, evidence of the availability of these factors as well as other factors need to be obtained. this study aimed to conduct a research on the performance of the second grade students of Nueve De Febrero Elementary School (NDFES) and how their personal life and experiences outside their school life affects their performance in studies. A survey was administered to find the basic information that can be used to profile the grade 2 pupils of Nueve De Febrero Elementary school (NDFES). A Sample of 200 pupils was taken from almost 600 total populations. The variables were tested to find if there were any correlations on the following; Two-population Hypothesis testing; One-way Analysis of Variance; Chi-Square Test for Independence; and Simple Linear Regression. Most of the respondents come from a medium size family with an average household member of 4.12 or 5 and monthly family income of Php 10, 000 and below. More than half of the pupils listed Filipino, Mother Tongue- based (MTB), and Edukasyon sa Pagpapakatao (ESP) as their favorite subjects- all of which are being taught in Filipino language. While, Math and English are less favored. Majority of the pupils or 86% says that they have many friends in school yet 54% also of the population are saying that they are experiencing bullying in school. Half of the population or 56% likes or plays sports mostly basketball. The 97% of the pupils also like watching television- mostly teleseryes with 68 frequency rate. And lastly, 88% of the parents are capable of providing all the requirements and materials needed by their child/children despite the fact that majority of them have only Php 10, 000 or below monthly family income.

USING VISUALIZATION TECHNIQUE TO HELP AN 11-YEAR OLD STUDENT SUSPECTED OF HAVING DYSLEXIA IN LEARNING HOW TO SPELL SIGHT WORDS

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Readability Center

ABSTRACT

It is clear that reading and spelling skills play a significant role in comprehension and academic success. However, individuals with learning disability specific to reading, previously known as dyslexia, experience difficulties in these areas. Characterized by difficulties in accurate and/ or fluent word recognition, and poor spelling and decoding abilities, people with dyslexia sometimes shy away from activities that involve reading texts and spelling words (Kirby, J.R., Silvestri, R., Allingham, B.H., et al, 2008). Research and personal accounts show that some people with the disability compensate by thinking in pictures. Furthermore, color has significant effects on memory retention and recall (Dzulkifli, M. A., & Mustafar, M. F., 2013). Because of these, the teacher decided to study the effect of Visualization Technique in teaching an 11-year old student suspected of having dyslexia to spell Sight Words.

The participant involved in this research is an11-year old boy with ADHD and suspected of having dyslexia. Currently, he is enrolled at a public school in Quezon City, and is in Grade 5. He continues to struggle with both reading and spelling, especially sight words. Prior to the implementation of the strategy, the teacher used rote memorization (read/cover/write), to teach the student how to spell sight words.

Implementation of the strategy and data gathering began on August 10, 2016. The student was taught how to spell five (5) chosen words from the Dolch Sight Words number five (5) using the Visualization Technique developed by Dr. Linda Silverman, which involves spelling the word using brightly colored ink to write on the card. However, for this action research, the strategy has been modified by the teacher. The first cycle lasted only five sessions. The teacher believes that the study should be continued for another cycle to further prove its effectiveness. Also, since the first cycle produced positive results in a short amount of time, the strategy may prove to be effective in teaching spelling Sight Words.

USING SYLLABLE HIKE STRATEGY TO AN 8 YEARS OLD STUDENT WITH ADHD TO TEACH SYLLABLE SEGMENTATION

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Readability Center

ABSTRACT

One of the components for the students' reading success is phonological awareness. Phonological awareness skills include telling rhyme, identifying sounds, and segmenting syllables and sounds of a word. Through the years, several strategies and studies on its effectiveness have been shared among teachers. This action research was conducted to record the effectiveness of syllable hike in teaching syllable segmentation to a student diagnosed with ADHD.

Syllable hike is one example of multi-sensory activities in teaching phonological awareness. For this study, the teacher employed syllable hike to teach syllable segmentation. The activity was implemented through the use of stairs. Each session involved teacher dictation of a variety of words with one to five syllables, student's identification of syllables in each word by taking steps on the stairs; one step per syllable until she finished the word.

Data gathering was done through teacher observation of student's responses and challenges. This helped the teacher record the progress of the child as well as the skills she still needs to learn. A pre-test and post-test was administered to measure how the child improved. It was noted that the student responded well with the syllable hike activity and has improved in segmenting syllables. The activity also helped the child to focus on verbal instructions and remember details. This action research served as a record of the teacher on strategies that work for her student.

USING VISUALIZATION STRATEGY THROUGH DRAWING TO AID A STUDENT WITH LEARNING DIFFICULTIES IN IDENTIFYING THE STORY ELEMENTS IN FILIPINO STORIES

Danielle Marie A. Parreño
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Readability Center

ABSTRACT

Some studies emphasize the significance of drawing as a learning strategy because it enables improved reading comprehension through organization of knowledge and information and aids readers in constructing mental models that activate prior knowledge to assimilate and accommodate new learnings. The primary goal of this action research aims to know how can visualization strategy through drawing aid a 14-year old male student with learning difficulties in identifying the story elements in Filipino stories. For this particular student, knowing the story elements is important since this will enable him to understand the basic plot of stories that are read to him. A total of 12 sessions that are held from July 30 to October 15, 2016 are included in the research, wherein the strategy is presented to the student repeatedly in four rounds with three sessions for each round. A plot hike graphic organizer is introduced and used as a metaphor for the student to imagine the journey of reading a story like that of climbing a mountain. There are also stopping points in the plot hike that prompt the student to answer the questions about the beginning of the story, conflict, climax, as well as the conclusion of the story by drawing his answers on pieces of paper that are posted on the plot hike. Retelling the story using the drawings of the student at the plot hike, as well as materials that evaluate his understanding of the story like story elements graphic organizer and comprehension check are used to gauge whether the strategy has helped the student understand the story. At the end of twelve sessions, using illustrated Filipino stories and retelling the story elements using the drawings of the student in the plot hike are observed to have worked for the student who is taught with the visualization strategy.

However, the student was not able to answer all the questions in the comprehension check, but this may be due to other factors. The student is also observed to be more participative and expressive when the illustrated Filipino stories are used, as well as more engaged and confident compared before when the strategy is not yet introduced to him. The results of this action research strongly emphasize the significance of the repeated exposure to the strategy of the student since it helps him in becoming more independent in doing the activities. Future plans of action include continuing the strategy, but transitioning from Filipino to English texts and exploring how the visualization strategy can be used in targeting other comprehension skills.

Keywords: visualization strategy, drawing, learning

USING THE THINK ALOUD STRATEGY IN DEVELOPING THE WRITTEN EXPRESSION OF A CHILD WITH READING DIFFICULTY

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Readability Center

ABSTRACT

The case study was conducted in the attempt to address the challenges that a student with reading difficulty has encountered when writing. In this regard, the study ought to determine how the think aloud strategy could be used to improve the spelling and composition of narrative paragraphs of a student who has displayed inaccurate spelling, poor syntactic construction of sentences, and poor organization of sentences. The said strategy was employed for eight sessions in a reading clinic, with each lesson beginning with the teacher modeling how to compose a narrative paragraph by thinking aloud and followed by guided and independent practice. Each lesson lasted for an hour and had a different topic for narration, and when necessary, adjustments to the flow and process of a lesson were made to accommodate the kind of response the student had given to the instruction provided. This meant that a portion of the second session was used to finish the intended activities for the week. The student attended twice a week, and for every week during the data collection period, one session was allotted for the writing intervention.

Pre-test and post-test data which had been in the form of the student's writing outputs, were analyzed using a rubric. Data from her session outputs also supported the information from the pre-test and post-test results. The results showed that the think aloud strategy appeared to have benefitted the student's style and form of writing. Meanwhile, there was no noticeable effect on the student's use of complete sentences, spelling, capitalization, and punctuation.

In another cycle of the action research, focus can be given to another aspect of writing or another specific difficulty of the student in writing such as the construction syntactically incorrect sentences. In addition, the strategy may employ the use of a graphic organizer.

THE USE OF THINK ALOUD STRATEGY IN ANSWERING INFERENTIAL QUESTIONS

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Literacy Teacher
Readability Center

ABSTRACT

This study aims to address the need of a 9 year old male student with reading difficulty in answering inferential questions concerning character traits. He has undergone several reading programs in the center to improve his reading, spelling and writing skills. Currently, the student's reading difficulty affects his comprehension on implicitly stated details in an English narrative text. He overlooks details and has limited ability in processing information in order to come up with a conclusion. With this, the researcher decided to conduct an action research that focuses on helping the student learn to infer character traits. The researcher chose think-aloud strategy - a strategy that explicitly shows how the thinking process is done. Think-aloud is a good strategy to model for students the thinking process (Ortlieb and Norris, 2012), which in turn, promotes comprehension (Block & Israel, 2004). Being able to be aware of one's thinking process will help the student know how to pick information, how to analyze these data and eventually make meaning out of it.

The researcher conducted pretest and post test using the Qualitative Reading Inventory 4 (QRI-4) to establish baseline and to determine his improvement after the intervention. The intervention was conducted for 10 sessions, following the explicit instruction model. Data was collected from the results of the pretest and post test, interview with the parents and guardian, as well as anecdotal records. These were carefully analyzed to come up with a conclusion. At the end of the cycle, the results show that there is a significant improvement on the student's ability to infer character traits from an English narrative text using the think-aloud strategy.

Keywords: Think-Aloud Strategy, Inferring, Character Traits, Explicit Instruction

Research is about engaging in a conversation with a brand.

Matthew Rhodes

RESEARCH CAPABILITIES OF MASTER TEACHERS IN THE DIVISION OF MANDALUYONG: BASIS FOR A PROPOSED RESEARCH LEADERSHIP AND MANAGEMENT PROGRAM

Nona B. Veriña

ABSTRACT

This study is designed to determine the extent of research tasks of the master teachers at the Schools Division Office (SDO), City of Mandaluyong for the School Year 2016-2017, specifically in terms of research capability, research production, research dissemination, and research utilization.

The non-experimental quantitative method was used to explore the extent of research tasks of the master teachers. The significant difference between the extent of research tasks and the demographic descriptions were also determined. A non-probability sampling technique was used specifically the purposive sampling technique in selecting all 123 master teachers from the different elementary and secondary public schools of the Schools Division Office (SDO) as participants of the study.

The research-capability questionnaire was crafted by the researcher and was subjected for validation. The research-capability questionnaire was administered through a division memorandum. Master teachers were tasked to answer the research-capability questionnaire online using the link http://tinyurl.com/ResearchCapabilityforMTs.

The data gathered were statistically treated using the percentage, mean, weighted mean, t-test and analysis of variance. The results were analyzed and interpreted in order to achieve the goal of this study.

It was revealed that the extent of research tasks in terms of research capability, research production, research dissemination, and research utilization was at limited extent. There was a significant difference between the extent of research related tasks for research capability, research production, research dissemination, research utilization and the demographic descriptions of the participants when grouped according to discipline, highest educational attainment, number of years in service, number of research seminars attended, number of researches made, and how were the results/findings disseminated and utilized. The study also revealed that there was no significant difference between the extent of research tasks for research capability, research production, and research dissemination when grouped according to gender but a significant difference was noted in research utilization.

RESULTS- BASED PERFORMANCE MANAGEMENT SYSTEM, TEACHERS' ROLE AND QUALITY ASSURANCE OF SELECTED SECONDARY SCHOOLS IN THE NATIONAL CAPITAL REGION: BASIS FOR THE IMPROVEMENT OF SCHOOL GOVERNANCE

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ABSTRACT

The study determined the relationship of Results Based Performance Management System (RBPMS), Teachers Role and Quality Assurance of Selected Secondary Schools in the National Capital Region as Basis for the Improvement of the School Governance.

The descriptive survey method was used to achieve the purpose of the study. The convenient sampling method was utilized to gathered data from the respondents schools in the National Capital Region during the year 2015-2016. The data gathered in this study were treated using the: frequency, percentage, weighted mean and multiple regression analysis.

The study revealed that the uppermost age profile of the respondents is 41-50 years old comprising of 107 or 35% and which were consist of 244 or 79 % female. A greater portion of the respondents hold a unit in Masters' degree which comprises of 141 or 46%. The respondents have been in the teaching service with 91 or 29 % which is in 1-5 years in the service and the position presently occupied by the respondents are being subject teachers with 221 or 72%.

Result-Based Performance Management System in terms of financial stewardship has a mean average of 3.647; internal efficiency process 3.873; and school leadership 4.089 which were interpreted evident, respectively.

Teachers' role particularly in terms of instructional management has with a general mean average of 4.223, classroom guidance 4.246; and teacher social relationship 4.345 which are interpreted evident, respectively.

School quality assurance measured in terms of mission and vision, faculty, curriculum and instruction, student support, research, physical plant and facilities, academic administration, laboratory facilities, and library got a grand mean average of 3.87 interpreted as high.

The independent variables in the respondents profile such as highest educational attainment, age, sex, degree, length in service and position predict the school quality assurance.

The independent variables in the Result-Based Performance Management System such as financial stewardship, internal efficiency process and school leadership affects the school quality assurance.

The independent variables in terms of teachers' role such as instructional management, classroom guidance and teacher social relationship affect the school quality assurance.

Generally, the hypothesis stating the person related factors, the RBPMS, teachers' role singly or in combination predict the schools' quality assurance is partially sustained.

Research if formalized curiosity.

It is poking and prying

with a purpose.

Zora Neale Hurston

EFFECTIVENESS OF REMEDIAL READING CLASSES USING SPECIAL METHODS TO NON-READERS IN FILIPINO OF GRADE ONE PUPILS OF GENERAL MAXIMINO HIZON ELEMENTARY SCHOOL

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ABSTRACT

In the Philippines, the Department of Education through its memorandum 244 Series of 2012 has declared November as National Reading Month of every year and November 25 as the *"Nationwide Araw ng Pagbasa* (National Reading Day)". This study aimed to analyze how the use of special methods in remedial reading classes have contributed in making our pupils readers before the end of their first grade.

This study made use of descriptive method of research. The participants of the study were the 358 first grade pupils and the eight (8) classroom teachers. Results of the study were gathered from Teacher's *Pangklaseng Pag-uulat sa Pagbasa* held in June and in March for pre-test and post-test respectively. Reading in the context of the assessment is to identify who are non-readers (*hindi nakakabasa*); can recognize phonics (*tunog*); can identify letters *(letra);* can syllabicate *(pantig);* can read word/s *(salita);* can read phrase/s *(parirala)*; and readers *(nakakabasa)*. As its limitation, comprehension is not a component in reading in grade one. The findings revealed that the Special Methods used in Remedial Reading Classes presented in this study had shown a great increase in the number of readers in the first grade.

Keywords: *Special Methods, Remedial Reading Classes, Reading Literacy.*

****Presented during the 2017 3rd International Conference on Education (ICEDU), Kuala Lumpur, Malaysia***

THE RESEARCH ON DEVELOPMENT INITIATIVES FOR PRIVATE BASIC EDUCATION SCHOOLS

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April 25-26, 2017 Xi'an, China

ABSTRACT

The emerging needs of private basic education schools have been the issue of the school administrators in terms of development. The schools always embrace the new paradigm of teaching and learning for the betterment of the students and the school as well. Along the management of the schools are the situations and problems that are crucial to the development. Hence, this study aimed to determine the descriptions and problems of the sampled private basic education schools as bases in preparing a five-year continuing development program.

Descriptive-comparative method of research was utilized to obtain the information needed in this study. Mann-Whitney U-test was also used to determine the difference of the responses of the administrators and teachers. Interviews were conducted to substantiate the information needed and to further validate the variables mentioned in the questionnaire-checklist. A questionnaire-checklist was used to obtain the data and findings describing the private basic education schools in terms of administrations, curriculum, faculty, goals and objectives, student personnel services, library, human and physical resources, laboratory, and SOCI (Social Orientation and Community Involvement). Likewise, it was also through the questionnaire-checklist that the problems encountered by the respondents were assessed. These encountered problems were on enrollment, faculty, facilities, library resources, linkages, Social Orientation and Community Involvement, instructional materials, NAT (National Achievement Test) performance, and accreditation preparation. Hence, the offered solutions on the cited problems were also assessed. These teachers and administrator-respondents aspired to produce excellent students and build a strong foundation of basic education schools that would be globally competitive in all areas of learning and operations. Hence, a Five-year Continuing Development Program was prepared and hereby recommended.

MANAGEMENT OF GUIDANCE SERVICES IN PUBLIC SENIOR HIGH SCHOOL IN THE NATIONAL CAPITAL REGION

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Paper Presented in International Conference of Basic Education Researches (ICBER)
December 4-6. 2017, Philippine International Convention Center

ABSTRACT

Guidance services are support functions of the school in helping the learners to achieve success. This is the primordial reason why the researcher was motivated to assess the status of the management of guidance services in selected Senior High Schools in the sixteen (16) Schools Divisions in the Department of Education (DepEd) National Capital Region (NCR).

In this study, a mixed-method approach with the descriptive evaluative and narrative designs were utilized. For the descriptive evaluative designs, documentary analysis, survey and key informant interview techniques were administered to 53 principals and 53 guidance counselors/ teachers. With regards to narrative design, focused group discussions were conducted to 15 SHS student-leaders from three (3) SHS which were randomly selected. Additionally, unstructured interview was also given to the teachers and guidance counselors on the challenges they encountered on the management of guidance services.

Meanwhile, researcher-made and validated instruments were utilized in this study which were adapted from the Interviews of the Key Informants, Guidance Manual of Dr. Imelda Villar and the American School Counselors Association (ASCA). The overall reliability coefficient of the piloted survey instrument is Cronbach's alpha=0.97 and is interpreted as very high reliability.

In terms of the data analysis, the researcher used frequency, mean, standard deviation, t-test of paired samples to scrutinize and interpret the quantitative data. For the qualitative data, thematic analysis and convergent techniques for mixed-method approach were applied.

The study uncovered the very highly observed direct guidance services being managed in SHS which is the orientation services. The least observed guidance services that needs improvement is the research and evaluation on guidance services. There is a need to improve the conduct of research to make the guidance services more evidenced-based and learner–centered. Moreover, the collection and interpretation of test and other assessment services needs to be prioritized.

In the qualitative approach, four (4) overarching themes emerged from the caring conversation with three (3) SHS. The first theme was the creating awareness of students in the guidance services provided by the school; understanding misconceptions of students on the guidance services; the changing mindset of students in the tracks where they are enrolled; and salvaging student at-risk.

Furthermore, the topmost perceived challenge by guidance counselors on managing guidance services in SHS was the insufficient budget in implementing guidance services. The least in the rank was their ability to handle students-at-risk of dropping out (SARDOs). For the principals, the first in rank of the challenges encountered was the lack of training for them in managing guidance services. On the other hand, the least in the rank was overloading tasks of guidance counselors/ teachers in school.

Keywords: *School Based Management, Guidance Services, Public Senior High Schools, Mixed-method Approach, Policy Recommendation*

TEACHER'S IMPACT ON THE EXTENT OF MANIFESTATION OF PUPILS PERFORMANCE BASED ON DEPED'S K TO 12 KINDERGARTEN CURRICULUM

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ABSTRACT

This study attempted to determine the teachers' impact on the extent of manifestation of pupils performance based on K to 12 kindergarten curriculum and the issues and concerns on the extent of manifestation of curricular themes and development domains in kindergarten.

The researcher utilized the descriptive-correlational method of research with the use of Department of Education (DepEd) K to 12 Standards and Competencies for Five-Year Old Filipino Children. The study also used descriptive qualitative method to determine the issues and concerns met relative to the manifestation of the curricular themes and development domains as perceived by the public kindergarten teacher. The random sampling technique was used by the researcher to select the schools in the sixteen (16) schools division in the National Capital Region.

The total number of kindergarten teacher-respondents was six hundred twenty-four (624). Many kindergarten teachers belonged in the age bracket of 30-39 years old. The majority of them are BS/BSE/BEED graduate and new in the teaching profession. The extent of manifestation of pupils performance based on DepEd's K to 12 kindergarten teachers described as "High Extent (HE)" and the relationship between them is not significant. On the other hand, there is a significant relationship are grouped according to length of service. The same is true in the extent of manifestation of pupil's performance based on kindergarten development domains in terms of *Mathematics* which is significantly dependent on Teachers' Highest Educational Attainment.

The results of this study could be used as baseline information in planning more effective staff development activities to ensure that teaching styles, methodologies and approaches are always in line with modern trends and issues on education. Parents and teachers could work together to promote the welfare of the kindergarten pupils. Parents could establish ways to help their child become academically and emotionally ready for a public school setting while teachers could use varied instructional materials and strategies that address the needs and interests of kindergarteners to prepare them become physically, intellectually, morally, spiritually, and globally competent and ready to meet the challenges of the present times.

The Department of Education should revisit the D) 81, s. 2012 regarding the policy guidelines in hiring kindergarten teachers taking considerations on their age and length of service. The school principals should increase the funding for the acquisition of facilities, equipment, and instructional materials and for the purchase of related books, updated magazines, and periodicals for reference purpose and be utilized by the teacher when preparing lessons, taking into consideration the kindergarten level, needs, abilities, and interest of the kindergarteners, undergo intensive trainings and seminars in teaching methodologies for kindergarten education and in the preparation of instructional materials for K to 12 Curriculum.

SCHOOL-BASED PROFESSIONAL DEVELOPMENT PRACTICES AND IT'S IMPLEMENTATION IN THE PHILIPPINES THROUGH LEARNING ACTION CELLS (LAC)

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ABSTRACT

With the Department of Education's K-to-12 Program , one of the most massive reform programs in education in the Philippines, there is a need to strengthen the professional development support for teachers, with their key role in providing quality education. With ongoing research, there has been a shift from a traditional model of professional development of teachers focused on trainings outside of the school, to more relevant, school-based professional development initiatives such as Communities of Practice (CoPs) Professional Learning Communities (PLCs), collaborative action research and lesson study. With the release of DepEd Order No. 35, S. 2016, it has been emphasized that all public school teachers are required to be part of Learning Action Cells (LACs) as a form of continuous professional development for them. Through a comprehensive review of literature of these school-based professional development practices, recommendations for the revival of this practice include revisiting the current perspective on the role of teachers and the teaching profession, engaging with different stakeholders to support this initiative and how to promote it across the whole Department of Education. What is important is to provide venues for teachers to authentically reflect on their practice through creating culture of trust within a group of teachers. Resource materials to facilitate these experiences are also mentioned. Further research is encouraged in exploring how this practice is further enhanced both in the public and privates schools in the Philippines.

Research if formalized curiosity. It is poking and prying with a purpose.

Zora Neale Hurston

THE IMPACT OF SOCIAL NETWORKING CONSUMPTION ON THE ACADEMIC PERFORMANCE OF GENERATION Z IN THE DIVISION OF MAKATI DISTRICT I: PROMOTING SOCIAL MEDIA PROTECTION AND RESPONSIBILITY

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ABSTRACT

The study aimed to determine the impact of social networking consumption on the academic performance of generation z in the Division of Makati District I for promoting social media protection and responsibility from school year 2016-2017.

The researcher sought answers to the following research problem like the profile of the generation z respondents which included the age, sex and their academic performance, the level of social networking consumption in terms of frequency of visits; and length of time spent daily, the impact of social networking consumption on the academic performance of the students and the significant difference in the level of social networking consumption when the respondents were grouped according to age and sex. It also sought to answer the reasons of the students in using the social networking sites and their recommendations in promoting social networking protection and responsibility.

The study made use of descriptive-correlation method. It also made used of a survey questionnaire. There were six hundred twenty four (624) student-respondents selected through the use of simple random sampling. The statistical tools used were frequency and percentage, weighted mean, Pearson Coefficient of Correlation and Analysis of Variance (ANOVA).

Results of the study showed that more than half of the total population were 12-13 years of age. In terms of gender, there were more female students than male students. It also showed that there were more student-respondents who obtained a below average academic performance in the third periodic test.

The most visited social networking site by generation z was YouTube. Furthermore, most of the respondents spent 3-4 hours daily using social networking sites. Their social networking consumption has an impact in their academic performance. Their consumption had also an impact in their academic performance when they were grouped according to age and sex. The study also showed that the main reason why students engage in social networking sites was to share videos / pictures / music/ experiences. On the other hand, the top recommendations in promoting social networking protection and responsibility given by the student-respondents were: 1.) keep personal information to yourself, 2.) think carefully before posting pictures or videos of yourself, 3.) follow your parent's advice about the dangers of using social networking sites and 4.) never posts offensive comments/pictures/videos that are hurtful to one's feelings.

Based on the conclusions of the study, the following recommendations were given:

Children must be encourage to only use age appropriate sites and be truthful when registering on social networking sites. One of the best strategies to be safe online, regardless of age of the user is to talk to them and be engaged with their use

of different social networking sites. As a 21st century educator, teachers must teach both male and female students digital literacy which refers to how competently one can navigate and evaluate information in the digital sphere. Students must know how to distinguish between legitimate news and research and unsubstantiated or misleading information.

As the leading primary education provider of the nation, the Department of Education should come up with a comprehensive program which will address issues surrounding social networking sites and its impact to academic performance of students. It can create community of educators who will continuously develop an integrated and innovative solutions to problems regarding student's engagement in social networking sites. The teachers should use social networking sites most specially YouTube as a learning tool which will be an interesting twist on lessons. Students can watch lectures and resources before entering the classroom. They can also create their own video which will be seen by wider audience, student will be apt to do their very best in creating video and they will enjoy being able to express their creativity as they connect more deeply with course material.

As internal stakeholders of the school, the principal and the teachers should form student learning networks with the use of social networking sites which can increase student collaboration. They can create an online location where students can organize their academic resources, research, create and share their finished products all while learning with others. The school administrator should share information and resources, create professional learning communities and improve schoolwide communications with teachers, students and staff with the use of social networking sites which will give a great impact on student's academic performance.

Since a new era of learners has bloomed, teachers must be digitally literate and being a social media savvy is needed to help students connect with others who share their passions, talents and interests, regardless of age and sex. This requires understanding on how to effectively use these tools to connect, collaborate and grow learning. To do this, series of intensive trainings must be given to all teachers and school heads by the Department of Education with the collaboration of the Department of Information and Communication Technology. Meanwhile, Parents should keep their communication to their children open about their social networking involvement because they are the foremost accountable to children's online engagements. They can discuss to them the risks associated to online activities, stress the responsibilities of being a member of cyber communities and guide them on how to protect themselves from crimes and illegal activities that they might encounter online. There is also a role for curriculum developers, they should consider creating subjects about digital citizenship starting from primary level to college level. Instilling the principles of good digital citizenship can help students become smart, responsible, and respectful members of their online communities. This means practicing online safety, treating other digital citizens with respect and following the rules set for certain online communities.

DepEd-NCR Conducts First Region-wide Research Congress

"Good teachers are also good students. Good students mean lifelong learners whose goal is to improve their knowledge and practice throughout their career" *said Teacher Yayi Fua as she explains how research addresses the gaps of knowledge and helps improve teacher's knowledge, as well.*

DepEd- NCR, in partnership with the Readability Literacy Improvement Center (RLIC), conducted the first Region-wide Research Congress held on February 1-2, 2017 at DepEd NCR, Conference Hall.

With the theme "Transforming Pedagogy through Action Research," the event aimed to showcase action researches of educators and update the organization and its stakeholders on the current trends in educational research. The congress is in line with the department's pursuant to the adoption of the Basic Education Research Agenda which provides guidance to DepEd and its stakeholders in the conduct of education research and it's results utilization n to align the department's planning, policy and program development with its vision, mission, and core values. It was participated in by 176 teacher-researchers from both public and private schools, with education program supervisors for English, senior education program specialist for research and school research coordinators across the 16 schools' divisions of NCR.

Presentation of researches both from DepEd researchers and RLIC teachers highlighted the first day of the congress. It started with a lecture about the pedagogy of action research by Dr. Eufracio "Fras" Abaya, Director, International Conference on Teacher Education (ICTED) and an anthropology professor from the University of the Philippines- Diliman (UPD). It was followed by an oral presentation of researches from select DepEd NCR teacher-researchers and RLIC Researchers and poster paper display.

The various action researches are related to teaching literacy and addressing literacy challenges encountered in the classroom and the school itself. Poster papers from selected researchers were also exhibited through a poster gallery. Select schools' divisions and stakeholder such as BEST-AusAid and RLIC presented their research related activities through audiovisual.

Moreover, a workshop on Improving Literacy through Action research with Ms. Margaret Mary Rosary Carmel "Yayi" E. Fua, Early Childhood Development Specialist of Basa Pilipinas and Senior Lecturer, Reading Education Area, College of Education, UPD. During Teacher Yayi's lecture, the participants were taught on the basics of action research such as phrasing the right research question, crafting of action plan and the execution of the action and reverse. Furthermore, Dr. Warren A. Ramos, Education Program Supervisor, PPRD discussed the Basic Education Research Fund and its next steps as enclosed to DepEd Order No. 43 s. 2015.

The following are the list of researches presented during the congress.

Oral presenters

DepEd Presenters

1. **Ms. Marnelli B. Tolentino (SDO-San Juan)**
   Teacher Agency in the K to 12 Education Reform: Narratives from Mindful Teachers

2. **Mr. Marco Meduranda (SDO-Navotas)**
   The use f adoptive Frayer Model

3. **Ms. Hazel May Salvador (SDO-Manila)**
   Intervention for Students with Reading Disability

4. **Ms. Lea Galvez (SDO-Manila)**
   Effectiveness of Remedial Reading Classes Using Special Methods to non-readers in Filipino of Grade One Pupils of General Maximino Hizon Elementary School

5. **Mr. Jayson Caraang (SDO-Makati)**
   Effects of Explicit Instruction of Strategies with Multiple-Strategy Approaches on Reading Comprehension

Read-ability Literacy Improvement Center Presenters

1. **Ms. Grace Marie M. Mariño**
   Using the Think Aloud Strategy in Developing the Written Expression of a Child with Reading Difficulty

2. **Ms. Maria Celine Alexis M. Isidro**
   Using Syllable Hike Activity to an 8-years Old Student with ADHD to Teach Syllable Segmentation

3. **Ms, Krizia Camille C. Salvador**
   The Use of Think Aloud Strategy in Answering Inferential Questions

4. **Ms. Danielle Marie A. Parreño**
   Using Visualization Strategy to Aid a 14-year old Student with Learning Difficulties in Identifying Story Elements in Filipino Stories

5. **Ms. Jan Abigael A. de Lemos**
   Using Visualization Technique to Help an 11-year old Student Suspected of having Dyslexia in Learning How to Spell Sight Words

Poster paper presenters

Romela M. Cruz - DepEd NCR- FTAD
Maria Elena A. Remollino- DepEd-PPRD
Jocelyn Marcial -PESSSCA-ESSD
Jasper B. Angeles-Division of Valenzuela
Frosyl F. Miguel-Division of Manila
Lambert Quesada-Division of TAPAT
Joey Balsomo-Division of Las Piñas
Elisa Sta. Maria-Division of Malabon
Darius Villanueva- Division of Parañaque
Rayand Saballe, PESSSCA, Division of TAPAT
Rhea Janina V. Bohol-Division of Muntinlupa
Rochelle T. Tallud -Division of Makati

Audio Visual Presentation

AUSAID – BEST
Division of Navotas
Division of Malabon
Division of Makati
Division of Muntinlupa

Participants' photo opts with the keynote speaker Dr. Fras Abaya, Dr. Cristina Robles of Navotas National High School and Dr. Warren Ramos, PPRD

Mr. Jay Macaseib, poster presenter asks question during the open forum during Dr. Fras Abaya's session.

Ms. Hazel May Salvador, SDO Manila presents her research on Intervention for Students with Reading Disability

Participants from the private schools during Teacher Yayi's workshop

Teacher Yayi answering queries during the workshop

Oral research presenters from the Readability Learning and Improvement Center (RLIC)

Ace Bryan Lino (3rd from right) and Mr. Pascualito Balibalita, trainer (3rd from left) of Signal Village National High School, Taguig receives award for winning the RRIDC logo contest with Mr. Quinn Norman Arreza, SEPS for Research, SDO TAPAT.

Members of the technical working group compost of the PPRD staff and SEPS for Research from the 16 schools' divisions receives certificate of appreciation.

DepEd-NCR conducts Regional Seminar on Action Research for SHS School Heads and Guidance Counselors

Dr. Warren A. Ramos, discussing the research management guidelines to the select Senior High School Heads and Guidance Counselors.

The DepEd – NCR through the Policy, Planning and Research Division (PPRD) in partnership with East West Rural Bank Inc. (EWRB) conducted a seminar on Managing and Conducting Action Research for School Heads and Guidance Counselors in Senior High Schools (SHS) on January 18, 2017 at the DepEd-NCR Conference hall.

EWRB, as part of its Corporate Social Responsibility (CSR) project extended support to DepEd NCR in the desire to contribute to an enhanced learning environment and to promote of research culture through sponsorship to the Research Program Series in the region.

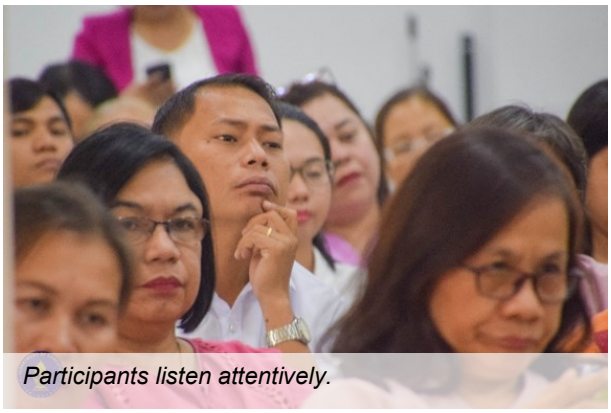
The activity aimed to strengthen the research culture in senior high school at the region and address some concerns related to guidance services. The use of action research process in improving the guidance services was emphasized and the promotion of Basic Education Research Agenda (BERA) in school level. Dr. Warren A. Ramos, Regional Education Program Supervisor for Research discussed the Research Management Guidelines, Orientation of the Basic Education Research Fund (BERF) and Basics in the conduct of Action Research for Senior High School. It was participated in by 126 SHS Schools Heads and Guidance Counselors from different public and private schools representing the 16 Schools' Division across NCR.

The following are feedbacks/comments/ suggestions from the participants.

1	More time to conduct the seminar
2	Very relevant and timely seminar for guidance counselors
3	We hope for a write-shop seminar in a hotel
4	Need to improve the sound system
5	Excellent presentation and speaker
6	Congratulations for a very informative and insightful seminar
7	We expect more trainings like this
8	More time to discuss the issue on Guidance service.
9	Congratulations to PPRD Staff and DepEd-NCR
10	We realized that action research is easy
11	Now I know and learned there is foundation for research

School heads and Guidance Teachers from the different Schools Division Offices as they register.

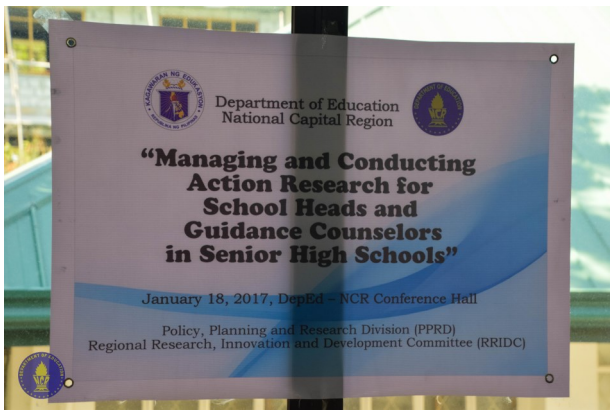
Managing and Conducting Action Researches January 18, 2017



Participants listen attentively.

Dr. Victoria R. Mayo welcomes the participants.

Participants listen attentively.



Participants during registration with Mr. Marco Realista, Planning Officer III, PPRD

A guidance counselor asks question on the guidelines of conducting research.

DepEd-NCR Goes Global in ASEAN Research Conferences

Research Presentation in International Conference in Education 2nd EDUINNOV held at Xi'an China last April 25, 2017 which was attended the Department of Education, National Capital Region Delegation. Their research abstracts are printed inside this research journal.

Keynote Speaker: Warren A. Ramos, EPS
Research Presenters:

- Victor C. Cabrera, Head Teacher
  - San Antonio High School, Division of Makati City
- Hazel Salvador, Teacher III
  - Padre Gomez Elementary School, Division of Manila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DEPED-NCR RESEARCH

VITAL STATISTICS

The infographics presents important data on DepEd-NCR Organizational Performance on research management pursuant to DepEd Order No. 16, s. 2017. It also reveals the status of the utilization of the Basic Education Research Fund (BERF) in the 16 Schools Division Offices. Moreover, it is hoped that this will serve as a basis for planning, program review and development and continuous improvement of research culture in Basic Education.

19 researches for 2015 were submitted by the three SDOs; Navotas, Caloocan, and Mandaluyong

123 researches submitted by 10 SDOs for 2016

20 2015 **10** 2016
published outstanding researches

29 best abstracts **8** 2016 exemplary papers

Mode of Conduct

2017

62.5%	18%	20%
Individual	Paired	Triad

Thematic Areas

Quality

	2017	2016	2015
Access	3	5	1
	156	103	17
Governance	8	6	0
Combined	1	3	1
Others	0	6	0

From 2015 to 2017 a significant number of researches focused on quality while there is less in governance and least in access. Hence, there is a need for collaborative effort from all DepEd personnel to also focus on the individual learner for retention in school than maximizing the quality without balance among the three areas.

Compiled and Designed by: Vergel Jairus J. Emas, DepEd-NCR

Obligated Funds

2015	2016	2017
131,176	1,680,302.75	2,400,088.4

BERF Approved

2015	2016	2017	
4	18	22	Caloocan City
0	1	0	City of San Juan
0	9	10	Las Piñas City
0	12	4	Makati City
0	10	7	Malabon City
1	0	13	Mandaluyong City
0	5	1	Manila
0	0	11	Marikina City
0	3	7	Muntinlupa City
14	30	33	Navotas City
0	7	14	Parañaque City
0	22	11	Pasay City
0	1	14	Pasig City
0	4	3	Quezon City
0	1	2	Taguig and Pateros
0	0	16	Valenzuela City

27 2015 **46** 2016
Basic Research

109 2015 **89** 2016
Continuous Improvement

2554 2015 **2392** 2016
Action Research

2 2015 **5** 2016
Research Presented in Regional Conferences

9 2015 **71** 2016
Research Presented in Division Conferences

5 2015 **7** 2016
Research Presented in International Conferences from SDO Manila, Las Piñas, Pasig, Mandaluyong, San Juan, and the Regional Office

Data as of November 6, 2017

SDO MALABON

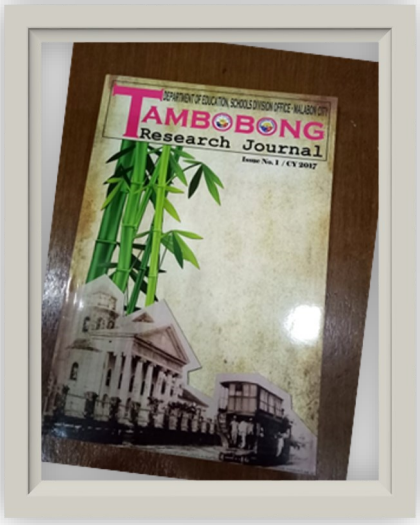
Launching of the 1st Tambobong Research Journal and the Awarding of the 1st Malabon Research Festival Winners

DepEd Malabon City is an educational institution where academic-oriented research and development, specific to innovations and other problem-solving schemes, need to be elevated and strengthened in a larger scale. Vouching the fact that research practitioners are waning in terms of number, and research-related competencies and commitment to embark on research endeavors appear to have been regressing, the need to have series of activities to revolutionize research capabilities and outputs in Malabon City is of valuable and urgent concern.

Winners of the 1st Malabon Research Festival

In this regard, the Launching of the 1st Journal of the SDO Malabon City, the Tambobong Research Journal was held on September 8, 2017 at the SDO Conference Hall graced by our ever supportive City Mayor Antolin A. Oreta III, Dr. Victoria R. Mayo, NCR Chief -PPRD, Dr. Jenilyn Rose B. Corpuz, OIC – SDS, Dr. Imelda G. Caro, OIC-ASDS, Dr. Josefina M. Pablo, Chief-CID, Dr. Eliseo B. Raymundo, Chief – SGOD, Efleda S. Magadia, AO-V, EPS, PSDS, Ma. Theresa C. Nievera, SEPS – Planning & Research, Bonifacio A. Dullas IV, SEPS P&R – SDO Navotas City, Niel Poja, SEPS P&R - SDO Valenzuela City, and all Principals in the Elementary and Secondary Schools of the Division.

Contents of the journal are the action researches of the winners in Elementary Level: Nenita J. Rivera, Africa Jailani Sampedro, Jean C. Nadurata, Francisco Cascabel and Ruel Concepcion and in Secondary Level: Aprilyn Reyes, Angelo Espiritu, Marites Tabor, Madona Bantug, and Elisa Sta. Maria. Division Level Action Researchers: Precila R. Pamo, Marry Rose Abarquez Melibeth Ruiz, and Julyn Guba.



Launching of the Malabon Research Journal, Tambobong. (From left to right) Ma. Theresa C. Nievera, Efleda S. Magadia, Josefina M. Pablo, Hon. Antolin A. Oreta, III, Jenelyn Rose B. Corpuz, Victoria R. Mayo, Imelda G. Caro, and Eliseo B. Raymundo

SDO LAS PIÑAS

Capability Training of Master Teachers in Conducting Action Research

The Division of City Schools – Las Piñas, as an educational institution, strengthened the conduct of action research which specifically helps to improve teaching-learning practices and other problem –solving strategies in the classrooms.

Based on the survey conducted on the research competency assessment, the researchers have difficulties on how to search reliable source of related literature, research design and methods and statistical treatment of data. In line with the findings, a 2-day capability building for 190 Master Teachers was organized to provide overview and thorough understanding of the action research cycle and a grounded appreciation of the action research process. The activity was held at Las Pinas City National Science High School last September 8-9, 2017.

Furthermore; the workshop was facilitated by Ms. Maria Jaqueline Duenas- Research Specialist (SDO- Pasay City), Mr. Gene Alfred U. Paras-Public Schools District Supervisor and Dr. Raymond B. Magno-Planning Officer III (SDO-Las Piñas City) who discussed the overview of Research Management Guidelines, how to craft, and to conduct action research.

Capability Training of Alternative learning System (ALS) Mobile Teachers and Instructional Managers in conducting Action Research

For the delivery of good service to all types of learners in the Division of Las Pinas, the Schools Division Office steered a capability training to all ALS Mobile Teachers and Instructional Managers at Shercon Mataas na Kahoy, Lipa City, Batangas last May 16-17, 2017.

Crafting a basic classroom based Action Research was part of the 2 day capability training in the Division's quest to strengthen the culture of research in non-formal setting. The said training was facilitated by Dr. Raymond B. Magno- PO III, SDO-Las Pinas City.

2016 Division Action Research Festival

With the theme **"Develop, Uplift, and Uphold Classroom Action Research: Moving towards Developing A Culture of Research"** the Division of City Schools- Las Pinas, launched its first Action Research Festival thru the initiative of Dr. Loreta B. Torrecampo, CESO V- Schools Division Superintendent, and Dr. Violeta M. Gonzales- OIC, Office of the Assistant Schools Division Superintendent last March 5, 2017 at DepEd- Las Pinas City Conference Hall B. The festival aimed to recognize exceptional research outputs that promote the culture of research; encourage and promote scholarly research achievement in the School/ Division level; strengthen alignment of research initiatives with the Basic Education Research Agenda (BERA); and improve the quality of teaching and learning through responsive action research. The said activity was participate in by 35 schools from both Elementary and Secondary levels. The Best in Action Research Poster and Best in Action Research Paper were the categories during of the said event.

SDO PARAÑAQUE

PROJECT RE-WRITE

(Division-Based Research Writeshop)

Last December 13-15, 2017, the Schools Division Office of Parañaque City conducted a division-based research writeshop entitled PROJECT RE-WRITE. This was held at the Multinational Leisure Park and Resort, Parañaque City. The said writeshop was a collaborative effort between the Schools Governance and Operations Division (SGOD) headed by Dr. Marilyn B. Timtiman and the Curriculum Implementation Division (CID) headed by Dr. Bernardo Mascariña. Dr. Rodrigo Concepcion C. Morales, Division English Coordinator and Division Research Editor, was the lead facilitator. The technical aspect of the said event was made possible through the Senior Education Program Specialist of Planning and Research Unit, Mrs. Evangeline C. Dabuit.

The theme of the writeshop is "Cultivating Research Culture Towards the Improvement of Quality Education". The main objective of conducting the seminar was to instill a culture of research in the Schools Division of Parañaque City through providing research discussion and group engagements between and among division and school personnel.

The speakers for the three-day writeshop were Dr. Rodrigo C. Morales, Division English Coordinator and Division Research Editor, and Senior High School teachers from Parañaque National High School-Main who include Mrs. Ritchie Beloy, MRs. Donna Vicuña, Mr. Francis Carpio and Mr. Gerfel Chan. The members of the technical working group include Dr. Marilyn B. Timtiman, Dr. Bernardo Mascariña, Mrs. Evangeline C. Dabuit, Mr. Ferdinand Fabian and Mrs. Joana Emralino both from PNHS-Main, Mrs. Ma. Theresa G. Baita from Parañaque Science High School, Mrs. Wilma Yabut from San Dionisio Elementary School and Miss Maria Lourdes del Rosario from La Huerta Elementary School.

The event started with the registration of participants which included the personnel from SDO-Parañaque, School Heads, teacher-participants and BERF presentors. The program proper started with the singing of the Philippine National Anthem which was followed by the Doxology. Dr. Morales delivered the welcome remarks. Dr. Margarito B. Materum, OIC-Assistant Schools Division Superintendent and Chairman of the Division Research Committee, gave an inspirational message. Miss Dabuit discussed the Statement of Purpose and presented the Research Management Guidelines. The last part of the morning program was the Abstract Presentation of the approved BERF researches by the grantees. The BERF grantees include Dr. Antonio Layacan, Mrs. Leonora Nofuente, Ms. Hannah Mrie Pakingan, Dr. Rene Cayabyab, Mr. Nio Ybarola, Mrs. Lucille Mendez, Mr. Rey Guevarra, Ms. Maricrys Ojano and Mr. Darius Villanueva. Open forum and discussion followed after the presentation.

The second part of first day session was facilitated by Dr. Morales. He discussed Discourse Features and Linguistic Analysis in writing a research paper. The second speaker of the day was Mrs. Ritchie Beloy who talked about academic writing, its rules and conventions. Dr. Morales gave a take home task.

The second day of the writeshop began with the singing of a nationalistic song which was followed by the doxology. Dr. Morales processed the take home task. The first speaker of the day was

Mrs. Donalie Vicuña, a Senior High School Teacher from Parañaque National High School-Main. She discussed Data documentaries, problem solution texts and positioning adverbs in academic writing. She gave some examples and asked the participants to answer some exercises.

The afternoon session was facilitated by the second speaker of the day, Mr. Francis Carpio, SHS teacher from PNHS-Main. He discussed how to make an action research using the Quantitative Approach. He gave the participants activities to be answered and also asked them to make a concept paper which was a take home activity. Dr. Morales added some important concepts on Discourse Features of AIMRDC.

The third and last day of the writeshop began with the singing of a nationalistic song the singing the doxology followed it. Mr. Carpio processed the take home task, Concept Paper. He also entertained some queries about research writing with the help of Dr. Morales. The speaker of the day was another SHS teacher from PNHS-Main, Mr. Gerfel Chan. Mr. Chan talked about Qualitative Research. He gave the audience some questions about his topic for them to know the differences between a quantitative and a qualitative research.

Dr. Maria Magdalena M. Lim, the Schools Division Superintendent, gave a short message when she arrived. She encouraged all the participants to come up with researches which can help them resolve a classroom problem, or any concerns about learning, curriculum or governance.

The closing program preceded lunch break. Dr. Marilyn B. Timtiman, Chief Education Supervisor of Schools Governance Operations Division bestowed the challenge. On the other hand, Mr. Clifford N. Bordaje, a teacher from Sto. Nino High School accepted the challenge. The awarding of certificates followed. Dr. Timtiman and Dr. Mascarina with Dr. Morales and Mrs. Dabuit led the distribution of certificates per district. Dr. Mascarina ended the event by delivering

ANNUAL DIVISION RESEARCH PARLIAMENT

Breaking New Grounds towards Continuous Improvement for the Delivery Quality Education

Capability Building on Research Methodology

The Annual Research Development Project of SDO-Muntinlupa for CY 2016 known as the Research Parliament kicked off in January, 2016. The project which is composed of three phases: Capacity Building on Research Methodology, Research Conference, and Research Parliament Awards, aim to capacitate our teachers on research methodology, to produce a compilation of classroom action researches which would help in improving the delivery of quality basic education in the Division, to recognize best educational research, and to showcase the best action research in terms of novelty and functionality.

On July 7, 2016, the Division Capacity Building on Research Methodology was conducted in Muntinlupa National High School. Almost 65 school research coordinators were capacitated by Dr. Warren Ramos, Education Program Supervisor of DepEd-NCR Research and Planning and an international researcher himself. He gave emphasis on the different strategies on how to improve the methodology of the study using evidence based concept maps. The training intended to identify, evaluate and narrow down research titles, capacitate the teacher-attendees on research methodology, and inspire others in coming up with award-winning researches. These were all based on the result of the assessment conducted by the Division in the previous implementation of the program.

2nd Division Research Conference

March 25, 2017, 27 teacher-researchers simultaneously presented their respective action researches to almost 300 members of the Division and School Research Committees during the 2nd Division Research Conference held in Lyceum of Alabang. It was a whole-day event that showcased the best research entries to compete for the Parliament Awards. It primarily aims to recognize the three best educational research presenters, to update teacher-researchers on new techniques, to provide a forum for teacher-researchers to identify best evidence-based practices, and to pre-assess the researches for the Research Parliament Awards.

The said event was attended by the DepEd Central Office Project Development Officer Mr. Michael Manangu. He commended the Division of Muntinlupa for its outstanding research programs. He stated that the conduct of the Research Conference significantly develops the skills of the teachers and more importantly it encourages them to come up with solutions to the learning problems in the classroom. 2nd Research Conference

2nd Research Parliament Awards

On April 1, 2017, SDO-Muntinlupa formally honored the 10 outstanding teacher-researchers, 7 from elementary and 3 from secondary levels, during the most prestigious awarding ceremony in Muntinlupa: the Research Parliament Awards held in Cinema 2, Ayala Malls, South Parks, Alabang. The 10 winners received the institutionalized trophy and PhP5,000.00 each. The top 3 best oral presenters were also awarded with PhP3,000.00 each and a certificate of recognition. The said event was attended by the Regional Supervisor of Policy, Planning and Research, Dr. Warren A. Ramos who commended SDO Muntinlupa for always coming up with programs which intend to encourage teachers to do educational research. He stated that research is now the trend of the 21st Century learning and teaching, which is why every step towards betterment in education should be research-based. The event also served as a special way of expressing the sincerest appreciation of SDO Muntinlupa for the commitment the teachers have shown in achieving the quality education for Muntinlupeño learners through comprehensive classroom action research.

SDO PASIG

1st Pasig City Basic Education Research and Innovation Festival

Charlie O. Fababaer
Senior Education Program Specialist

The Schools Division of Pasig City takes pride in successfully holding the 1st Pasig City Basic Education Research and Innovation Festival last December 12 and 15, 2017 at the Perla B. Menguito Hall, Pasig City. This research festival is part of the comprehensive program of SDO – Pasig City in the area of planning and research which was purposely conceptualized towards the implementation of evidenced – based practices and decision making. This event also became a platform for our teachers to be actively engaged in the systematic process of finding solutions to persistent problems in their respective classrooms. In addition, it encouraged them to also introduce innovations in the classroom to address the demands of the 21st Century education.

This years' research festival highlights the Research and Continuous Improvement project outputs of various participating public schools, from elementary to senior high school in the division. It was able to capture entries which were classified as basic research, action research and Continuous Improvement Projects under the main and cross – cutting themes of the Basic Education Research Agenda.

Different awards such as Best Research Paper, Best CI Project, Best Research Paper Presenter, Best CI Project Presenter, Best Abstract, Best Research Poster, Best CI Poster, Best Poster Presenter, among others were given to exemplary researchers. To encourage each school to produce a good number of quality researches, the Research Productivity Award was given to the School Head of Sta. Lucia High School, Mr. Gilbert O. Inocencio, Principal IV for being able to produce the most number of researches and CI projects through the teachers under him.

The awarding ceremony was also attended by research experts and officials from the DepEd – National Capital Region. Dr. Victoria R. Mayo, PPRD Chief, congratulated SDO – Pasig for celebrating this milestone. She takes pride in declaring that DepEd – NCR has finally embraced the culture of research and living up to the culture of excellence. Sheemphasized that when we do research, we begin to create something new and something better for the improvement of learning outcomes. On the other hand, Dr. Dominico C. Idanan, SDS, posed a challenge to always uphold excellence by making sure that everyone is engaged in a worthwhile endeavor particularly in addressing certain issues. He added that we should continuously think of something that can be developed further through research. Dr. Warren A. Ramos, Regional Supervisor, Ms. Isabelle S. Sibayan, Education Program Supervisor and Dr. Roel P. Anicas, Asian Research Awardee also shared valuable insights about developing a strong research culture.

Seminar-Workshop on Action Research

Charlie O. Fababaer
Senior Education Program Specialist

To jumpstart a division – wide campaign for research – based practices, the Schools Division Office – Pasig City through the Schools Governance and Operations Divisions' Planning and Research Section initiated the *Seminar – Workshop on Action Research* last October 4 & 6, 2017 at the PBM Hall, SDO – Pasig City. This activity was attended by School Research Coordinators, Master Teachers and other teachers with on – going research projects.

Research experts from various fields were invited to share their knowledge on writing an action research and how it could possibly help the teachers improve their practice. In the morning session of Day 1, Dr. Celerino C. Tiongco, Dean, College of Education and Human Development from the University of Asia and the Pacific enthusiastically shared how action research in education has been helping the teachers grow professionally. The participants were challenged by the premise "*If we want to be more effective teachers, we need to be competent teacher – researchers*". He also emphasized that the first and most practical area that we must focus on as teacher – researchers are our *classrooms*. Another esteemed speaker was Dr. Zafary Wa – Mbaleka, Founding President of Asian Qualitative Research Association. He talked about the rudiments of qualitative research and how this can be used as an approach to doing an action research. Dr. Wa – Mbaleka has been an advocate of evidence – based practices. He stressed that through qualitative research that we, as teachers, would have the opportunity to understand deeply the on – going phenomena in our classrooms. This deep thinking approach would lead us to solving an issue that could possibly impact our learners.

The succeeding discussions were facilitated by research practitioners and officials from SDO – Pasig. Ms. Maria Elizabeth Austria, SGOD Chief, and Dr. Susan Cobbarubias, PSDS, took the opportunity to discuss the Research Management Guidelines. It has been an enlightening session as the participants got the chance to be informed of the DepEd policies including the structures and research procedures unique in the Division. The step – by – step action research writing process were taught by Mr. Charlie Fababaer, Senior Education Program Specialist for Planning and Research, Mr. Jayson Caraang, Regional Outstanding Researcher from Makati Elementary School and Mr. Emerson Fababaer, Research Consultant from Infospring Research. The participants were very thankful with all the things that they learned from this 2 – day seminar – workshop and expressed greater confidence in doing action researches.

SDO TAGUIG CITY AND PATEROS

Research in Action

by: Norman Quinn O. Arreza

The Schools Division Office of Taguig City and Pateros opened the year 2017 with the 5th SDO TAPAT Action Research Festival held last January 27, 2017 at the Taguig City Lakeshore Hall during the closing ceremony and awarding of winners for the 4th Action Research Festival spearheaded by Dr. Benjamin D. Samson then the OIC-Office of the Schools Division Superintendent.

Considered to be the biggest and longest Action Research Festival in the National Capital Region and perhaps in the entire country, it has accepted and approved more than one hundred action research proposals coming from both elementary and secondary public-school teachers throughout the division following the Basic Education Research Agenda (BERA) theme.

Under the new leadership of Dr. Romulo B. Rocena as the OIC-Office of the Schools Division Superintendent and with the new Chairperson of the Division Research Committee, Dr. Carleen S. Sedilla, OIC-Office of the Assistant Schools Division Superintendent, it has placed several activities that further put it into the next level with the coaching and consultation sessions for the action research proponent/s twice a week with the assistance of the division research consultant Dr. Danilo S. Gutierrez, the former Schools Division Superintendent of TAPAT and the man behind the action research festival in the division.

In partnership with the Local Government Unit of Taguig City through the Special Education Fund (SEF), Mayor Laarni "Ate Lani" C. Cayetano approved the funding of the three (3) days Seminar – Workshop on Action Research. One hundred and forty-five (145) participants composed of thirty-six (36) members of the Division Research Committee from the CID and SGOD and one hundred nine (109) action research lead proponents attended the said activity held at Tagaytay Haven Hotel – Ulat, Ulat Road, Tagaytay City. To discuss on various topics that will capacitate and broaden the understanding in Action Research several speakers were invited namely Dr. Warren A. Ramos, the Regional Supervisor for Research in the National Capital Region of the Policy, Planning and Research Division (PPRD), Mr. Zarren A. Gaddi, Research Coordinator, Cluster 3 Schools of the Roman Catholic Archdiocese of Manila Educational System and Book Author in Research for Senior High School (SHS), Mr. Raynan R. Marcelo, Senior Education Program Specialist (SEPS) for Planning and Research from SDO Makati City and Dr. Danilo S. Gutierrez, CESO VI (Retired) Taguig City Research Consultant.

This only shows that on its 21st Founding Year truly SDO TAPAT LEADS, **L**eading through Innovation, **E**mpowering staff to pursue Excellence, **A**dvocating Continuous Learning, **D**oing the Right Things and **S**erving with a Heart and with the support of each member together we make a difference.

Participants together with Dr. Romulo B. Rocena OIC- Office of the Schools Division Superintendent during the Research Seminar held on September 14-16, 2017 at Tagaytay Haven.

THE NET

VERITATIS ET BONITATIS – TRUTH AND EXCELLENCE

The Official Newsletter Publication of Navotas National High School – October, 2017

Youth for Social Transformation through Action Research,

PROJECT YSTAR ENGAGES 51 NNHS STUDENTS IN SOLVING TEENAGE PREGNANCY PROBLEM IN THE CITY

On August 15, 2017, NNHS officially launched Project YSTAR (Youth for Social Transformation through Action Research), a community-based, student-driven action research program that seeks to immerse participants in finding policy solution to the problem of teenage pregnancy in Navotas.

51 students from Grade 9 and 10 were selected to be beneficiaries of Project YSTAR. The launching program was graced by no less than the City Mayor, Hon. John Reynald M. Tiangco. "Let's become active agents of change that will propel our city to progress," Mayor JRT said as he inspired the parents and students present at Navotas City Sports Complex.

Funded by Save the Children and in partnership with the Navotas City Library, Project YSTAR runs from August 15 to November 19, 2017. Also present in the events are Mrs. Loida Balasa, Chief CID of SDO-Navotas, Mr. Jeffrey Carlos and Ms. Michelle Llanza, program officers from Save the Children and Mrs. Marianita Gionson, librarian-in-charge of the Navotas City Library. The event was well-supported by the school community led by the principal, Dr. Maria Cristina A. Robles together with the eight department heads.

The YSTAR instructors who will guide the students are Mr. Marco Meduranda, also the project proponent and Mr. Edmund Ternida, Grade 9 English teacher.

Hon. John Rey Tiangco inspires the YSTAR participants with his message

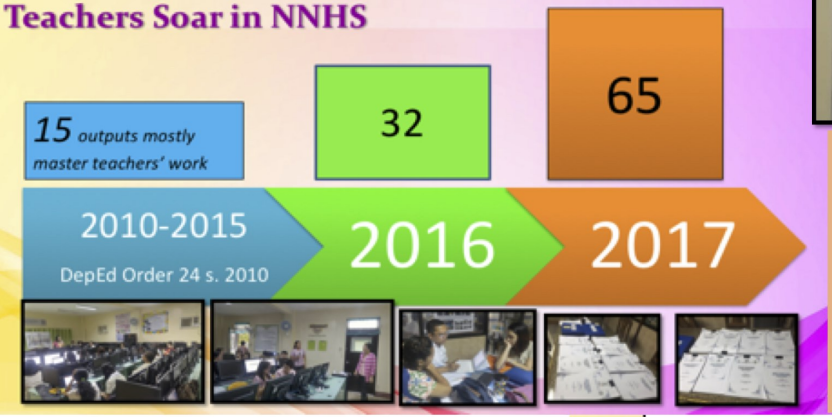
PROJECT YSTAR ACTIVITIES

From their service learning activity in Fabella hospital, to their data-gathering activity in their identified localities, and up to their portfolio showcase presentation, YSTAR scholars had a very challenging but fun learning experience under the program. See more on page 2.

SDO Navotas Holds Research Guidelines Orientation

On September 22, 2017, SDO Navotas conducts an orientation on research management guidelines at Eurotel, Quezon City. Principals and research focal persons in the division attended the event. Mr. Meliton Zurbano, OIC-SDS, encouraged the participants to use research in ensuring that key performance indicators on promotion, completion and achievement of learners are improved. Speakers on the said activity were Mr. Warren Ramos, research coordinator in DepEd NCR; Mrs. Ma. Evalou Agustin, OIC-ASDS; Dr. Gemma Villaluna, Chief, SGOD; Mr. Bonifacio Dullas IV, SEPS Planning and Research and Ms. Sarah Sison, SEPS for Human Development, from the Division. Dr. Maria Cristina A. Robles and Mr. Marco Meduranda attended the activity.

Action Research Outputs of Teachers Soar in NNHS



For SY 2017-2016, NNHS teachers has sustained the school-based action research program through the implementation of the lesson study process. With the harmonization of CI, Lesson Study and AR, teachers were able to deliver 65 action research proposals to which 14 were BERF approved.

Through the modified school-to-school partnership, a total of 1300 teachers in Navotas, Las Pinaz, Pasig and Malabon were given technical assistance training since October, 2016. Doing this activity are Dr. Maria Cristina A. Robles and Mr. Marco D. Meduranda.

SDO VALENZUELA

KOMPENDYUM

The Planning and Research Section of SDO-Valenzuela spearheaded its major activity related to research; the ***Launching of the 1st Research Journal (Kompendyum)*** and ***Awarding of Best Action Research*** which was held on June 16, 2017, 1:00 p.m. at Valenzuela City Auditorium.

Kompendyum is the first official journal of DepEd Valenzuela, it contains the *Ten Best Action Researches* conducted in the Division for school year 2016-2017. It is designed to provide a medium of individual expression and an avenue for sharing of scholarly research outputs. ***Kompendyum*** features abstracts of four action researches in Mathematics and six in Science. Furthermore, the journal likewise highlights the Re-search Deve lopment of SDO-Valenzuela which started in 2016.

For its initial publication, the Planning and Research Section produced 150 copies which were distributed to the researchers, teachers, guests and other DepEd personnel during the awarding ceremony of Best Action Research. The teachers who were able to get a copy of the journal had a preview of the best researches in the Division. They found it very useful since it contains information on *Research Management Guidelines (DO 16, s. 2017).*

On the other hand, the first ever ***Search for Best Action Research*** was the initi-ative of the former SEPS in Planning and Research, Dr. Christopher J. Delino. Around

thirty teacher-researchers participated in the above-mentioned activity. They presented their paper to the panel of judges composed of Dr. Christopher J. Delino, Engr. Connie Sison, Planning Officer – SDO Valenzuela, Mr. Bonifacio Dullas Jr., SEPS, P&R - SDO Navotas, and Miss Marites Cleofas, SEPS, P&R - SDO Malabon. After a thorough deliberation, the Ten Best Researches were chosen. The final research outputs were peer reviewed by a team of research experts in the Division which later became the contents of ***Kompendyum***.

To recognize the outstanding contribution of the teacher-researchers, a plaque of recognition was awarded to the winners and a certificate of participation was given to all the participants during the awarding ceremony.

SDO PASAY

Research Colloquium: 3rd Phase of the Research and Development Program in SDO-Pasay

(September 15, 2017)

The impact of action researches on academic development should be acknowledged and maximized through the Conduct of a Research Colloquium, a dissemination activity. Considering its

fundamental value on the implemented Research and Development Program in SDO-Pasay, accessibility to research findings becomes vital and necessary.

The objectives of this activity were the following: a) showcase of a structured process of sharing of information and knowledge; b)strengthen research replication capacity; and motivate participants to further advocate the research culture.

RESEARCH WRITESHOP FOR 2016 BASIC EDUCATION RESEARCH FUND (BERF) GRANTEES 2016

(December 19, 2017)

In line with the conducted Regional Level Coaching and Mentoring to Lead Researchers on the Final Research Report for 2016 Basic Education Research Fund (BERF) on December 11, 2017 at Eurotel Hotel, P. Gil, Manila, the need to thoroughly follow the content and context necessary for each of the parts of the research paper is mandatory.

It is for this reason that a writeshop on BERF Research Manuscripts be conducted for 2016 BERF grantees to assure compliance to DepEd Order No. 16 s. 2017 re: Research Management Guidelines (RMG). The instigation of this activity deems to uphold the quality of the teacher-researchers' perspectives and alignment of research outputs to the prescribed Research Themes as a means to enhance basic education services through research and development.

The activity aimed to: discuss the Regional Format for Basic and Action

Researches and evaluation Standards based on the rubrics; review of the Research Manuscripts; identify areas for correction and improvements; and revise the research manuscripts.

This activity was facilitated by Ms. Maria Jacqueline D. Bernardino – SEPS P&R which was participated in by the twenty-one (21) 2016 BERF Grantees. As a result, the participants were clarified and have initiated the revision of their respective research papers.

Training Workshop on the Enhancement on Inquiries, Investigation and Immersion for Public and Private Senior High School Research Teachers

November 10-11, 2017/SDO Conference Hall (Public SHS Teachers)
November 28-29, 2017/Manila Tytana Colleges (Private SHS Teachers)

DepEd's implementation of Senior High School upholds Republic Act 10533 sec. 2 and the Enhanced Basic Education Act of 2013, wherein "every graduate of basic education be an empowered individual, through a program rooted on…the competence to engage in work and be productive, the ability to coexist in fruitful harmony with local and global communities, the capability to engage in creative and critical thinking, and the capacity and willingness to transform others and oneself."

Since senior high school is a transition period for students, preparing them for college-level academic rigor and precision, based on the reported issues on the implementation of SHS, it was noted that SHS research teachers have facilitated the lesson based on an extreme technical discussion, demanded highly technical research outputs and some even initiated the conduct of research defense and research forum which learners have difficulty to handle with.

It is therefore necessary to capacitate our SHS Research teachers on the facilitation of practical research on the content and performance standards as specified in the Curriculum Guide for Practical Research. Incorporated in the seminar workshop is the development and utilization of a standardized method in facilitating learning in practical research through worksheets as well as the rubrics in gauging the quality output of the learners is deemed essential. This proposed activity shall further promote patience, motivation and discipline, teaching and learning research effectively can be realized by anyone in the SHS program.

The objectives of this two-day training workshop were: provide the participants an awareness on the required competencies that are expected for the development of critical thinking and problem-solving skills through qualitative/quantitative research among SHS learners; provide inputs in facilitating research subjects through enhancing teachers competencies and strategies and train the participants on how to improve learners' performance in practical research and delivery of research portfolios.

Participants were the thirty-two (32) Selected Senior High School Research Teachers; nine (9) Assistant SHS Principals and SDO SHS Focal Persons for each of the Tracks.

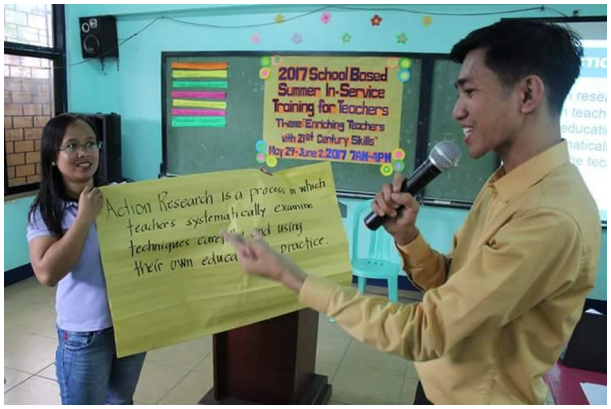
As a result, participants were enlightened on the content and context of discussion necessary for the subjects: practical research 1 & 2 and inquiries, investigation and immersion.

JASON O. CARAANG
Makati Elementary School
Division of City Schools-Makati City

Action research is basically "*telling a story*" and my experience with action research made me a better teacher and a teacher I desire to be.

Engaging in an action research contributes to my professional development and advancing knowledge about teaching and learning. My first action research enabled me to find an effective solution to the actual problem that I encountered in my reading class. My interest in doing an action research using a reading approach stirred up when I observed that my Grade Six students were lacking in reading comprehension skills. I experienced this problem firsthand: I encountered problems with students who have good decoding skills but inadequate comprehension skills; however, the essence of reading is constructing the meaning. These students struggled in reading. This motivated me to conduct an action research because I wanted to help them read with understanding. Literacy – the ability to read and write – is one of the main concerns of basic education. Before moving up to high school, students are expected to be able to decode and make sense of written materials and to encode or

Mr. Jayson Caraang guides the reading activities of his students using the Reciprocal Teaching.



Mr. Caraang serves as a resource speaker in seminar-workshops on action research.

express their ideas in writing.

Through reflective practice I began to wonder: How can I develop the comprehension skills of my students to improve their reading performance? Upon examining the problem and reflecting on my practice, I considered a research-based reading approach. When I read studies that used the reading approach and discussed reading comprehension development, my journey on action research with a reading intervention started. I used the reading approach to improve students' use of reading comprehension strategies and comprehension.

The following year, I made another action research using picture prompts that focused on the development of writing performance of my students. I found the writing technique effective because my students were able to compose stories when the picture prompts were presented to them. Another action research was made last year. It used explicit instruction with multiple comprehension strategies to help improve students' reading performance and use of comprehension strategies. In doing the action research, I considered the performance of my students that informed my instruction. I evaluated their performance based on the results of the formative assessment, observations, and student reflection.

As a reading teacher, I am interested in the literacy development of my students – decoding and making sense of written materials and encoding or expressing their ideas in writing. With the focus now on strategy training to improve literacy – comprehension of texts and skill in putting down ideas in writing – improving comprehension instruction and teaching of comprehension strategies is a must to develop the reading comprehension and writing performance of students. It is therefore of great importance that teachers help their students understand the text they read by providing them with explicit reading instruction and application of comprehension strategies.

I found in my study that reading instruction improves writing skills. Exposure to reading would lead to improvement of writing performance as students acquire knowledge of writing style and text structures. The improvement in the writing performance of students can be attributed to the processing of different kinds of texts with the use of comprehension strategies.

I presented my action research in the Division of Makati Action Research Festival and Search for Outstanding Action Research, DepEd NCR Research Congress, and International Research Conference on Teacher Education to

disseminate the findings of my study. To influence teachers from other schools in a research forum and seminar-workshop during the In-Service Training for Teachers or Professional Learning Community, I help them understand better what an action research is and know the relevance of conducting it in the classroom and acquire skills and knowledge in carrying it out. Thus, it informed other teachers regarding the need to improve both teaching and learning performance through action research.

Teachers' acceptance, passion, and commitment to conduct action research is a positive indicator of professional development. Motivating teachers to do a classroom-based action research challenges me. Some teachers show acceptance, while others have the resistance to action research. This is also a challenge for our educational leaders to encourage the teachers to participate in carrying out action research in school.

However, it brings me happiness when teachers inquire how they can do their action research to solve a problem in their own classroom context. This marks their awareness and acceptance of a research undertaking. This is probably my influence to other teachers – to motivate them in becoming both a teacher and researcher. There is joy in my heart after sharing my knowledge and skills of conducting action research. Coaching teachers who are committed in improving their teaching competencies and performance of their students is my way of helping them become teacher-researchers. The purpose of coaching other teachers is to enhance their research skills. I always advise them to do action research for the common good – for professional development and student learning.

As a teacher-researcher, I consider effective teaching-learning activities to promote learning. I have been using different reading and writing approaches and techniques to improve the reading and writing performance of my students. It is very important that we read literature to enrich our understanding of the teaching approaches strategies, and methods before we make an intervention.

In doing an action research, I gained insights in improving my teaching practice through reflection and making actions to improve learning outcomes through an intervention. Reflection enables us to know what is going on in the classroom, including what we are doing, to see the real situation and address problems. We become sensitive to the learning needs of our students. We plan and implement an intervention to help them achieve their learning goals. Action research is a form of professional development. Teachers are empowered to examine pedagogical practices and student performance. Teacher-researchers take the dual role of teacher and researcher of own practice. As we conduct action research, we produce knowledge about effective teaching and gain of authority over our work. We make decisions about which new approaches, methods, or techniques to include in our teaching practice.

Some problems may be encountered along the process of action research. It is important to seek help and guidance from other teachers who can help in going through the

process. Research requires collaboration among the members of the school community. We need the support and encouragement of our school head and colleagues in conducting our action research.

I have learned through these action research experiences that more than having the instructional competence, having the commitment to the children to learn and care for their positive development makes a successful teacher-researcher. The reward of conducting an action research is reflected in the increase of student achievement and teacher performance.

Truly, as an educator, action research is a worthwhile means of professional development. Professor Keith Taber from the University of Cambridge asserted that teaching should be an evidence-led and research-based profession, that teachers should be expected to be both aware of relevant research about teaching and learning and be capable of undertaking classroom research to address educational issues and problems.

With action research, we can become better teachers who can make a difference in student's learning and performance through our actions. Action research helps us become the teacher we aspire to be – a teacher of action and influence.

Innovation distinguishes between

a leader and a follower.

Steve Jobs

Research is an organized method of trying to find out what you are going to do after you cannot do what you are doing now. It may also be said to be the method of keeping a customer reasonably dissatisfied with what he has. That means constant improvement means and change so that the customer will be stimulated to desire the new product enough to buy it to replace the one he has.

Charles F. Kettering

ANNEX 1 Research Proposal Application Form and Endorsement of Supervisor Template

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

ANNEX 1 Research Proposal Application Form and Endorsement of Immediate Supervisor

A. RESEACH INFORMATION

RESEARCH TITLE	
SHORT DESCRIPTION OF THE RESEARCH	
RESEARCH CATEGORY (check only one) ○ National ○ Region ○ Schools Division ○ District ○ School (check only one) ○ Action Research ○ Basic Research	RESEARCH AGENDA CATEGORY (check only one main research theme) ○ Teaching and Learning ○ Child protection ○ Human Resource Development ○ Governance (check up to one cross-cutting theme, if applicable) ○ DRRM ○ Gender and Development ○ Inclusive Education ○ Others (please specify): _____

FUND SOURCE (e.g. BERF, SEF, others)	AMOUNT
TOTAL AMOUNT	

**indicate also if proponent will use personal funds*

B. PROPONENT INFORMATION

LEAD PROPONENT/ INDIVIDUAL PROPONENT

LAST NAME:	FIRST NAME:	MIDDLE NAME:	
BIRTHDATE (MM/DD/YYYY)	SEX:	POSITION/ DESIGNATION:	NO.OF YEARS IN SERVICE:
REGION / DIVISION / SCHOOLS (whichever is applicable)			
CONTACT NUMBER 1:	CONTACT NUMBER 2:	EMAIL ADDRESS:	

ANNEX 1 Research Proposal Application Form and Endorsement of Supervisor Template

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

EDUCATIONAL ATTAINMENT (DEGREE TITLE) Enumerate from bachelor's degree up to doctorate degree	**TITLE OF THESIS/ RELATED RESEARCH PROJECT**
SIGNATURE OF PROPONENT:	

PROPONENT 2

LAST NAME:	FIRST NAME:		MIDDLE NAME:
BIRTHDATE (MM/DD/YYYY)	SEX:	POSITION/ DESIGNATION:	NO.OF YEARS IN SERVICE:
SCHOOL/ OFFICE ADDRESS:			DIVISION/REGION
CONTACT NUMBER 1:	CONTACT NUMBER 2:		EMAIL ADDRESS:
EDUCATIONAL ATTAINMENT (DEGREE TITLE) Enumerate from bachelor's degree up to doctorate degree	**TITLE OF THESIS/ RELATED RESEARCH PROJECT**		
SIGNATURE OF PROPONENT:			

PROPONENT 3

LAST NAME:	FIRST NAME:		MIDDLE NAME:
BIRTHDATE (MM/DD/YYYY)	SEX:	POSITION/ DESIGNATION:	NO.OF YEARS IN SERVICE:
SCHOOL/ OFFICE ADDRESS:			DIVISION/REGION
CONTACT NUMBER 1:	CONTACT NUMBER 2:		EMAIL ADDRESS:

ANNEX 1 Research Proposal Application Form and Endorsement of Supervisor Template

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

EDUCATIONAL ATTAINMENT (DEGREE TITLE) Enumerate from bachelor's degree up to doctorate degree	**TITLE OF THESIS/ RELATED RESEARCH PROJECT**
SIGNATURE OF PROPONENT:	

IMMEDIATE SUPERVISOR'S CONFORME

I hereby endorse the attached research proposal. I certify that the proponent/s has/have the capacity to implement a research study without compromising his/her office functions.

_____
Name and Signature of Immediate Supervisors

Position/Designation:

Date: _____

_____
Name and Signature of Immediate Supervisors

Position/Designation: _____

Date:

_____
Name and Signature of Immediate Supervisors

Position/Designation: _____

Date: _____

ANNEX 2 Minimum Requirement of the Research Proposal

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

ANNEX 2: Minimum Requirement of the Research Proposal

A. BASIC RESEARCH PROPOSAL TEMPLATE

I. Introduction and Rationale
II. Literature Review
III. Research Questions
IV. Scope and Limitation
V. Research Methodology
    a. Sampling
    b. Data Collection
    c. Ethical Issues
    d. Plan for Data Analysis
VI. Timetable/Gantt Chart
VII. Cost Estimates
VIII Plans for Dissemination and Advocacy
IX. References

B. ACTION RESEARCH TEMPLATE

I. Context and Rationale
II. Action Research Questions
III. Proposed Innovation, Intervention, and Strategy
IV. Action Research Methods
    a. Participants and/or other sources of data and information
    b. Data Gathering Methods
    c. Data Analysis Plan
VI. Action Research Work Plan and Timelines
VII. Cost Estimates
VIII. Plans for Dissemination and Utilization
IX. Financial Report
X. Appendices

ANNEX 3 Declaration of Anti-Plagiarism

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

ANNEX 3: Declaration of Anti-Plagiarism and Absence of Conflict of Interest

DECLARATION OF ANTI-PLAGIARISM

1. I, _____, understand that plagiarism is the act of taking and using another's ideas and works and passing them off as one's own. This includes explicitly copying the whole works of another person and/or using some parts of their work without proper acknowledgment and referencing.

2. I hereby attest to the originality of this research proposal ad has cited properly all the references used. I further commit that all deliverables and the final research study emanating from this proposal shall be of original content. I shall use appropriate citations in referencing other works from various sources.

3. I understand that violation from this declaration and commitment shall be subject to consequences and shall be dealt with accordingly by the Department of Education and (insert grant mechanism).

PROPONENT:

SIGNATURE: _____

DATE: _____

PROPONENT:

SIGNATURE: _____

DATE: _____

PROPONENT: _____

SIGNATURE:

DATE: _____

ANNEX 3 DECLARATION OF ABSENCE OF CONFLICT OF INTEREST

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

DECLARATION OF ABSENCE OF CONFLICT OF INTEREST

1. I, _____, understand that conflict of interest refers to situations in which financial or other personal considerations may compromise may judgement in evaluating, conducting, or reporting research.[1]
2. I hereby declare that I do not have any personal conflict of interest that may arise from my application and submission of my research proposal. I understand that my research proposal may be returned to me if found out that there is conflict of interest during the initial screening as per (insert RMG provision).
3. Further, in case of any form of conflict of interest (possible or actual) which may inadvertently emerge during the conduct of my research, I will duly report it to the research committee for immediate action.
4. I understand that I may be held accountable by the Department of Education and (insert grant mechanism) for any conflict of interest which I have intentionally concealed.

PROPONENT:

SIGNATURE: _____

DATE:

PROPONENT:

SIGNATURE: _____

DATE: _____

PROPONENT:

SIGNATURE: _____

DATE: _____

ANNEX 4 GUIDE FOR APPRAISING BASIC RESEARCH PROPOSALS

ANNEX 4.a: GUIDE FOR APPRAISING BASIC RESEARCH PROPOSALS

Main Criteria	low	Increasing Levels of Quality and their Descriptions	high	Score
Rationale of the Research 10 points	*not described (no points)*	*The research proposal presents a general description of the topic or focus of inquiry. (5 points)*	*The educational relevance and timeliness of the research topic are shown. It explains the need to conduct research to understand a phenomenon, advance or validate knowledge, improve a situation, or address an issue / problem. (8 points)*	*The nature, extent and salience of the research topic are comprehensively discussed. Different aspects of the research setting are elaborated showing in depth and critical analysis of the situation. Policy implications, benefits and limitations of the study are stated. (10 points)*	
Research Questions 20 points	*not stated (no points)*	*The research proposal has a stated aim, objective, or general research questions. (10 points)*	*The research questions specify the variables or the focus of inquiry. Key elements of the research questions are reflected in the title of the proposal. (15 points)*	*The research questions logically proceed from the context of the study. They are formulated to clearly show the extent and different angles of inquiry (ex: different variables of interest, relationships to be probed, geographical and temporal scope). (20 points)*	
Use of Related Literature and Proper Citation 10 points	*not provided (no points)*	*The research proposal cites theories and/or previous studies related to the present research. Sources are properly acknowledged. (5 points)*	*Viewpoints and issues underlying the present research are discussed and synthesized. They are critically evaluated to identify inconsistencies or gaps in current knowledge or educational policy that the study intends to address. Constructs are defined and presented in a conceptual framework. Citation of literature sources is consistent. (10 points)*		

ANNEX 4 **GUIDE FOR APPRAISING BASIC RESEARCH PROPOSALS**

Main Criteria	Sub-Criteria	Increasing Levels of Quality and their Descriptions				Score
		low			high	
Research Methods 40 points	Participants and/or other Sources of Data and Information (10)	*not stated (no points)*	*The research proposal states the study's target participants and/or other sources of data and information (ex: divisions, districts, offices, schools, learners, teachers, parents, documents, secondary data, others) (5 points)*	*Details are provided about the target participants (ex: number, characteristics, sampling procedure, if any) and/or other sources of data and information. Clear rationale for their inclusion in the study is given. (10 points)*		
	Data Gathering Method(s) and Research Instruments (20)	*not described (no points)*	*The research proposal presents a general description of the methods to be employed for gathering data. (10 points)*	*Details of data gathering methods are provided: the specific kinds of data, how and when they will be collected. It describes any research instruments (ex: test, scale, survey questionnaire, checklist, interview guide) to be developed or adopted. (15 points)*	*The proposal explains why the data gathering methods are suited to the nature and purpose of the study. The data gathering methods are aligned with the research questions. Details about research instruments are presented such as their sources or how they will be developed and by whom, and their appropriateness for obtaining the desired kind of data / information. (20 points)*	
	Data Analysis Plan (10)	*not stated (no points)*	*The research proposal presents a general description of how the gathered data / information will be analyzed. (5 points)*	*Details of the methods of data analysis are given. Techniques (ex: quantitative/statistical, qualitative, or both methods), as well as tools (ex: software) to be employed are specified. (8 points)*	*The selected methods of data analysis are shown to be appropriate to the nature of the data / information to be gathered and for addressing the research questions. (10 points)*	

ANNEX 4 **GUIDE FOR APPRAISING BASIC RESEARCH PROPOSALS**

Main Criteria	low → Increasing Levels of Quality and their Descriptions → high			Score
Work Plan and Timelines 10 points	*not included (no points)*	*The research proposal includes a list of major activities and their timelines. (5 points)*	*A detailed work plan is provided covering start to completion of the research. Timelines are realistic and show concretely how the research will unfold over the allowed period. The overall plan reflects the proponent's capacity to concretize ideas into clear and sequential steps to be undertaken. (10 points)*	
Cost Estimates 10 points	*not included (no points)*	*The research proposal includes a list of major items and their estimated costs. The total cost is shown. (5 points)*	*A detailed breakdown of items with their corresponding costs is furnished. The items and costs reasonably reflect the funding needs of the research, and adhere to BERF guidelines. The overall plan reflects the proponent's capacity to project specific expenses that she or he will be accountable for. (10 points)*	
			Total Score	
Remarks:				

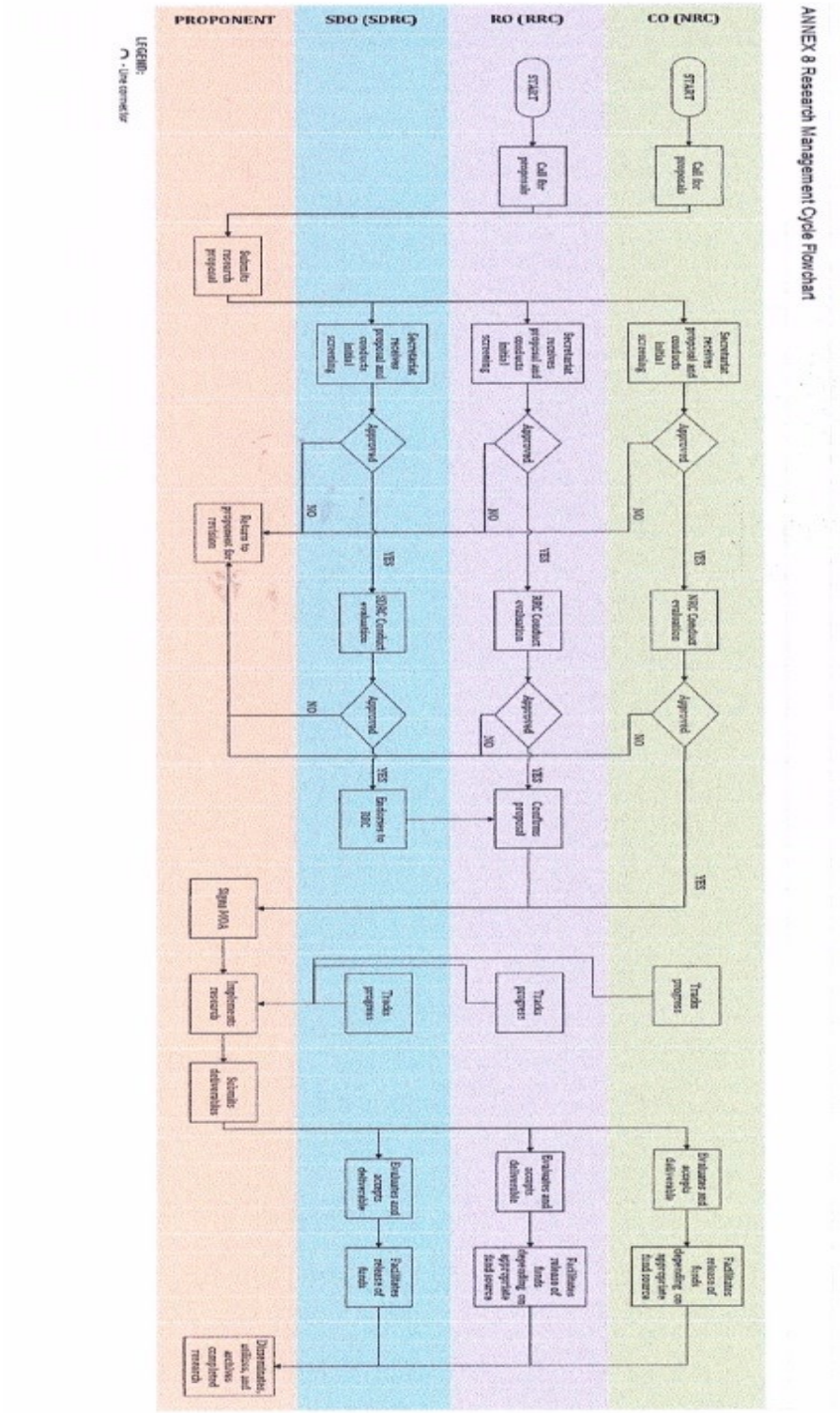
ANNEX 4 **GUIDE FOR APPRAISING BASIC RESEARCH PROPOSALS**

Main Criteria	Sub-Criteria	low ⟶ Increasing Levels of Quality and their Descriptions ⟶ high				Score
Action Research Methods 30 points	Participants and/or other Sources of Data and Information (10)	*not stated (no points)*	*The action research proposal states the target participants and/or other sources of data and information (ex: learners, teachers, documents, realia, learners' products, others) (5 points)*	*Details are provided about the target participants (ex: number, characteristics, sampling procedure, if any) and/or other sources of data and information. Clear rationale for their inclusion in the study is given. (10 points)*		
	Data Gathering Method(s) (10)	*not described (no points)*	*The action research proposal presents a general description of the method(s) to be employed for gathering data. (5 points)*	*Details of the data gathering method(s) are provided: the specific kinds of data, how and when they will be collected (ex: pretest and posttest scores). Research instruments, if any, are described (ex: test, scale, survey questionnaire, checklist, interview guide, others). (8 points)*	*The proposal explains why the selected data gathering method(s) is suited to the nature and purpose of the action research. The data gathering method(s) is aligned with the research instruments, if any, are appropriate for obtaining the desired kind of data / information. (10 points)*	
	Data Analysis Plan (10)	*not stated (no points)*	*The action research proposal presents a general description of how the gathered data / information will be analyzed. (5 points)*	*Details of the method(s) of data analysis are given. Techniques (ex: quantitative/statistical, qualitative, or both methods), as well as tools (ex: software) to be employed are specified. (8 points)*	*The selected method of data analysis is shown to be appropriate to the nature of the data / information to be gathered and for addressing the research question(s). (10 points)*	

ANNEX 4 **GUIDE FOR APPRAISING BASIC RESEARCH PROPOSALS**

Main Criteria	Increasing Levels of Quality and their Descriptions			Score
	low		high	
Action Research Work Plan and Timelines 5 points	*not included (no points)*	*The action research proposal includes a list of major activities and their timelines. (3 points)*	*A detailed work plan is provided covering start to completion of the action research. Timelines are realistic and show concretely how the action research will unfold over the allowed period. The overall plan reflects the proponent's capacity to concretize ideas into clear and sequential steps to be undertaken. (5 points)*	
Cost Estimates 5 points	*not included (no points)*	*The action research proposal includes a list of major items and their estimated costs. The total cost is shown. (3 points)*	*A detailed breakdown of items with their corresponding costs is furnished. The items and costs reasonably reflect the funding needs of the action research, and adhere to the BERF guidelines. The overall plan reflects the proponent's capacity to project specific expenses that she or he be accountable for. (5 points)*	
			Total Score	
Remarks:				

ANNEX 8 **RESEARCH MANAGEMENT CYCLE FLOWCHART**



ANNEX 5. A **LETTER OF APPROVAL TEMPLATE**

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

ANNEX 5. A: Sample Letter of Approval

[insert date]

Mr./Ms._____
_____
_____

Dear Mr./Ms. _____:

Greetings!

This refers to the proposal you submitted to the **[insert governance level]** for possible funding under **[insert fund source].**

The Research Committee has carefully evaluated the final research proposal entitled _____ based on the criteria prescribed in the Research Management Guidelines. The Research Committee is pleased to inform you that the said research proposal was **approved for implementation**.

In this regard, may we invite you to the **[insert name of the office/venue of orientation]** on **[insert orientation date]** for an orientation regarding the implementation of your research proposal. Further, this will also be a venue for the signing of the Memorandum of Agreement (MOA) which will contain the details of your engagement.

For clarifications and any concerns, kindly contact **[insert contact office, focal person, and contact details].**

We look forward to the implementation of your research. Thank you very much!

Very truly yours,

RESEARCH COMMITTEE CHAIR

ANNEX 6 MINIMUM REQUIREMENT OF COMPLETED RESEARCH REPORT

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

1. Free, prior and informed consent

Recognizing the right of ICCs and indigenous peoples to exercise free, prior and informed consent, researchers shall conduct the needed consent-seeking process in the ICCs or communities to be involved in the research prior to the planning of the research. Consent-seeking shall be undertaken in accordance with the community's customary governance processes. Should such a process not be possible in its customary expression (e.g., those involved in the study are only several households outside their traditional ancestral domain or migrants in another area), the families or communities involved shall be consulted regarding the appreciate process to be undertaken for consent-seeking purposes.

Consultations for consent-seeking shall be conducted in a manner free of coercion, nor should favors, benefits or profits be implied in exchange for the community's approval of the research. The coverage of the discussions for the consent-seeking process shall be determined with the community and shall include, but not limited to, the following:

- Rationale and purpose of the research in relation to IPEd implementation;
- Research's relevance for all parties involved;
- Impact on the community including possible risks and unintended adverse effects;
- Proposed research processes and tools to be used;
- An analysis based on the right-based approach (i.e., evaluation of the research based on the rights- based principles of participation, accountability, non-discrimination, transparency, human dignity, empowerment, and rule of law);
- Benefit sharing;
- Expected role and contribution of the community to the research; and
- Concerns related to authorship and ownership of the research.

The expression or form of consent – giving shall be determined by the community. The giving of consent for the research shall not imply consent for any other activities to be done by the requesting party/ies.

While consent may have been given by the community, this does not preclude succeeding consultations that may be conducted for the refinement of the research

ANNEX 9 CONSENT AND RECOGNITION AND PROTECTION OF COMMUNAL INTELLECTUAL AND CULTURAL PROPERTY RIGHTS FOR ICC AND IPS

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

ANNEX 6: Minimum Requirement of Completed Research Report

A. COMPLETED BASIC RESEARCH PROPOSAL TEMPLATE

I. Title Page
II. Abstract
III. Acknowledgement
IV. Introduction of the Research
V. Literature Review
VI. Research Questions
VII. Scope and Limitation
VIII. Research Methodology
    a. Sampling
    b. Data Collection and Analysis
IX. Discussion of Results and Recommendations
X. Dissemination and Advocacy Plans
XI. Plans for Dissemination and Advocacy
XII. References
XIII. Financial Report

B. COMPLETED ACTION RESEARCH TEMPLATE

I. Title Page
Abstract
Acknowledgement
II. Context and Rationale
III Innovation, Intervention, and Strategy
IV. Action Research Questions
V. Action Research Methods
    a. Participants and/or other sources of data and information
    b. Data Gathering Methods
VI. Discussion of Results and Reflection
VII. Action Plan
VIII. References
IX. Financial Report

SUMMARY OF CORRECTIONS AND SUGGESTIONS FOR REVISIONS IN BASIC EDUCATION RESEARCH FUND ENTRIES

Summary of Corrections and Suggestions for Revisions in Basic Education Research Fund Entries

Title: _____

_____

Fiscal Year of BERF_____ Date: _____

Name/s of Researcher/s:

_____

_____

Division: _____ School: _____

Summary of Corrections and Suggestions for Revisions

Part	Corrections and Suggestions

Prepared by:

_____

Conforme:

_____

LIQUIDATION REPORT OF BERF GRANTEES

Liquidation Report of BERF Grantees

Title of Research: _____

Researcher/s: _____ Division: _____

Approved Fund: _____ Tranche: 1st _____ 2nd _____ 3rd _____ 4th _____

Expenses	Cost Estimates	Actual Cost	Means of Verification

Prepared by:

_____

Checked by:

_____

GUIDE FOR APPRAISING ACTION RESEARCH FINAL REPORT

Guide for Appraising Action Research Final Report

Main Criteria	Sub-criteria	low	Increasing levels of Quality and their Descriptions		high	Score
Preliminaries (13 points)	Cover page (3 pts.)	There were a number of errors in format and style (no points)	The title contains the variable/s but does not reflect the significant findings of the study with few errors in format and style. (1 point)	The title contains the variable of the study and reflects the intervention/ innovation/ strategy and findings with minor error in format and style. (2 points)	The title contains the variable/s, respondents /participants and reflects the study as a whole, with correct format and style. (3 points)	
	Acknowledgment (3 pts.)	Significant people were not acknowledged (no points)	Significant people and organizations were acknowledged in this section but some of the contributions made do not add value in the action research conducted. (1 points)	Significant people and organizations were acknowledged in this section but their contributions in the paper were not clearly specified, although the ones mentioned added value to the study (2 points)	Significant contributions of persons like the adviser, evaluators, administrators, respondents and organizations were clearly acknowledged. (3 points)	
	Abstract (7 pts.)	Four or more components are missing and did not follow the prescribed format, but not exceeding 250 words (no points)	Three components are missing, expounded briefly, with words not exceeding 250 (2 points)	One to two parts is/are missing but nearly correct format and expanded using not more than 250 words. (5 points)	The entire text represents the significance of the study, objective (s), methods, result, reflection and recommendation were represented in the abstract with a little or not exceeding 250 words, and in proper format (7 points)	
Context and Rationale of Action Research (17 points)	Context (10 pts.)	Description is not clear, and has no focus (no points)	It presents the general description of the problem or issue as its focus of inquiry, and in a quite shallow manner. (4points)	The educational relevance and timeliness of the problem or issue are shown. The need to conduct the action research and the way to address or improve the situation is explained. (7 points)	The nature, extent and salience of the identified problem or issue are comprehensively discussed. Different aspects of action research setting are elaborated showing the in depth analysis of the situation. (10 points)	
	Innovation, Intervention, or Strategy (7 pts.)	Not well presented. No evidence to support the claims. (No points)	The action research final report mentioned an intervention, innovation or strategy to be tried out to address the problem or issue but not enough support was given to ensure reliability. (3 points)	The final report outlined the intervention or strategy that would be undertaken, who will be involved, and where activities will be done. But missed 1 or 2 details to support the claim. (5 points)	The rationale, extent and limitation of intervention, innovation or strategy are explained in detail. Its plausibility as a way to address the problem or issue is given concrete and reliable support. (7 points)	

Main Criteria	Sub-criteria	low	Increasing levels of Quality and their Descriptions		high	Score
Action Research Question (s) (10 points)		Not stated or not well –thought of and disorganized (no points)	The final report has a stated aim, objective or general research question (s) but not logically sequenced. (5 points)	The research question(s) specifies the action research variable(s) or the focus of inquiry. Key elements of the research question (s) are aligned in the title of the final report. Desired change was not clearly stated. (7 points)	The research question(s) logically proceeds from the context of the inquiry. It clearly relates to the identified problem or issue, and conveys the desired change or improvement (10 points)	
Action Research Methods (20 points)	Participants and/ or other Sources of Data and Information (5points)	Insufficient and inappropriate sources of information or data.(no points)	Provided brief information about the nature of participants and/or other sources of data and information. (3 points)	Details are provided about the profile of the participants/ respondents/ subjects. Clear rationale for their inclusion in the study is given. (5 points)		
	Data gathering Methods (8 points)	Data gathering method is inappropriate (No points)	The action research final report discussed the processes of the intervention, innovation or strategy but the sampling techniques and research instruments were not clearly explained. (4 points)	The final report outlined the process of intervention or strategy that would be undertaken. Research instruments were named but not explained well. Stated the challenges met before, during and after data gathering. (6 points)	The various instruments and procedures for data collection were properly validated and extensively discussed. There are insights included in this section related to the challenges met and how these were addressed systematically. (8 points)	
	Data Analysis (7 points)	Data analysis procedure is inappropriate (no points)	It presents a general description of the gathered data/ information was analyzed, but the analysis does not create an impact (3 points)	Details in the method (s) of data analysis are given. Techniques as well as tools employed are specified, although there is one area not fully explored (5 points)	The selected method of data analysis is shown to be appropriate to the nature of data/information related to the stated research question(s) and the discussion is comprehensively done. (7 points)	

Main Criteria / Sub-criteria	low	Increasing levels of Quality and their Descriptions		high	Score
Discussion of Results and Reflection (s) (9 points)	Not clear understanding of the problem presented (no points)	Discussion is inadequate, showing little understanding of the context and its implications and results. The weaknesses and limitations were irrelevant and needed revisions. (8 points)	Discussion of results is adequate, showing some understanding of context, implications and results. Identifies weaknesses and imitations but missed some obvious details. Suggested superficial improvements only. (12 points)	Discussion is clear, well-reasoned, showing a broad understanding of the context and the reflections on results. Identified weaknesses and limitation and suggested realistic improvements. (15 points)	
Conclusion and Recommendation (6 points)	The conclusion does not answer the research questions and the recommendations were unclear (no points)	Research questions were answered but some are unclear and needs further explanation. There are recommendations in based on findings only (3 points)	The conclusion generally answered the research questions and provided future directions. The recommendations were directly addressed to the target groups who will benefit from the study as stated in the rationale. (6 Points)		
Action Plan (7 points)	No written list of activities to serve as guide in monitoring progress(no points)	The action research final report included a list of major activities and their timelines, some appeared unrealistic. (3 points)	The final report action plan included the dissemination and utilization with timelines and other tasks were not included but done. (5 points)	A detailed action plan is provided covering the start to continuity of the study in the action research cycle. Timelines are realistic and show concretely how the action research will be shared, utilized, and replicated. The overall plan reflects the proponent's capacity to concretize ideas into clear and sequential steps to be undertaken. (7 points)	
References (5 points)	No list of references to support the research or some sources are outdated and irrelevant (no points)	There are less than 5 research journals and cited these using the American Psychological Association Format but with some missing information (3 points)	There are 5 listed relevant research journals and accurately cited this using the American Psychological Association Format. (4 points)	There are more than 5 listed relevant references from research journals and cited accurately using the American Psychological Association Format. (5 points)	
End Matter Financial Report with original Receipts (9 points)	Not properly Arrange and accounted for (No points)	Financial reports are clearly presented. Two or more receipts presented are not included in the financial report (3 points)	Financial reports have stated and aligned to RMG. Receipts and other documents are intact. One receipt presented was not included in the report. (7 points)	Financial reports are clearly stated and aligned to RMG. All the receipts are authentic and represented the items specified in the report. (9 points)	
End Matter Appendices (9 points)	Irrelevant and inappropriate attachments were included (No points)	Complete attachments but with insufficient information (3 points)	Complete attachment with sufficient information but not properly arranged. (7 points)	Complete attachments (enclosures, MOA with signature, copy of letter of acceptance, sample research instruments, sample lesson plan for the strategy, data sets with sufficient information and logically arranged (9 points)	

CHECKLIST FOR THE BERF PROPOSAL

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

Checklist for the BERF Proposal

REVISED TITLE: _____
Name of Lead Proponent: _____Mobile No. _____
School: _____
Division: _____E-mail Add: _____
Date of Submission to the SDO: _____

Instructions:
Put a check mark (✓) if you have complied (C) , not Complied (NC) and not Applicable (N/A).

No.	Document	C	NC	N/A	Remarks
1	Revised Research Proposal (3 hard copies)				
2	Soft copy of the Research (1 CD)				
3	Memorandum of Agreement with the Signature of the researcher and SDO Research manager				
4	Research Application Form				
5	Declaration of Absence of Conflict				
6	Declaration of Absence of Anti-Plagiarism				
7	Informed Consent Form				
8	Cost Estimates (within the proposal)				
9	Endorsement Letter from School Head				
10	Endorsement Letter from SDO				
11	Lesson Plan (if the AR is a strategy)				
12	Research Instrument (survey tool, test, interview guide, etc.)				
13	Draft or design of Innovation				
14	Sample Instructional Material Design Design				
15	References in American Psychological Association (APA) format 6th Edition				

_____
Lead Researcher
(Signature Over Printed Name)

Reviewed by:

_____
SEPS for Planning and Research/ Focal Person
(Signature Over Printed Name)

CHECKLIST FOR THE FINAL REPORT

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

Checklist for the BERF Final Report

REVISED TITLE: _____
Name of Lead Proponent: _____ Mobile No. _____
School: _____
Division: _____
Date of Submission to the SDO: _____

Instructions:
Put a check (✓) if Complied or Not Complied and N/A if the document is not applicable. Indicators marked in gray means the document is the minimum requirement based on DO 16 s. 2017.

No.	Document	C	NC	N/A	Remarks
1	Revised Final Report (3 hard copies)				
2	Soft copy of the Revised Final Report and Attachments (1 CD)				
3	Copy of Notarized Memorandum of Agreement				
4	Completed Research Application Form				
7	Informed Consent Form				
8	Liquidation of Expenses (With Official Receipts)				
9	Endorsement Letter from School Head of the Final Report				
10	Endorsement Letter from SDO				
11	Validated Lesson Plan (if the AR is a strategy)				
12	Validated Research Instrument (survey tool, test, interview guide, etc.)				
13	Validate design of Innovation				
14	Validated Instructional Material				
15	Parent Information and Informed Consent Form (with Signature)				
16	References in American Psychological Association (APA) format 6th Edition				

C- Complied NC- Not complied N/A- Not Applicable

_____
Lead Researcher
(Signature Over Printed Name)

Reviewed by:

_____
SEPS for Planning and Research/ Focal Person
(Signature Over Printed Name)

MEMORANDUM OF AGREEMENT

Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
Misamis St. Bago Bantay, Quezon City

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement (MOA) is entered into in Quezon City, Metro Manila, Philippines by and between:

__(LEAD PROPONENT'S NAME HERE)__ of **(School or Lead Proponent)**, Schools Division of _____, National Capital Region, hereinafter referred to as **GRANTEE.**

DEPARTMENT OF EDUCATION – NATIONAL CAPITAL REGION with office address at **Misamis St., Bago Bantay, Quezon City**, represented by **WILFREDO E. CABRAL, OIC-Assistant Regional Director**, hereinafter referred to as **DEPED.**

WITNESSETH

WHEREAS, DEPED aims to promote an environment conducive to the ideal of evidence-based decision-making through the conduct of various research initiatives across all governance levels;

WHEREAS, DEPED has instituted the Basic Education Research Fund (BERF) as a funding facility for potential research studies to be conducted by eligible DepEd SDO _____ personnel;

WHEREAS, DEPED has evaluated and approved all submitted research proposals to ensure the quality and relevance of potential research studies and has informed the research proponents of the result of the evaluation;

WHEREAS, the research proponents, now known as the "GRANTEE", has been oriented on the system and process of the BERF facility.

NOW, THEREFORE, DEPED and the GRANTEE (collectively known as the PARTIES) agree as follows:

ARTICLE I
SCOPE AND DURATION OF THE AGREEMENT

Section 1.1 All the activities in the approved research proposal to be conducted will be school level in scope. The work plan of the approved research proposal is attached as Annex 1 of this agreement.

Section 1.2 The implementation of the research study will last for six months as approved.

Section 1.3 Any deviation from the original and approved research proposal will be immediately communicated to the **Regional Research Innovation, and Development Committee (RRIDC)** by the GRANTEE. All major changes warrant the approval of the Research Committee. The approved research topic cannot be changed by the GRANTEE at any point during the study.

Section 1.4 In the event that the GRANTEE sees the need for an extension, a letter of request for extension with justification will be submitted to the **RRIDC.** Valid reasons for extension which will be decided by the Schools Division Research Committee include illness of the grantee, calamities, disasters, and other extenuating circumstances. The request of extension will be approved provided there will be no additional cost to DEPED. The GRANTEE will be allowed six months, as per Schools Division Research Management Guidelines.

Section 1.5 In cases where unforeseen circumstances force the cessation of the implementation of the research, the GRANTEE shall write a letter to the Schools Division Research Committee with justification and documentary support.

ARTICLE II
OBLIGATION OF THE PARTIES

Section 2.1 The total cost of the approved research proposal is **Seventeen Thousand Four Hundred Fifty-Four Pesos (Php17,454.00)**. DEPED will release payment to the GRANTEE in **two (2)** tranche/s provided that the GRANTEE will submit all the expected outputs. The table of deliverables per tranches is outlined in Annex A of this MOA.

Section 2.2 The GRANTEE will be responsible for the following:
(a) conduct the research as approved in his/her research proposal;
(b) submit all the required output to DEPED as per approved timeline;
(c) ensure that the conduct of research will follow the highest standards of ethics to protect the learners and the community;
(d) disclose any conflict of interest (possible or actual) that may arise during the conduct of the research;
(e) ensure that all funds provided will be spent as per approved cost estimates; and
(f) disseminate completed research on appropriate venues.

Section 2.3 DEPED will be responsible for the following:
(a) ensure the timely release of research fund for the GRANTEE;
(b) evaluate thoroughly the submitted deliverables of the GRANTEE;
(c) provide technical assistance to the GRANTEE as per monitoring and evaluation results and as requested by the GRANTEE;
(d) monitor the progress of the research proposal;
(e) conduct due diligence in evaluating and approving deliverables; and
(f) assist in providing venues for dissemination of the completed research.

ARTICLE III
SPECIAL PROVISIONS

Section 3.1 **Authorship and Ownership**. The GRANTEE will be the sole author of the research. (The study funded under BERF will be co-owned by the author/s and DepEd.) Written permission from the **RRIDC** is required when the research will be presented in research conferences, forums, and other related events, or be published in research journals and bulletins. Also, in these presentations or publications, the GRANTEE must duly acknowledge the funding source/s for the study.

Section 3.2 **Plagiarism, Fraud, and Conflict of Interest**. The GRANTEE will ensure that the research proposal and final report submitted are original works. Appropriate referencing and citation must be included in the submitted deliverables. Further, the GRANTEE will ensure that there will be no conflict of interest during the conduct of the research through the submitted declaration of anti-plagiarism and absence of conflict of interest (please see attached).

Any act of fraud and plagiarism will be dealt with accordingly. Further, if the GRANTEE committed plagiarism or any form of fraud, s/he will be blacklisted from availing any other research grant mechanism in the Department.

Section 3.3 **Failure to Complete Research Proposal**. In the event that the GRANTEE failed to complete and submit the deliverables, the research proponent will be required to return the total amount of research fund s/he has received during the course of the implementation.

Section 3.4 **Effectivity and Termination of MOA**. The MOA will take effect on the date of signature of both the GRANTEE and DEPED, and will end upon the submission of all deliverables and release of the funds. This MOA shall also be terminated under section 1.5, 3.2, and 3.3 or any circumstances that will lead to the non-completion of the research.

IN WITNESS WHEREOF, the parties have affixed their signatures on **August_____, 2017** at _____ City.

GRANTEE

(LEAD PROPONENT)
Teacher

DEPED

WILFREDO E.CABRAL
OIC-Assistant Regional Director
Chair, RRIDC

WITNESSED BY:

VICTORIA R. MAYO
Vice-Chair, RRIDC

_____
Assistant Schools Division Superintendent
Chair, SDRC

ACKNOWLEDGMENT

BEFORE ME, a Notary Public for and in _____, Philippines, this _____, personally appeared: **WILFREDO E. CABRAL & ALLAN D. YONGOT-YONGOT**, showing their respective competent evidence of identity.

Names	Competent Evidence of Identity
1. WILFREDO E. CABRAL	Government ID No.
2. (LEAD PROPONENT)	Government ID No.

Who represented to me to be the same persons who executed the foregoing Memorandum of Agreement consisting of FOUR (4) pages including the page on which this acknowledgment is written and she acknowledged to me that the same is her free and voluntary act and deed and that of the DepEd.

WITNESS MY HAND AND SEAL.

Doc. No. _____;
Page No._____;
Book No._____;
Series of 2017.

Republic of the Philippines
Department of Education

29 AUG 2017

DepEd MEMORANDUM
No. 144 , s. 2017

SUPPLEMENTAL RESEARCH GUIDES AND TOOLS

To: Undersecretaries
Assistant Secretaries
Bureau and Service Directors
Regional Directors
Schools Division Superintendents
All Others Concerned

1. The Department of Education (DepEd) hereby issues the enclosed **Supplemental Research Guides and Tools** for DepEd personnel who are interested in conducting research. This is in support of DepEd Order No. 16, s. 2017 entitled *Research Management Guidelines*

2. The research guides and tools aim to provide guidance for those who intend to conduct research as well as those who plan to seek funding through their respective schools division, regional, and national research committees. These tools may also guide research managers in evaluating research proposals and may be used in providing technical assistance on conducting research.

3. The following tools are enclosed:

Tool	Description
Enclosure No. 1 Writing a Research Proposal	This form aims to help researchers develop the structure of their research proposal and to ensure alignment of the overall approach to the research problem.
Enclosure No. 2 Classroom-based Action Research	This tool aims to guide teachers in the process of developing and implementing action research to improve student learning.
Enclosure No. 3 Response to Suggestions and Comments of Research Committees	This tool aims to aid the researchers in addressing and incorporating the suggestions and comments from the research committees.

4. These supplemental tools and guides are properties of the DepEd. All the enclosures, in whole or in part, are not for sale and shall not be used for any profit-generating activities. Violation by any individual or organization will be dealt with accordingly.

DepEd Complex, Meralco Avenue, Pasig City 1600 633-7208/6337228/632-1361 636-4876/637-6209 www.deped.gov.ph

5. For more information, all concerned may contact the **Policy Research and Development Division–Planning Service (PRD–PS)**, Department of Education (DepEd) Central Office, DepEd Complex, Meralco Avenue, Pasig City at telephone no. (02) 635-3976 or through email at ps.prd@deped.gov.ph.

6. Immediate dissemination of this Memorandum is desired.

LEONOR MAGTOLIS BRIONES
Secretary

Encls:
As stated

Reference:
DepEd Order No. 16, s. 2017

To be indicated in the Perpetual Index
under the following subjects:

BASIC EDUCATION
BUREAUS AND OFFICES
COMMITTEES
FUNDS
POLICY
RESEARCH
SCHOOLS

MCDJ/DM Supplemental Research Guides and Tools
0729-August 10, 2017

(Enclosure No. 1 to DepEd Memorandum No. 144, s. 2017)

WRITING a RESEARCH PROPOSAL

This form aims to help you develop the structure of your research proposal and to ensure alignment of your overall approach to your research problem.

DIRECTIONS: Answer the questions in bullet form. Once you have a clear outline of your research proposal, convert each row into paragraph/s to serve as one subheading in your research proposal. Not that the parts of the research proposal indicated in the Research Management Guidelines (RMG) (DepEd Order No. 16, s. 2017) should not be taken as chapters like in thesis or dissertation, but rather as just subsections of the research proposal.

GUIDE QUESTION	RESPONSE
TITLE	
What is the title of your research? - Answer this later. - Be creative with your title. Make it catchy and interesting.	
What is the issue / problem/ relationship you want to solve / establish / explore?	
INTRODUCTION AND RATIONALE	
- What is the general situation / circumstance that makes you develop your research proposal? - Why is this situation / circumstance important?	
- What do you intend to do? o *This is the aim of your study. This should also be embedded in your main arguments above.*	
- Significance of your research o Why is your study important? o Who or what industry will benefit? How?	
- What would be the potential contribution or insight of my research?	

Policy Research and Development Division – Planning Service (PRD-PS)
CONSULTANT: Dr. Dennis Alonzo

GUIDE QUESTION	RESPONSE
○ Will it solve a particular problem? ○ Will it offer a new way of thinking? ○ Will it give a new direction towards enhancement of practice? ○ Will it prove / disprove something? ○ Will it solve / contribute to a certain debate? ○ Will it add evidence to a developing body of knowledge? ○ Will it develop a new theory, prototype, model, process, tool, etc.?	
LITERATURE REVIEW	
- What are the current / relevant topics and literature related to this situation / circumstance? - What are the gaps in the existing literature? - What makes your study different from previous studies? ○ *These arguments will demonstrate that you made an extensive literature review, and you have made a critical analysis of the literature in relation to your proposed research topic.* ○ *The more gaps you have identified, the stronger your paper is.*	

GUIDE QUESTION	RESPONSE
RESEARCH QUESTIONS	
What questions would you answer?	
SCOPE AND LIMITATION	
- This section sets the restrictions of you study due to time, budgetary requirements and your capability. ○ What are the parameters of your study (data collection method, analysis, discussion, etc.)?	

METHODS

GUIDE QUESTION	RESPONSE
RESEARCH METHODOLOGY	
What is the design of your study? - Descriptive - Evaluative - Theoretical / Philosophical? - Etc.	
SAMPLING	
- Who or what will be the sample for your study? - Why did you choose this / these sample/s? - How many? - How will you select your sample?	

GUIDE QUESTION	RESPONSE
DATA GATHERING METHOD	
What tool will you use in gathering your data? - Document analysis - Interviews / focus group discussions - Assessments - Surveys - Case studies - Observations - Statistical datasets - Etc. *Briefly describe your methods supported by references to research applying the methods in similar situations.*	
ETHICAL ISSUES	
Think of the circumstances in which your respondents/samples' participation will compromise their rights to privacy and confidentiality. Also, consider the data gathering method. Avoid intrusion and do not put them at risk. Consider your respondents: - Do you need to obtain informed consent from the parents, DSWD, and other agencies? - Do you need to get the name of your respondents? - Do you need to label your subjects (schools, barangays, region, etc.)?	
DATA ANALYSIS	
How would you analyze your data? *Briefly describe your data analysis technique supported by references to research applying the analysis in similar situations.*	

(Enclosure No. 2 to DepEd Memorandum No. 144, s. 2017)

CLASSROOM-BASED ACTION RESEARCH

PURPOSE: To improve student learning.
HOW: - by identifying issues, concerns, and problems that negatively affect student learning
- by developing and implementing a strategy/ intervention to solve the problems

STEPS	STEMS
Step 1. Identify the problem *Reflect on your experiences and identify the most critical problem that affects your students' learning.*	One of the most prevalent issues in my classroom that affects the learning of my students is _____ _____
Step 2. Search the literature or interview your colleagues for previous strategies / interventions used to solve this problem *Refer to previous studies (use the internet if you do not have access to journals) and see if there have been efforts done to solve the problem or similar problems*	The strategies/interventions used before to solve this issue are the following: *(include the name of the author and the year of publication and briefly discuss their findings)* _____ _____ _____ _____ _____
Step 3. Develop a strategy / intervention *Based on previous studies, along with your experiences, develop a strategy/ intervention to solve the problem. Then, implement the strategy/intervention in your classroom.*	I will solve the problem by (*your strategy/intervention- what will you do)* _____ The data that I will record include (*the kind of data that you need to gather and record will provide evidence to the effectiveness of your strategy/intervention)* _____
Step 4. Identify findings *Analyze your data- looking for findings with practical significance. If you are dealing with quantitative data, simple statistical tools are enough. If dealing with qualitative data (interview, observation, discussion) then look for recurring themes or patterns.*	The data show that _____ _____ The findings show that I have solved/have not solved the problem because _____ _____

Policy Research and Development Division – Planning Service (PRD-PS)
CONSULTANT: Dr. Dennis Alonzo

STEPS	STEMS
Step 5. Make a Decision *Use your findings to make decisions related to the learning of your students.*	I will continue/discontinue using the strategy/approach because more than half of my students have shown very high scores in reading comprehension test after 3 weeks. _____ _____ The approach/intervention I used worked/did not work well because _____ *In case where the strategy/intervention failed to solve the problem* I will try another strategy/intervention like (*then go back to Step 3)* _____

(Enclosure No. 3 to DepEd Memorandum No. 144, s. 2017)

RESPONSE TO SUGGESTIONS AND COMMENTS OF RRC/SDRC COMMITTEE

Directions: To further improve your research proposal, you need to incorporate the feedback given by the RRC/SDRC Committee. Write each suggestion/recommendation/comment on the first column, then explain in the second column the action/s you have taken and write the page page number/s where the revision was made.

Suggestions/Comments *(Write one suggestion/recommendation/comment in every number)*	**Response to the Suggestions/Comments** *(Explain how you incorporated the suggestion/recommendation/comment)*	**Page Number / Paragraph Number / Line Number**
Example *The research instrument identified is inappropriate to measure the level of engagement of parents to students' learning.*	*I have developed a new research instrument based on the study of Alonzo (2017) and Romulos (2015), which I will validate through the conduct of pilot testing to establish the psychometrics requirement of the tool (validity /reliability of the tool).*	*Page 5, paragraph 3, under research instrument heading*
1.		
2.		
3.		
4.		
n.		


REGIONAL RESEARCH, INNOVATION AND DEVELOPMENT COMMITTEE
NCR

About the Logo

The logo represents the continuous and various research, innovation, and development in the field of technology as a whole. The gear that outlined the logo represents the continuous process of innovation and development in research and the 16 cogs of it represents the 16 divisions within the NCR. The torch inside the lightbulb represents "education", for the educators and students to enlighten their minds in understanding in the different fields of specialization.

As seen on the central part of the logo, there are three different colored magnifying glasses being held by three different hands. Magnifying glass are used hence magnifying glass are used in investigating in making the research and in any other factors that concerns the roles and responsibilities of the committee. The hand that held the red-colored magnifying glass represents the professionals in the field of technology, hence the color red represents power and authority. Therefore, it can contextualize the role of the committee in releasing research funds, and in evaluating and approving of research proposals and other related activities. The character that held the green magnifying glass are the students which also take part in the conducting research. Moreover, the reason why green is the color selected to represent students because green symbolizes growth. In a sense, again it ca also represents another role of the committee in providing feedbacks on research matters. The character that held the blue-colored magnifying glass represents technology, hence, blue symbolizes empowerment. Through the use of technology, the professionals and students can use technology to archive data and information which they can collect and gather from the internet from different scholarly websites. Also, researchers can save their initial files and documents about the research they've conducted, through Digitalization and Cloud Computing, until they will be published entirely as a finished output. The blue colored magnifying glass, can be contextualized in another role of the committee in contextualizing education research agenda. Overall, these three characters that held the three magnifying glass plays a significant role to become one. The Triquetra, which is the symbol being emphasized in the center within the three magnifying glass, literally means that "we are one". In a sense, we can contextualize the role of the committee in helping emerging issues by assisting one another. The integration of these three elements are significant, for this is the process that evert research must undergo to produce an output for research.

The last and yet one of the most important element in the logo is the book, which represents the research output that had been made, it may be in the form of digital copies or hardcopies. The output is the product made after all the entire process and also the main reason why the research has been conducted. The output, which is again represented by the book, is an entire compilation of all data and information collected in the overall process, it may also be called as archive, hence it is a storing place for all the data collected.

Department of Education
NATIONAL CAPITAL REGION
Misamis St., Bago Bantay, Quezon City