iDREAM

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Schools Division Office of Imus City Quality Policy

Schools Division Office of Imus City commits to delivering quality services, responsive to the needs of its clientele in accordance with mandated standards, principles of Transparent, Ethical and Accountable Governance, and continuous improvement process towards the holistic development of 'BIDAng' Imuseño.

Schools Division Office of Imus City Quality Objectives

Schools Division Office of Imus City aims to achieve holistic development of 'BIDAng' Imuseño through:

1. formulated and established evidence and researched-based programs, projects and activities for the continuous improvement of services;
2. ensured clientele satisfaction through effective and judicious utilization of financial and material resources;
3. enhanced the Basic Education K to 12 Curriculum through ICT based classroom instructions, intensive monitoring and evaluation, assessment of learning outcomes, alternative delivery mode of instruction, and utilization of equitable and appropriate learning resources;
4. implemented the merit system in hiring, selection, promotion, benefits and compensation, awards and recognition, and learning and development of personnel in adherence to mandated standards and TEA governance; and
5. strengthened linkages and partnerships among internal and external stakeholders in conducting programs, projects and activities.

MESSAGES

OFFICE OF THE REGIONAL DIRECTOR

One of the key advocacies in DepEd Calabarzon is to nurture a strong passion for research. This is anchored on the belief that professionals become more effective when they provide systematic and evidence-based ways of dealing with the challenges faced in carrying out tasks.

This need to be systematic and evidence-based is best addressed by teachers and school officials who engage in research. Practitioners who conduct research tend to be more effective and critical thinkers and doers. They also become more confident of their repertoire of best practices.

A venue for sharing research findings from our fellow educators will always be necessary in any attempt to foster a culture of research. 'This is the main reason why we have decided to encourage the holding of education research conferences.

Congratulations to DepEd City Schools of Imus for organizing the 2018 I DREAM Research Journal. You have gone beyond what we dreamed.

May the tribe of basic education researchers increase.

MABUHAY!

DIOSDADO M. SAN ANTONIO
Director IV
Region IV-A LABARZON

OFFICE OF THE ASSISTANT REGIONAL DIRECTOR

My warmest congratulations to DepEd Imus City Division for spearheading the publication of I DREAM Research Journal that will allow research advocates and enthusiasts to publish their work and recognize their efforts in this very important undertakings.

This is a good sign that you are with us at the regional office to promote the culture of research not only in CALABARZON but in the whole country as well. It is our quest to make every DepEd personnel a researcher.

Maintaining a high level of research can be extremely difficult, especially when things don't go as planned. So it is important to take a step back and get re-inspired about your work and this journal is an opportunity for you to be inspired and do more in the field of research.

In this changing world, almost all of our plans and decisions are data-driven and we can only do that through research. That will show how important research is in our educational landscape.

Congratulations fellow researchers for your efforts, dedication, and strategic thinking. A certain Ryan Holiday wrote that "Writing the perfect paper is a lot like a military operation. It takes discipline, foresight, research, strategy, and, if done right, ends in total victory."

Let us continue to work hand in hand to continuous spread research virus.

CARLITO D. ROCAFORT
OIC - Director III
Region IV-A LABARZON

OFFICE OF THE SCHOOLS DIVISION SUPERINTENDENT

The 2018 issue of IDREAM Research Journal showcases research works of our teaching and non-teaching personnel. Congratulations to all of our researchers for achieving this far in terms of their journey on research writing and publishing.

This issue brings even more classroom and school- based research content. Disseminating the findings of studies to education researchers who are constantly striving to improve the quality of their research works remains an important function of our research journal.

Our main focus will continue to be publishing high quality research articles that help teachers and administrators improve teaching and learning, and school governance and operations.

I would like to take this opportunity to express my sincere gratitude to Imus City DREAM Team for their collective effort and dedication. We have been extremely impressed by the insightfulness of reviews performed for the Journal, which in many cases have substantially improved the quality of our published articles.

I thank all of our submitting researchers who have toiled in the realization of their work. We look forward to the **IDREAM Research Journal** continuing to provide to our teachers and school heads and researchers an academic voice and a venue for discourse that will move us forward to steady growth, both in quality instruction and governance as we also sharpen our skills in undertaking research.

HERMOGENES M. PANGANIBAN
Chief Education Supervisor, CID
Officer-In-Charge
Office of the Schools Division Superintendent

OFFICE OF THE ASSISTANT SCHOOLS DIVISION SUPERINTENDENT

With utmost pride and enthusiasm, I invite everyone to read the 2018 issue of IDREAM Research Journal.

The collaborative work that has gone into the publication of the research papers found in this journal will certainly show the amount of hard work, the merging hearts and minds that went through in publishing this issue.

This is a work in progress actively aiming for new suggestions and ideas on how it can be improved and enhanced further.

I am very proud and fortunate to have had the opportunity of working with the research team, drawing on their talents, knowledge and skills to advance the conduct of study among our teachers, school heads and non-teaching personnel. The extensive disciplines, experiences and backgrounds have made the selections in this issue possible.

On behalf of the IDREAM Team, I thank all those who contributed to this publication most especially Miss Matea-Alvyn H. Trinidad who had the initiative to start this project. Her ability to tap different talents and resources, the confidence, the belief that such a journal can be made is a mark of a true leader. I would also like to acknowledge the contributions of the teachers and everyone involved, their expertise in editing and publishing has made this issue a reality. I look forward to our journey together as we develop IDREAM Research Journal to reach its full potential.

GALILEO L. GO
Education Program Supervisor, CID
Officer-In-Charge
Office of the Asst. Schools Division Superintendent

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INTRODUCTION

Editorial Board
I DREAM Research Journal

Welcome to the 2018 I DREAM Research Journal, the official peer-reviewed academic journal of the Schools Division Office of Imus City (SDOIC) published annually. The publication is a compendium of interdisciplinary academic and research works of the different fields of specialization in the SDOIC.

Articles and manuscripts were subjected to scholarly review by the editorial staff and at least three external reviewers who are experts on the specified disciplines. The different types of articles or manuscripts considered are: Original Full Academic and Original Action Research Papers. Research papers with funding from international, national, regional and local institutions were given priority for publication.

Teacher-researchers explored the following themes: 1) Teaching and Learning; 2) Human Resource Development 3) Governance 4) Child Protection; and cross cutting themes which include 1) Gender and Development 2) Disaster Risk Reduction Management and 3) Inclusive Education.

The I DREAM Research Journal will serve as a method of scholarly communication and aims to gather together and extend the profoundly interdisciplinary and growing field of the abovementioned themes and cross cutting themes, for which there is no existing journal in circulation in the Division.

In the spirit of honing and building a culture of research in the Division, the editors of I DREAM Research Journal aim to do more than provide a home for creative and critical basic education studies scholarship. We want to provide researches that are reflexively constituted through its educational reforms.

2018 I DREAM Research Journal

The 2018 I DREAM Research Journal captures our vision of encounters between theory, teaching and learning and governance.

THE EFFECT OF PHONICS, DOLCH, FULLER AND MARUNGKO TO THE ORAL READING PERFORMANCE OF GRADES II TO VI STRUGGLING READERS: BASIS FOR READING ACTION PLAN by Cristina M. Ben, Ma. Chona C. Dorosan and Robelia O. Gayo of Malagasang II Elementary School aimed to determine the effect of Phonics, Dolch's Marungko and Fuller approaches as interventions to the oral reading performance of struggling readers from Grades II to VI as basis for reading action plan. The study used descriptive method of research to arrive at credible findings. Phi-IRI assessment tool and survey questionnaire were utilized to elicit outcomes relative to the reading performance.

THE EFFECTS OF COOPERATIVE LEARNING ON STUDENTS' ATTITUDE AND ACHIEVEMENT IN MATHEMATICS by Dina P. Magpusao and Maylinda E. Aleman of Imus National High School- Main attempted to determine the effects of Cooperative Learning on students' attitude and achievement in Mathematics. It also provides readers with the following themes related to cooperative learning: grouping students, students' academic achievement, group reward system, and students' attitudes.

UNDERSTANDING STUDENTS' LEARNING DIFFICULTIES IN MATHEMATICS: BASIS FOR PROPOSED TEACHING STRATEGIES by Melanie V. Arasain of Imus National High School- Main conducted the study to improve student learning by identifying issues, concerns and problems that negatively affect student learning and to develop and implement strategy to solve the problem. The respondent was 248 Grade 8 students in Imus National High School – Main Campus, SY 2017-2018.

DATA MANAGEMENT PRACTICES AND CHALLENGES IN GEN. EMILIO AGUINALDO NATIONAL HIGH SCHOOL: BASIS FOR AN ONLINE SCHOOL DATA MANAGEMENT SYSTEM by Lerma V. Peña and Marycon G. Mella, General Emilio Aguinaldo National High School examined the data management practices in Gen. Emilio Aguinaldo National High School (GEANHS) to develop a school-based online data storage and management system.

CONTENT KNOWLEDGE ON THE HIGHLIGHTS OF THE K TO 12 CURRICULUM IMPLEMENTATION by Joseph R. Carreon of General Emilio Aguinaldo National High School attempted to assess the content knowledge on the highlights of the K to 12 curriculum implementation of the teachers from General Emilio Aguinaldo National High School using the descriptive research method and focus group discussion. The study purposively involved 31 teachers from Technology and Livelihood Education Department during the school year 2015-2016.

FACEBOOK AS INTEGRATED BLENDED LEARNING TOOL IN TECHNOLOGY AND LIVELIHOOD EDUCATION by Joseph R. Carreon of General Emilio Aguinaldo of National High School explored the use of Facebook as an integrated blended learning tool in teaching Technology and Livelihood Education (TLE) for Grade

7 and its effect to students' learning outcomes using a quasi-experimental pretest-posttest research design and focus group discussion.

UNVEILING THE CHALLENGES IN TVL TRACK IN SENIORHIGH SCHOOL IN IMUS CITY by Lydia S. Villanueva of General Juan Castañeda Senior High School sought to find out the different challenges faced by the students and teachers in Technical Vocational-Livelihood that may affect the acquisition of employable skills of Senior High School students in City of Imus. The descriptive survey and the simple random technique were used to gather data.

PERFORMANCE OF GRADE 11 STUDENTS IN READING: BASIS FOR A READING PROGRAM by Nolan R. Jusayan, Governor Juanito Reyes Remulla Senior High School, which is theoretically underpinned by the principles of Self-Determination Theory, presents essential insights on the vacuum between reading and the reader. This study is aimed to analyze the performance of selected Grade 11 students in reading under Technical, Vocational, and Livelihood and Academic Tracks during the Third Quarter of the selected school in the Division of Imus City as basis for developing a Reading Program.

MULTIPLE INTELLIGENCES IN GRADE 12 HUMSS SECTION OF GOVERNOR JUANITO REYES REMULLA SENIOR HIGH SCHOOL by Feliz A. Tayao of Governor Juanito Reyes Remulla Senior High School aimed to determine the existing multiple intelligences (MI) in Governor Juanito Reyes Remulla Senior High School (GJRRSHS) Grade 12 Humanities and Social Sciences (HUMSS) students to help teachers plan and design classroom activities and formative assessments to suit the types of intelligence present. Using purposive sampling and administering the modified MI Test-based on Gardner's MI Model by www.businessballs.com, naturalist and existential intelligences not included, to 41 students, the researcher was able to make an inventory of the exiting MIs.

THE DEVELOPMENT OF WORK IMMERSION PREFERENCE TEST by Jocelyn C. Miñano of Governor Juanito Reyes Remulla Senior High School sought to develop test for Grade 11 students enrolled in General Academic strand to distinguish and align themselves to what is befitting for them to take as elective subjects as basis for their Work Immersion program and exposure.

IDENTIFYING THE RESEARCH CAPABILITY AND PRODUCTIVITY OF PUBLIC SENIOR HIGH SCHOOL TEACHERS USING THE 6P PARADIGM by Mary Ann R. Aquino of General Juan Castañeda Senior High School aimed to provide an inventory of the research productivity using a new 6P paradigm, research capability and the reasons for doing research of the public Senior High School teachers of the City School's Division of Imus City.

TRAINING NEEDS ANALYSIS OF TEACHERS IN GOV. JUANITO REYES REMULLA SENIOR HIGH SCHOOL by Jocelyn C. Miñano, Feliz A. Tayao, Rafael R. Santos of Governor Juanito Reyes Remulla Senior High School was designed to determine the training needs of the teachers in Gov. Juanito Reyes Remulla Senior High School (GJRRSHS). A research instrument entitled Professional Development Needs Assessment was adapted from SoGoSurvey.com and was administered to 14 purposively chosen teachers of the said school.

SCHOOL PRINCIPALS' PROFILE AND PUBLIC ELEMENTARY SCHOOLS PERFORMANCE IN THE SCHOOLS DIVISION OFFICE OF IMUS CITY by Gregorio A. Co Jr., Matea-Alvyn H. Trinidad and Jenielyn A. Sadang, SDO Imus City sought to establish if the school principals' demographic profile has a relationship on schools' performance in the Schools Division Office of Imus City.

We are pleased to be able to impart the 2018 I DREAM Research Journal and look forward to exploring future collaboration and mutual exchange of ideas. The journal is intended as a meeting place in which continuous improvement advocates and educational reform beings and doings of teaching and learning, human resource, governance and child protection studies and practice meet and, by doing so, are on- goingly transformed. We hope you will join us in making these transformations into material realities and assist in sustaining the standards required by ISO 9001: 2015.

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Division's Research Enthusiasts, Advocates and Mentors (DREAM) Team
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THE EFFECT OF PHONICS, DOLCH, FULLER AND MARUNGKO TO THE ORAL READING PERFORMANCE OF GRADES II TO VI STRUGGLING READERS: BASIS FOR READING ACTION PLAN

by Cristina M. Ben, Ma. Chona C. Dorosan and Robelia O. Gayo,
Malagasang II Elementary School

Abstract

The study was designed to determine the effect of Phonics, Dolch's Marungko and Fuller approaches as interventions to the oral reading performance of struggling readers from Grades II to VI as basis for reading action plan. The study used descriptive method of research to arrive at credible findings. Phi-IRI assessment tool and survey questionnaire were utilized to elicit outcomes relative to the reading performance. Based on results, the interventions applied were effective in improving the oral reading performance of the struggling readers. It also showed that teacher, student and parent respondents have unified perception in the affirmative effect of the interventions to the cognitive, psychomotor and affective learning domains. This study focused on the utilization of reading interventions (Phonics, DOLCH's, Marungko and Fuller approaches) to address the reading difficulty of the identified struggling learners for SY 2016-2017 in Grades II to VI. To generalize results in a specific level, research in the application of the intensive reading program was highly recommended in the primary level (Gr. I to 3) to decelerate the reading difficulty problems of learners in the intermediate level (Gr. 4 to 6). With the information gathered, an enhanced reading action plan was developed for the SY 2017-2018 and crafted the necessary interventions to help struggling readers and reading teachers.

Key Words: struggling readers, intervention, action plan

Introduction

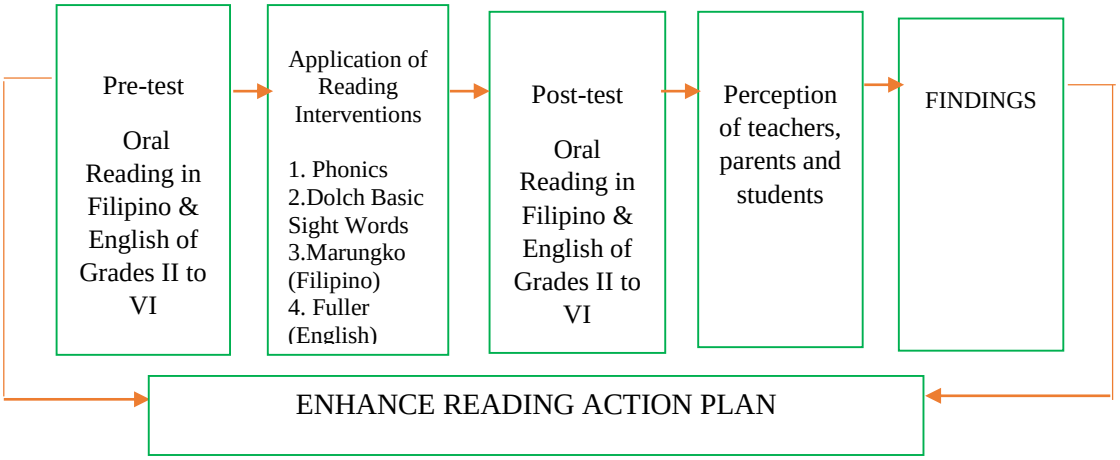
Oral reading performance is used as an indicator of students over all reading ability. It is used to measure the three components of reading: accuracy, rate and fluency which have been shown to relate to comprehension. Listening to students to reading aloud provides valuable insights into the covert cognitive processes used to decipher and comprehend printed materials (Stefanco, 2011). Reading aloud with fluency expressed ability to read quickly and easily. It allowed the child to recognize, decode words accurately and automatically understand the words being read. Children who do not read fluently (choppy readers) have to work hard on the mechanics of reading and no mental energy is left to think about the meaning of what they are reading.

Seeing the significance of reading as the foundational skill of every child to become lifelong learner and in line with the national goal of making every child a reader, Malagasang II ES identified struggling readers from Grades 2 to 6 using Phil-IRI reading materials of School Year 2016-2017. Upon identification of struggling readers, the Oral Reading Program is laid in and run in the school for six months. It is participated by the entire teaching force from kindergarten to Grade VI. The school Oral Reading Program is

designed to cater children who did not recognize sounds and letters of the alphabet including CVC words, phrases, sentences and short stories. Several materials to help struggling readers are used such as intensive introduction of the letter sounds of the alphabet (phonics), DOLCH's Basic Sight Words, chart of words, phrases, sentences and short stories from Marungko and Fuller reading materials. Support from parents are asked through series of meetings and orientation about the benefits of reading that a child would enjoy as a lifelong learner.

Hence, this action research is conducted to determine the effect of the intensive use of the letter sounds of the alphabet (phonics), regular drills in Dolch's, reading of words, phrases, sentences and short stories using Marungko and Fuller approaches as interventions in the oral reading proficiency of struggling readers. Finally, to make the reading program sustainable, an enhance reading action plan will be crafted based on the findings from the study.

Research Paradigm



The research was developed using the standardized Phil-IRI standardized tool in English and Filipino to identify the struggling readers in the pre-test. The post-test was administered to the identified group after the application of the reading interventions. The yielded result was used to determine the difference of the oral reading from pre-test to post-test. This was emphasized by the influence of the reading program to the cognitive, affective and psychomotor domains of the struggling readers as perceived by the parents, teachers and learners. Results from the analysis were utilized in crafting the enhanced reading action plan for the sustainability of the reading program.

Statement of the Problem

The research was completed to determine the effect of phonics, DOLCH's, Marungko and Fuller approaches as interventions to the oral reading skills of Grades 2 to 6 struggling readers in Malagasang II Elementary School for the School Year 2016-2017.

Research questions:

1. What is the pre-test result of the oral reading?

2. What is the post-test result of the oral reading?
3. Is there a significant difference between the test scores?
4. How does the reading program influence the cognitive, psychomotor and affective learning domains of struggling readers as perceive by the teachers, parents and learners?

Hypothesis of the Study

Ho: There is no significant difference between the pre-test and the post-test in the oral reading proficiency of Grades 2 to 6 struggling readers in English and Filipino with the reading interventions applied in Malagasang II Elementary School.

Scope of the Study

The oral reading performance of the identified 410 struggling readers in English and 272 in Filipino during the pre-test from Grades 2 to 6 in Malagasang II Elementary School was utilized to test the difference of the results from pre-test to post-test in the oral reading after the application of reading interventions. A non-random sample of 91 struggling readers from Grades 2 to 6, 88 parents from Grades 2 to 6, and a total of 84 teachers were the respondents in determining the perceptions about the reading program.

Methodology

In this study the descriptive method of research was used. To determine the significant difference in the oral reading proficiency of Grades 2 to 6 struggling readers, Phil- IRI tool was utilized as instrument and t-test was used to compare the result of oral reading test from pre-test to post-test for questions 1, 2 and 3.

Perceptions of the teachers, parents and learners to the reading program in question 4 were rated using Likert scale thru a survey questionnaire. This scale identified the frequency of responses to the influence of the reading program considering the cognitive, affective and psychomotor learning domains. It also determined if the indicators appeared as (1) never, (2) sometimes, (3) often and (4) always. The weighted means of the responses were gathered to determine the perceptions of the respondents to the reading program. Respondents comments/suggestions/recommendations were sought and came up with an enhanced action plan for the succeeding reading program

Results of the Study

Table 1 below showed that the oral reading proficiency in English of Grades 2 to 6 struggling learners' population improved. The number of struggling readers lowered from 410 to 113 in English and from 272 to 39 in Filipino. The t-test computed value in the oral reading proficiency of ± 65.70 and ± 63.17 were beyond 1.729 at 0.05 level of significance with 4 degrees of freedom in English and Filipino respectively. The null hypothesis is therefore disconfirmed in favor of the research hypothesis. This revealed that the post-test results in both English and Filipino improved than the pre-test results. It implied that the use of the intervention materials such as letter sounds (phonemes), DOLCH's drills, Marungko approach in Filipino, Fuller approach in English and related materials provided positive effect in addressing the oral reading difficulties of Grades 2 to 6 struggling readers.

Table 1. Pre-test and post-test scores in English and Filipino oral reading performance of struggling readers using t- test

Reading area	N		t-test	df	value	Decision	Description
English	Pre-test	410	1.729 at 0.05 level of significance	4	65.70	Reject Ho	Significant
	Post-test	113					
Filipino	Pre-test	272			63.17	Reject Ho	Significant
	Post-test	39					

As cited to an article of Sight Words (2017) phonemic awareness is a vital skill for children who are learning to read. It is the ability to split up and rearrange individual sounds (called phonemes) within spoken words thus claimed to be one of the best predictors of success in early literacy.

Similarly, Basic sight words developed by Educator Dr. Edward William Dolch in the 1930's- 40's is as vital as the phonemic awareness. Dolch is a list of 220 "service words" plus 95 high-frequency nouns. These words comprise 80% of the words that can be found in a typical children's book and 50% of the words can be found in writing for adults. Once a child knows this list of words it makes reading much easier.

Moreover, Marungko and Fuller approaches as cited by Udyong (2015), are designed to equip learners with materials necessary to improve reading achievement. The Marungko approach provided materials to the success in teaching reading where children could enjoy. Hand signs of different letters in the alphabet are taught in this technique. Letters and sound of the letters are introduced in songs and poems. Hence, the pupils have fun singing and reciting the poems and recognized the words easily. Likewise, Fuller approach in teaching beginning reading was a combination of the alphabet, phonics and whole methods of teaching word recognition. The technique required that the beginning reader should have the mastery of the names and shapes of the letters of the alphabet and adequate vocabulary so that the words used will have meaning for the reader. Thus, aid the learners to read words easily.

Table 2. Perception of the teachers on the reading program considering the cognitive, psychomotor and affective learning domains of the struggling readers

Cognitive	Ẋ	Psychomotor	Ẋ	Affective	Ẋ
1.Readwords with CVC pattern	3.14	1.Participate in board Work	2.86	1.Read with self - confidence	2.62
2. Read the basic sight words	3.18	2. Participate actively in Class	2.81	2.Socialize with peers/classmates	3.31
3. Read phrases	2.98	3.Respond to questions about the lesson	2.77	3.Appreciate printed texts	2.67
4. Read paragraphs	2.86	4.Do assigned task responsibly	2.56	4.Establish lesson focus through eye	2.58
5.Read sentences	2.77	5.Speak ideas in class	2.58	5. Exhibit happiness in class	2.98
6. Read short stories	2.65	6.Show cooperation in group activities	2.82	6. Increase self-worth by talking and reading orally	2.76
7. Comprehend story read	2.79				
8. Build vocabulary	2.49				
9. Answer questions correctly from a selection read	2.46				

Table 2 revealed that reading the basic sight words and reading CVC patterns with the weighted mean of 3.18 and 3.14 respectively were often observed. The two highest weighted means were followed by reading phrases, reading paragraphs, reading sentences, reading short stories, comprehending the story read and building vocabulary that ranged from 2.49 to 2.98, all dropped to seldom observed. Moreover, answering questions correctly from a selection read was the lowest among the means. On the other hand, participating in board work got the highest weighted mean of 2.86 under psychomotor domain followed by showing cooperation in group activities, participating actively in class, responding to questions, sharing ideas and doing assigned task, all plunged as seldom observed. Interestingly, in the area of affective domain socializing with peers got the highest mean of 3.31, exhibiting happiness in class followed with a weighted mean of 2.98. Increasing self-worth, appreciating printed text, reading with confidence and establishing focus on the lesson ranged from 2.58 to 2.76. All fell to seldom observed but near to be observed often.

Generally, the teachers' perception over the readers acquired learning was affirmative. Reading interventions applied created a positive effect. Once the cognitive learning domain in the area of reading was addressed, the learners' psychomotor ability was developed and made them more active and participative in class. Learners' social skills also advanced as they express happiness while attending classes. This made the atmosphere conducive to learning process, particularly in reading.

Data in Table 3 below revealed that the students seldom performed the strands under the cognitive domain. All the weighted mean ranged from 2.46 to 2.78. They read the basic sight words better as it gave the highest mean of 2.78. Remarkably, the learners' psychomotor learning domains were seldom observed. Among the strands, showing cooperation in group activities was found to have the highest weighted mean of 2.63.

Table 3. Perception of the students on the reading program considering the cognitive, psychomotor and affective learning domains

Cognitive	Ẋ	**Psychomotor**	Ẋ	**Affective**	Ẋ
1.Readwords with CVC pattern	2.75	1.Participate in board work	2.29	1.Read with self - confidence	2.63
2.Read the basic sight words	2.78	2. Participate actively in class	2.42	2.Socialize with peers/classmates	3.16
3.Read phrases	2.68	3.Respond to questions about the lesson	2.45	3.Appreciate printed texts	2.56
4.Read paragraphs	2.74	4.Do assigned task responsibly	2.52	4.Establish lesson focus through eye	2.56
5.Read sentences	2.66	5.Speak ideas in class	2.16	5. Exhibit happiness in class	2.93
6. Read short stories	2.70	6.Show cooperation in group activities	2.63	6.Increase self-worth by talking and reading orally	2.77
7.Comprehend story read	2.49				
8.Build vocabulary	2.46				
9.Answer questions correctly from a selection read	2.54				

Moreover, in the area of affective domain like the psychomotor most of the strands plunged to seldom observed while socializing with peers exhibited the highest mean of 3.16. This was categorized as often observed. Learners' perception to reading is not as welcoming as the other areas of their interest as revealed by the weighted mean ranging from 2.46 to 2.78 in the cognitive and 2.16 to 2.63 in the psychomotor domain. However, affective learning domain got an affirmative view as it revealed a positive effect on socializing with peers with a weighted mean of 3.16. This implied that along with their interest in learning to read and develop their cognitive and psychomotor learning domains, their interest in reading led them to mingle and socialize with their peers thus building their self- confidence and self-worth as a reader. Further, next higher mean under affective with a mean of 2.93 is that the learners were happy in class. A happy atmosphere in class creates a positive effect on the learners learning capability. A happy mind and a happy disposition created positive energy favorable to learning.

Table 4. Parents' perception on the reading program considering the cognitive, psychomotor and affective learning domains of the struggling readers

Cognitive	Ẋ	Psychomotor	Ẋ	Affective	Ẋ
1.Read at home with printed materials	2.41	1.Want to read at home	2.38	1.Proud to read in front of others	2.41
2.Do assignments independently	2.35	2. Interested in reading stories	2.68	2.Interested to attend the reading program	2.70
3.Show diligence in studies	2.82	3.Show eagerness to read	2.49	3.Happily share experiences in reading	2.65
4.Ask parents/guardians help in reading	2.53	4.Read aloud in front of people	2.41		
5.Attempt to read words in the surroundings	2.83				

Table 4 showed that under the cognitive domain parents perceived that their children showed diligence in studies and interested to read words in the surroundings. This perception was strengthened by the weighted mean of 2.82 and 2.83, the highest among the strands. While doing assignments independently, reading at home with printed materials, asking parents/guardians' help to read fell to sometimes observed with a weighted mean average of 2.35 to 2.53. Significantly, psychomotor domain of having interest in reading got the highest weighted mean of 2.68 as perceived by parents. In like manner, wanting to read at home, reading aloud in front of people, and showing eagerness to read fell to sometimes observed as the weighted mean also ranged from 2. 38 to 2.49. Moreover, a remarkable result was seen under the affective domain in which among the strands, interest to attend the reading program got the highest weighted mean, while being proud to read in front others and happily shared experiences in reading followed, with a weighted mean of 2.41 and 2.65 respectively.

Generally, the overall perception of parents to the reading program in which the cognitive, psychomotor and affective domains in learning of sometimes observed was acceptable considering that the learners subjected to the reading program were struggling readers. Interestingly, data revealed that the children's attempt to read words in the surroundings, develop interest in reading stories and maintain interest to attend reading program ranked high among the three domains. An implication that the love and interest in reading were motivated from the struggling readers.

Table 5. Summary of the respondents' perceptions towards the oral reading program in the cognitive, psychomotor and affective domains.

Respondents	Learning Domains Weighted Mean			Frequency
	Cognitive	Psychomotor	Affective	
Teachers	2.81	2.73	2.82	Often
Students	2.64	2.41	2.77	Often
Parents	2.59	2.49	2.59	Often

Data in table 5 revealed that affective domain got the highest weighted mean of 2. 82, 2.77, and 2.59 based on the perceptions of teachers, students and parents respectively. Next to affective are cognitive domains with a mean of 2.73 from teachers, 2.64 from students and 2.59 from parents while psychomotor domains were low. This implied that reader's behavior in class was affected on how he managed himself in reading. Once he managed himself happily and enjoyed his reading journey, his cognitive and psychomotor domains were positively developed. Therefore, reading program must be implemented continuously for struggling readers to acquire knowledge, skills and attitudes that will make them develop as lifelong learners.

Conclusions

The research concluded that the intensive use of letter sounds (phonemes), drills on Dolch's, Marungko, Fuller approaches and use of varied reading materials were useful in addressing the oral reading difficulties of struggling readers. While there are challenges met along the reading program, the reading intervention materials positively affect the oral reading proficiency of the struggling readers and help them overcome the difficulty in reading.

Recommendations

The following recommendations are made in order to sustain the struggling readers' reading proficiency in Grades II to VI.

- Regular use of the reading materials (Basic Sight Words- Dolch's, Marungko selections in Filipino, Fuller selections in English, and varied reading and instructional materials) for reading proficiency.
- Reading of short stories to enhance literacy and comprehension, giving guided questions for test of understanding and writing short reflections on the selections read for deeper appreciation.

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THE EFFECTS OF COOPERATIVE LEARNING ON STUDENTS' ATTITUDE AND ACHIEVEMENT IN MATHEMATICS

by Dina P. Magpusao and Maylinda E. Aleman, Imus National High School- Main

Abstract

This research attempted to determine the effects of Cooperative Learning on students' attitude and achievement in Mathematics. It also provides readers with the following themes related to cooperative learning: grouping students, students' academic achievement, group reward system, and students' attitudes. Each student plays an important role of helping one another achieve this common goal. Cooperative learning begins with the formation of groups into teams of students. The study made use of the Project Survey Form (Johnsen, 2009) which is based on a holistic approach to determine willingness of the students to perform cooperatively during discussions. Also, a Pre-test and Post-Test were administered. The findings showed that the best way in learning Math is still when the teacher explains in class, and the second is working in pairs or groups during class discussion. There was an increase on the student's scores in the Post Test and was no significant relationship between the Post Test scores and the students' attitude towards working in groups in Mathematics.

The result of this action research shows an increase in students' attitudes towards Mathematics after working cooperatively. It also changed the participants' attitude towards Mathematics where they found it more interesting even during assessment.

Keywords: Cooperative Learning, student's attitude, Achievement, Mathematics.

Introduction

In the early days of formal education, with the one-room schoolhouse, teachers relied on students helping other students with their learning. As the population increased and schools became larger, the schools also became more specific to age- and grade-appropriate separation. This changed the way teachers worked in the classroom more toward direct instruction where students worked individually. All throughout the researchers' years of teaching, one difficulty that they have encountered is the way the learners deal with questions in Mathematics. Aside from the fact that the subject itself is difficult for many, the learners tend to copy and mimic other students' responses without thinking or analyzing if it's correct or not especially when it comes to assessment. Even if the learners get the correct answers, they tend to look at their seatmate's answer, maybe they are not confident with their answer or somehow they want to check if they have the same answer. This scenario motivated the researchers that will prove or disprove the effectiveness of a cooperative learning environment in classrooms where students practice cooperative learning. A huge achievement is expected. In addition to this, working collaboratively will determine if there will be an increase on their confidence in doing mathematical tasks (Scott Johnsen, 2009).

Cooperative learning can be defined as a teaching method that involves students in learning process in order to understand and learn content of the subject (Slavin, 2011). Traditional class activities create a win-win situation, where one can only succeed if other loose, while cooperative learning is direct opposite of it and the conquest of all is success of all. Cooperative learning has edge over other teaching methods in terms of its effectiveness for improved cognition, social skills and motivation (Gull, F & Shehzad S. 2015).

This issue of group learning follows closely with the National Council of Teachers of Mathematics' (NCTM) process standard of communication. Students can communicate ideas with their peers about ways to solve particular problems. A student who understands a concept can share his or her ideas and strategies with other students. Sometimes it may be a situation for a Cooperative Learning where students are brainstorming ideas with one another until a decision is reached as to which may be the best method or approach. This work also followed the NCTM's principle of equity. There would be high expectations for students to be able to work cooperatively and support one another as they work together.

Mathematics is one subject that pervades life at any age and in any circumstance. Thus, its value goes beyond the classroom and the school. Mathematics as a school subject, therefore, must be learned comprehensively and with much depth (Department of Education, 2013).

According to the K to 12 Curriculum Guide in Mathematics (Department of Education, 2013), multi-skilled- K to 12 ushers in various ways of learning. For teachers to cope with the demand for widening learning opportunities, they must be skillful not just in teaching but also in facilitating, organizing groups and activities.

The study made by Rosa-Maria Pons et al., (2014) concludes that when the learning situation demands an insignificant conceptual change, the three interactive situations (collaboration, cooperation and tutoring) turn out to be equally effective.

Cooperative learning strategies have been proven through research to increase student achievement and content literacy in the classroom. When cooperative learning techniques are applied to the classroom setting, the structure of the group becomes important to the overall success of the group. Simply placing students in a group does not constitute a cooperative learning strategy. (Adams, A, 2013)

In the conclusion of Iyer's (2013) study, cooperative learning provides a tool to the educators to incorporate values in providing quality education. To achieve the full benefit of this tool, the teacher should be in tune with the learning needs of students. There are various evidences to show the effectiveness of cooperative learning in a classroom. It is very important to implement cooperative learning properly to attain the maximum benefit.

Research Questions

The purpose of this action research is to know the effects of cooperative learning to students' scores on assessments and to develop among the students' a positive attitude toward mathematics. It examined the research themes of student achievement and student attitude, in seeking to answer the research questions:

- How can cooperative learning help the students' change their attitude towards Mathematics?
- Will there be an increase in the achievement of the students after working cooperatively?
- What are the perceptions of students towards cooperative learning?

Methods

The respondents in this study are 57 grade eight students, 19 boys and 38 girls in the class. Though the students belong to the highest section of the said grade level, still they are heterogeneously grouped for their abilities and talents vary. To get the affirmation of the students' parents/guardians in their participation in the research, parental consent was distributed (Appendix A).

The researchers utilized the quantitative research methodology. On the first day of research, students were asked to complete a Pre-Project survey (see Appendix B). A Pre-test was also conducted to assess the students individually on their advance knowledge for the upcoming topics/lessons. On the next day, the students were placed in groups assigned by the teacher based on their previous curriculum assessment scores. Each group consisted of one student from the top 12%, three students from the middle 44%, and three students from the bottom 44%. Since the class consisted of 57 total students eight groups were created. The seven groups were given seven members and the last group had eight members. The students remained in these groups for the first four weeks of the project.

Each day of class, a short introduction was given to the leaders. They were instructed to do the activity from their module, discuss the topic among their members, answer a particular assessment and present their output to class. They were graded based on appropriate rubrics (Appendix C). The learners exchanged ideas and chose the best way to represent the response of the whole group. In this case, they do not need to copy or to compare with each other's paper. After doing varieties of activities and answering different questions together, the comparison of their individual made scores and the scores they got with their group was compared.

To assure individual improvement, two assessments were given, the first was given as a group and the other as individual assessment which determine if each member really participated and understood the topic well. The students were given the opportunity to use each other as a resource to solve problems. The success of the group depends on the cooperation among all group members. Individual Post-test was conducted on the fourth week of the research.

The comparison of the Pre and Post Test was observed as whether an improvement was achieved. The Post-Survey Form was given to measure the individual's attitude and satisfaction towards Cooperative Learning.

To validate the implementation of the study, members from the Division Research Team observed the class using the Cooperative Learning Checklist (see Appendix E) they

gave comments suggestions for the utmost execution of the study. During the first observation the researcher were graded 2.6, it was suggested that each member should have a specific task, and they should know the purpose of their groupings. In the second observation, it improved to 2.85 and were observed that the students actively participated on the activity.

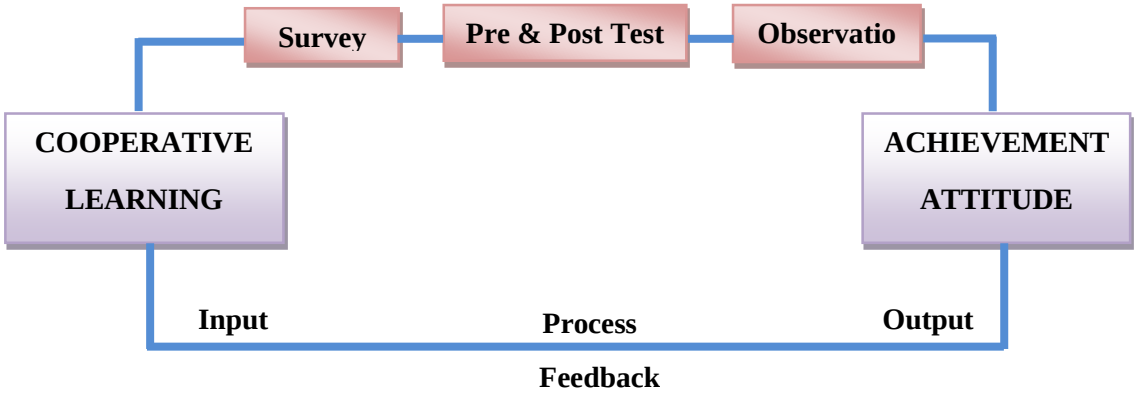


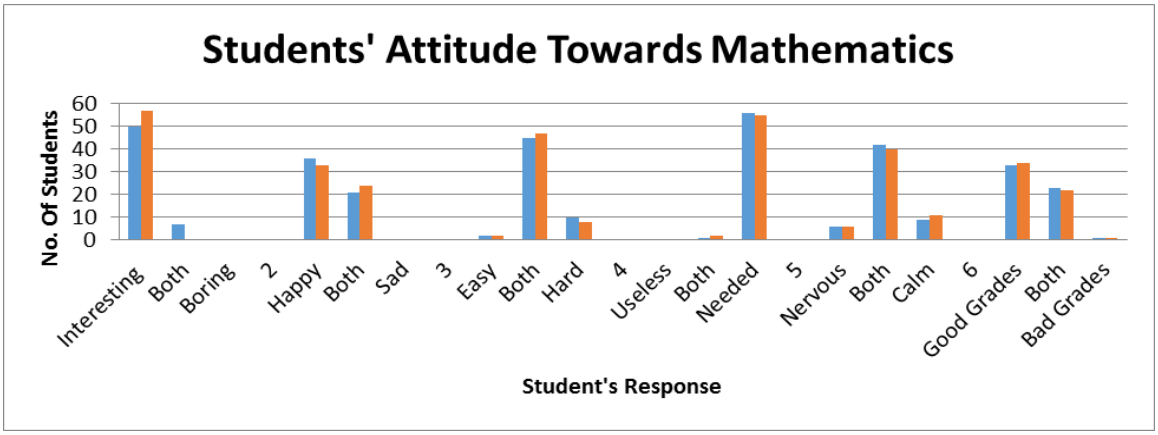
Figure 1 Research Paradigm

Research Results

Pre and Post Project Survey

Pre and Post Project Survey were given to determine the student's perception and attitude towards Mathematics and how would they respond if they were given a certain task. The result revealed that Mathematics is an interesting and enjoyable subject. They were untroubled all throughout the subject, yet were both nervous and calm. Still they could not decide if the subject was easy or hard for the difference in getting good grades was not that high. The result was quite interesting for whether it would be a positive or a negative result but still find it very helpful in the research.

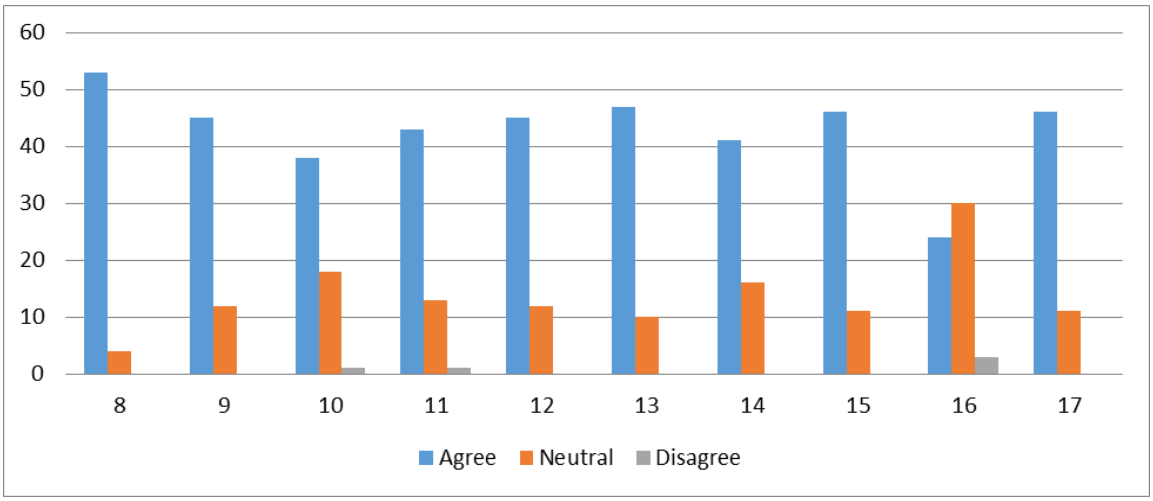
Table 1. Pre and Post Survey Result



In comparing the results, we found out that some of the students still look for a more teachers as teacher rather than teachers-facilitating interaction. There are still some

students who lack confidence and depend to their group mates so as to ask for an answer or ask for the affirmation of their answers. The first result shows an affirmation in Cooperative Learning application. One noticeable result is about treating the ideas and opinions of co-member with respect which shows a neutral response, which is understandable because of individual differences among the group. The result is not quite remarkable, but at some point this research a successful one.

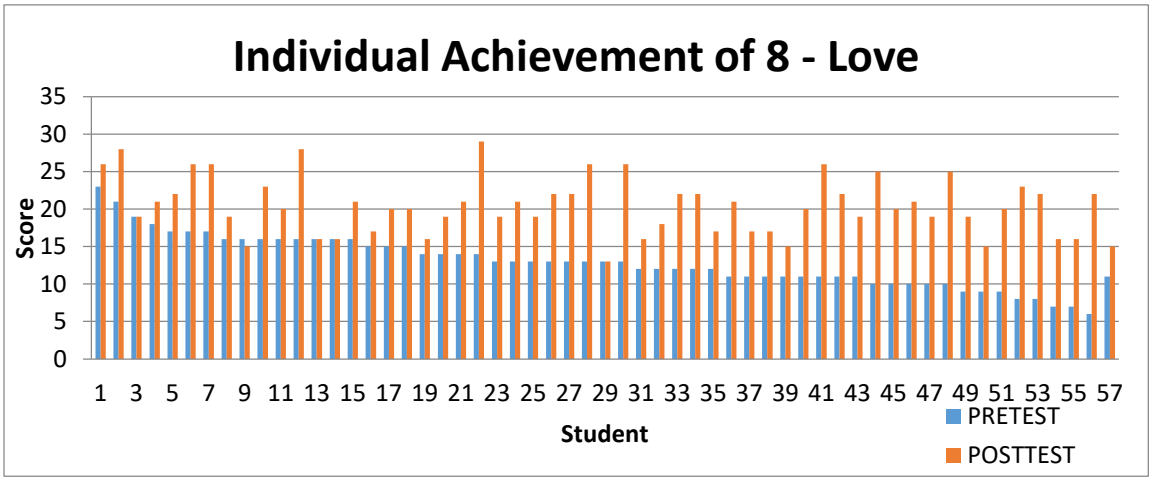
Table 2. Pre and Post Survey Results



Pre and Post Tests (Appendix D)

A pre and post-test – a 30-item multiple choice type of test – were administered to determine the effects of the Cooperative learning on the learning tasks of the individual. During the Pre Test Phase, since it is a pre-assessment, students did not have any idea on the topics that were about to be given to them. The Pre Test Mean is 12.96, and with Standard Deviation of 3.47, were understandably low. As the lesson goes in progress with the use of Cooperative Learning as the strategy, huge expectation on the increase in the result of their Post-test. And the results were actualized, the Post Test Mean is now 20.55, and with the standard deviation of 3.77.

Table 3. Pre-Test and Post-Test Results



Conclusions

The result of this research shows that there is an improvement in the students' attitudes toward Mathematics. This study also found a positive effect in students' attitudes towards Mathematics after working in cooperative learning groups. However, the result of the survey shows no significant relationship between the Post Test scores and the students' having a better understanding of Mathematics concepts while working in cooperative grouping. The Result of the Survey (Table 1 & 2) also shows the change of participants' attitude towards Mathematics where they found it more interesting with the use of Cooperative Learning. They even agreed to use Cooperative Learning in all of their activities especially during assessment.

Similarly, to Gull F., Shehzad S. (2015), it can be concluded from results that cooperative learning activities had a positive effect on academic achievement of students in Mathematics.

Stauffer's (2013) review suggested that cooperative learning has positive effects on academic achievement when students are accountable only to themselves, when they are accountable to both themselves and their group, and when they are solely accountable to their group. It also suggests that students who engage in cooperative learning are more likely to work with others even when not told to.

Same with the study of Russo (2014), the use of cooperative learning, when used at appropriate times, can improve achievement amongst students and that not every student learns the same, or will benefit from just the use of cooperative learning strategies. Results showed that there are still some students' scores either stayed the same or decreased during the course of the study. As a specific cooperative learning method is chosen, teachers should monitor the dynamics of the group setting, place an emphasis on collaboration and motivation, and assess the mastery of learning materials by the students on a group and individual basis. Assessments can be done in a variety of ways and include daily competitions, debate, worksheets, quizzes, tests, and other types of assessment. The students must be empowered with the necessary environment and structure in order to reach higher levels of achievement and content literacy. Cooperative learning methods, with the guidance of an informed teacher, will have a positive impact on student achievements.

These results suggest that teachers in the field of education should give a serious and favorable consideration to this approach. The following suggestions can be made on the basis of above results: (1) Sharing of the research activity and findings during LAC session in the Mathematics Department, to encourage peers to implement Cooperative Learning in their class. (2) Additional research should be conducted on large sample to increase the generalizability of the findings to the subject of education. (3) Future research should also focus on comparisons between different models of cooperative learning; Think-Pair-Share. (4) Cooperative learning intervention should be given for a long time period to observe its effectiveness.

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ACTION PLAN

Objectives	Activities/Strategies	Responsible Person	Time Frame	Success Indicator	Remarks
1. Sharing of the research activity and findings during LAC session in the Department, to encourage peers to implement Cooperative Learning in their class.	L.A.C. Session / In - Service Training	Mathematics Department Faculty Members Head Teacher	May / October	Daily Lesson Log	Cooperative Learning was applied by other faculty member
2. Conduct another Action Research under Cooperative Learning Strategy like Think-Pair-Share.	Conducting Action Research	Researchers	S.Y. 2017-2018	New Action Research	Completed Action Research
3. Adopt the Cooperative Learning Checklist during Classroom Observation whenever applicable.	Classroom Observation	Teacher Involved Head Teacher Principal	Year-Round	Observation Checklist	Cooperative Learning Checklist was used during Classroom Observation
4. Formulate a Reward System to ensure proper Cooperative Learning implementation within the class.	Teaching Strategy	Teacher Involved Students	Year-Round	Summative Test	New Reward System was formulated.

UNDERSTANDING STUDENTS' LEARNING DIFFICULTIES IN MATHEMATICS: BASIS FOR PROPOSED TEACHING STRATEGIES

by Melanie V. Arasain, Imus National High School- Main

Abstract

This study was conducted to improve student learning by identifying issues, concerns and problems that negatively affect student learning and to develop and implement strategy to solve the problem. The respondent was 248 Grade 8 students in Imus National High School – Main Campus, SY 2017-2018.

The study employed the descriptive method of research. It utilized an adopted questionnaire as research instruments and compare with the grades of grade 8 students during the first, second and third grading periods SY 2017-2018. The data were analyze using frequency and mean and the grading system from DepEd Order No. 8, s. 2015, Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program.

On the basis of the studies, the learning difficulties of the students that lead to low grades were Reasoning (X=3.97), Problem Solving (X=3.98), Communicating Mathematically (X=4.04), and Making Mathematical Connections (X=3.54). In general, the learning difficulties in Mathematics were Very Evident with an overall weighted mean of 3.88.

The findings revealed that the result of five strategies were very evident. First was Brainstorming (X=4.05), second was Peer Tutoring (X=3.82), third was Think, Pair, Share (X=3.74), fourth was Redo and Review (X=3.64) and fifth, Student Score Card (X=3.52). The overall mean of 3.54 revealed that the Teaching Strategies used by the researcher was Very Evident and the overall performance of the students was 80.41 which are interpreted as Satisfactory.

The study recommends all Mathematics teachers in the school to recognize the learning difficulties of the classes and to evaluate the effectiveness of the recommendations mentioned after implementation/application.

Keywords: mathematics learning difficulties, teaching strategies

Introduction

Imus National High School – Main Campus is one of the public schools in the Schools Division of Imus City. This school year 2017-2018, it has 1,900 students' enrolled in Grade 8. The students are currently divided into 32 sections and 4 of them presently handled by the researcher. The school wants to maintain as much as possible the no failing grades for every quarter. As Mathematics teacher, the researcher always encountered failing grades from her students all year round.

One of the most prevalent issues in the classroom that affects the learning of students was their understanding about the content of Mathematics itself. Not

understanding mathematics, its operations, rules and terms leads to low scores and failing grades. In this condition, teachers required to give remedial activities to the students' whose grades possibly failed. The results were frustrating to the learners for they felt that they were not good in Mathematics. It was also frustrating on the part of the teachers for they felt that all the efforts in instilling knowledge, skills, and attitude were in vain because the students could not perform the task well.

From this scenario, the researcher found out that the most critical problem that affects the students' learning was the students' comprehension about the whole content in Mathematics.

This study aimed to understand students' learning difficulties in Mathematics in the four sections of Grade 8 being handled by the researcher for the first, second and third quarter of S.Y. 2017-2018. Result of this study can be a basis for proposed teaching strategies.

Literature Review

In the study of Orteza (2016), students encountered difficulty in mathematics because they lack the computational skills in the fundamental operations in whole numbers, fractions, decimals, radicals, analysis in solving problem and logical thinking. Thus to overcome this weakness, the student should have a good foundation in fundamental operation in mathematics in their early years of schooling.

The characteristics of students with learning difficulties in mathematics are as follows: (1) demonstrate slow or inaccurate recall of basic arithmetic facts; (2) answer problems impulsively, without inhibition; (3) have difficulty representing mathematical concepts mentally; (4) have poorly developed number sense; and (5) have difficulty keeping information in their working memory.

The 1989 Curriculum & Evaluation Standard for problem solving is that mathematics curriculum should include the refinement and extension of methods of mathematical problem solving so that all students can use, with increasing confidence, problem solving approaches to investigate and understand mathematical content; apply integrated mathematical problem-solving strategies to solve problems from within and outside mathematics; recognize and formulate problems from situations within and outside mathematics; and apply the process of mathematical modeling to real-world situations. In reasoning, the mathematics curriculum should include numerous and varied experiences that reinforce and extend logical reasoning skills so that all students can make and test conjectures; formulate counterexamples; follow logical arguments; judge the validity of arguments; constructs simple valid arguments; and so that, in addition, college-intending students can construct proofs for mathematical assertions, including indirect proofs and proofs by mathematical induction. Also, the mathematics curriculum should include the continued development of language and symbolism to communicate mathematical ideas so that all students can reflect upon and clarify their thinking about mathematical ideas and relationships; formulate mathematical definitions and express generalizations discovered through investigations; express mathematical ideas orally and in writing; read written

presentations of mathematics with understanding; ask clarifying and extending questions related to mathematics they have read or heard about; and appreciate the economy, power, and elegance of mathematical notation and its role in the development of mathematical ideas.

Lastly, the mathematics curriculum for mathematical connections should include investigation of the connections and interplay among various mathematical topics and their applications so that all students can recognize equivalent representations of the same concept; relate procedures in one representation to procedures in an equivalent representation; use and value the connections among mathematical topics; and use and value the connections between mathematics and other disciplines.

Grouws and Cebulla (2014) indicated in their research findings that certain teaching strategies and methods are worth careful consideration as teachers strive to improve their Mathematics teaching practices. The classroom implications of the research findings are summarized are as follows: (1) The extent of the students' opportunity to learn Mathematics content bears directly and decisively on student Mathematics achievement; (2) Focusing instruction on the meaningful development of important mathematical ideas increase the level of student learning; (3) Students can learn both concepts and skills by solving problems; (4) Giving students both an opportunity to discover and invent new knowledge and an opportunity to practice what they have learned improves student achievement; (5) Teaching that incorporates students' intuitive solution methods can increase student learning, especially when combined with opportunities for student interaction and discussion; (6) Using small groups of students to work on activities, problems and assignment can increase student Mathematics achievement; (7) Whole-class discussion following individual and group work improves student achievement; (8) Teaching Mathematics with a focus on number sense encourages students to become problem solvers in a wide variety of situations and to view Mathematics as a discipline in which thinking is important; (9) Long-term use of concrete materials is positively related to increases in student Mathematics achievement and improved attitudes towards Mathematics; and (10) Using calculators in the learning of Mathematics can result in increased achievement and improved student attitudes.

As stated in DepEd Order No. 8, s. 2015 "Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program", assessment is a process that is used to keep track of learners' progress in relation to learning standards and in the development of 21st-century skills; to promote self-reflection and personal accountability among students about their own learning; and to provide bases for the profiling of students performance on the learning competencies and standards of the curriculum.

Classroom Assessment is an ongoing process of identifying, gathering, organizing, and interpreting quantitative and qualitative information about what learners know and can do. Teachers should employ classroom assessment methods that are consistent with curriculum standards. It also measures the achievement of competencies by the learners.

Formative assessment involves teachers using evidence about what learners know and can do to inform and improve their teaching. Teachers observe and guide learners in their tasks through interaction and dialogue, thus gaining deeper insights into the learners'

progress, strengths, weaknesses, and needs. The results of formative assessments will help teachers make good instructional decisions so that their lessons are better suited to the learners' abilities. Such monitoring will allow teachers to understand their students and thus teach them better.

Summative assessment measures whether learners have met the content and performance standards. Teachers must use methods to measure student learning that have been deliberately designed to assess how well students have learned and are able to apply their learning in different contexts. The results of summative assessments are recorded and used to report on the learners' achievement.

Written Work (WW) assesses learners' understanding of concepts and application of skills in written form and prepares learners for quarterly assessments.

Performance Tasks (PT) involve students in the learning process individually or in collaboration with teammates over a period of time; give students opportunities to demonstrate and integrate their knowledge, understanding, and skills about topics or lessons learned in a specific real-life situation by performing and/or producing evidence of their learning; give students the freedom to express their learning in appropriate and diverse ways and encourage students inquiry, integration of knowledge, understanding, and skills in various contexts beyond the assessment period.

Quarterly Assessment (QA) Synthesize all the learning skills, concepts, and values learned in an entire quarter.

Studies on Understanding Students' Learning Difficulties in Schools

According to Salas (2016), one of the best indicators of the student's performance in school is his academic achievement. This is usually characterized by the grade given by the teacher which is often expressed in numerical rating.

Synthesis

The aforementioned related literatures and studies strengthen the claim of this present study that understanding student learning difficulties in Mathematics, classroom activities and assessment must be differentiated to the extent that the students can understand the subject as it was presented and discussed in the classroom, make teachers aware for the students' skills, talents, learning processes, and potentials and encourage exciting range of activities to students.

Intervention and Additional Strategies

The researcher used the Traditional Approach at the onset of the academic year. When the researcher realized that many of her students got failing grades, she added strategies to solve the problem such as student class demonstrations, brainstorming, think, pair, share, peer tutoring, student score card handled by the students, redo and review in terms of remedial activities and giving classroom awards.

Class Demonstrations are practical presentations of processes/procedure/skills which are designed to illustrate theoretical principles. Demonstrations require careful sequencing, oral and visual explanations, appropriate illustrations and opportunities for students to pose questions and clarify problems.

In *Brainstorming,* large or small classes are broken into small groups of students to discuss a particular issue/problem/topic for 5 to 15 minutes.

Think, Pair, Share strategy is a cooperative learning technique that encourages individual participation.

Peer Tutoring is a term that has been used to describe a wide array of tutoring arrangements, but most of the research on its success refers to students working in pairs to help one another learn material or practice an academic task. Peer tutoring works best when students of different ability levels work together (Kunsch, Jitendra, & Sood, 2015).

Student Score Card, as mentioned in DepEd Order No. 8, s. 2015 "Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program",

formative assessment enables students to take responsibility for their own learning, and identify areas where they do well and where they need help. As a result, students will appreciate and make their own decisions about their progress.

Redo and Review for Remedial Activities and within the duration of classes, Redo means read and do again the activities already done and review means read and view again the topics already presented and discuss. This was given for the students to let them recall the lessons they have been encountered at first and develop learning for them as it was already seen and done.

Grade-level Awards, as stated in DepEd Order no. 36, s. 2016 "Policy Guidelines on Awards and Recognition for the K to 12 Basic Education Program", paragraph 3.5 Mathematics is the award given to learners who have high academic standing in Mathematics, demonstrated passion for math expressed through an excellent attitude toward math work, and shown enthusiasm for math, which positively impacts other students in class.

Research Questions

The main purpose of the study was to find out the teachers' teaching practices and their relationship to the extent of learners' progress in Mathematics of grade 8 students of Imus National High School – Main Campus.

Specifically, the study sought to answers to the following questions:

1. What are the learning difficulties present in the students?

2. How evident the following teaching strategies used by Mathematics Teacher:

1.1 Classroom Assessment	1.5 Peer Tutoring
1.2 Class Demonstration	1.6 Student Score Card

1.3 Brainstorming

1.4 Think, Pair, Share

1.7 Redo and Review

1.8 Classroom Awards

3. How do the respondents perceive the teaching strategies used by researcher?

4. Based on the findings, what actions can be recommended to minimize student learning difficulties in Mathematics and improve student achievement?

Research Methodology

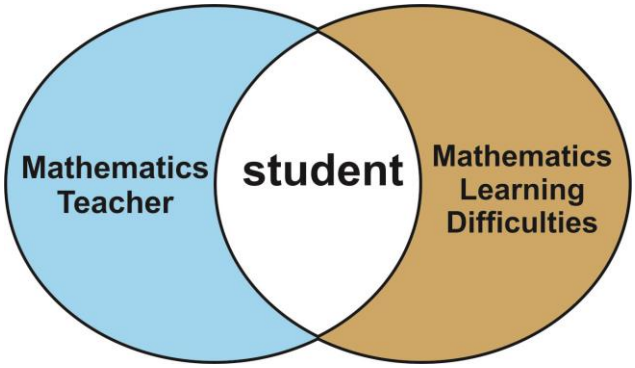

Figure 1. The Research Paradigm

The research paradigm shows the effect of Mathematics Learning Difficulties and the strategies of Mathematics teacher in the performance of students. The study examines what are the mathematics learning difficulties of the student, what teaching strategies are effective to students that will point to areas that need to be addressed for the improvement of student performance.

The instrument used in this study was adapted from New Strategies in Teaching and Learning: The Polytechnic University of the Philippines College of Education by Dr. Rovelina Bucao-Jacolbia in 2016 and grading system from DepEd Order No. 8, s. 2015, Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program.

This study utilized the descriptive research design with quantitative research method. Descriptive design is used to describe the status of an identified variable such as events, people, or subjects as they exist and quantitative method is an objective, systematic, empirical investigation of observable phenomena through the use of computational techniques (Faltado, et. al., 2016).

Purposive sampling technique was employed where out of the 1,900 students currently enrolled in grade 8, 248 students handled by the researcher were chosen to participate in the survey.

The questionnaire included items on teachers' teaching strategies. The respondents were asked to rate each item by putting a check mark (√) on the column which corresponds to their answer.

The following numerical rating and descriptive scales were used to measure researchers teaching strategies:

Numerical Rating	Descriptive Rating
4.51 – 5.0	Highly Evident
3.51 – 4.5	Very Evident
2.51 – 3.5	Evident
1.51 – 2.5	Less Evident
1.0 -1.5	Not Evident

The following grading scale and descriptors were used to measure the grades of the students.

Grading Scale	Descriptor
90 – 100	Outstanding
85 – 89	Very Satisfactory
80 – 84	Satisfactory
75 – 79	Fairly Satisfactory
Below 75	Did Not Meet Expectations

Before conducting the study, permission was secured from the DREAM Team School Focal Person of Imus National High School– Main campus through a letter to administer the activities for the respondents. Students were aware that they must complete every activity regarding the study because they were graded according to the assessment stated above. The researcher personally supervised the administration of the activities and questionnaires.

Results and Discussions

Table 1: Learning Difficulties in Mathematics

Learning Difficulties	Weighted Mean	Verbal Interpretation
Reasoning (Justify their answers and solution processes)	3.97	Very Evident
Problem Solving (Determine, collect, and analyze appropriate data with respect to the original problem or in view problem solving situations)	3.98	Very Evident
Communicating Mathematically (Use the skills of reading, listening, and viewing to interpret and evaluate mathematical ideas)	4.04	Very Evident
Making Mathematical Connections (Apply mathematical thinking in solving real-life problems)	3.54	Very Evident
Overall Mean	**3.88**	**Very Evident**

Table 1 show that all of the responses are verbally interpreted as "Very Evident". Reasoning (X=3.97), Problem-Solving (X=3.98), Communicating Mathematically (X=4.04), and Making Mathematical Connections (X=3.54). Overall, the Mathematical Learning Difficulties was Very Evident with a general weighted mean of 3.88.

Table 2: Teaching Strategies in Mathematics

Strategy	Weighted Mean	Verbal Interpretation
Classroom Assessment (Teacher checks students' knowledge and skills based on content standard)	3.14	Evident
Class Demonstration (Teacher gives demonstrations when she teaches new or difficult topics)	3.16	Evident
Brainstorming (I enjoy doing activity with a group)	4.05	Very Evident
Think, Pair, Share (I like to talk about and listen to ideas when I work with a group)	3.74	Very Evident
Peer Tutoring (When I see my friends studying, I like to do the same)	3.82	Very Evident
Student Score Card (Teacher provides training in collecting, recording and analyzing data)	3.52	Very Evident
Redo and Review (Teacher provides high skills quality information to students about their learning)	3.64	Very Evident
Classroom Awards (Teacher recognize positive behavior through giving awards)	3.27	Evident
Overall Mean	**3.54**	**Very Evident**

Table 2 as shown in the table, among the five strategies got the verbal interpretation of "Very Evident". Brainstorming (X=4.05), Peer Tutoring (X=3.82), Think, Pair, Share (X=3.74), Redo and Review (X=3.64) and Student Score Card (X=3.52). The remaining three strategies interpreted as "Evident". Classroom Assessment (X=3.14), Class Demonstration (X=3.16), and Classroom Awards (X=3.27).

In summary, the overall mean of 3.54 reveals that the Teaching Strategies used by the researcher was Very Evident.

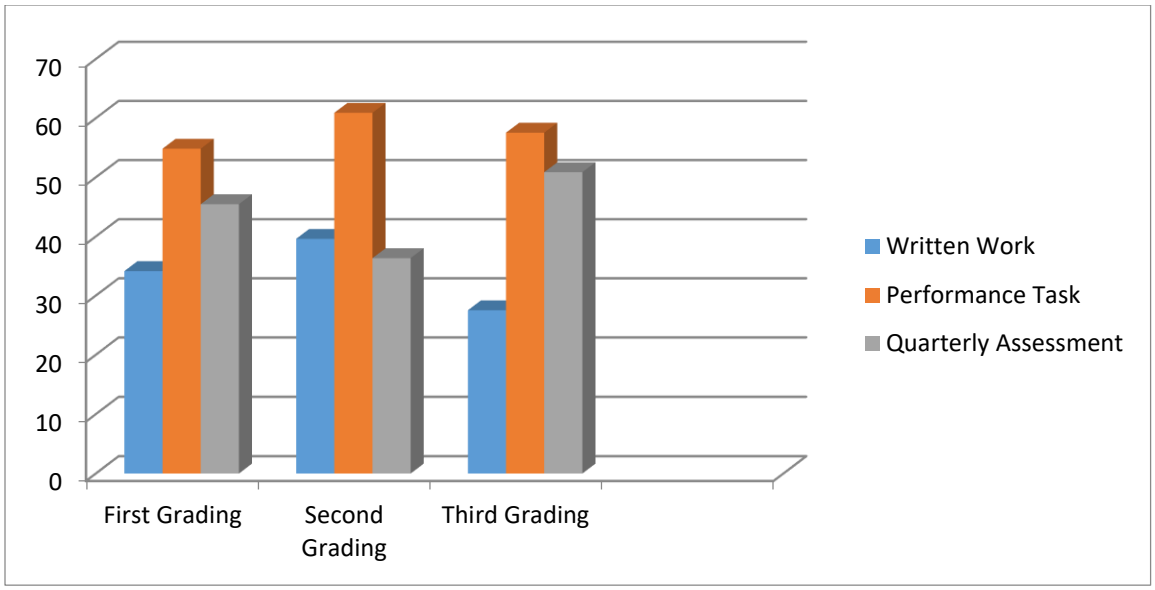

Figure 2: Distribution of Percentage Score of Grade 8-Charity

In reference to DepEd Order No. 8, s. 2015, 60.91% in Performance Task (Second Grading), 50.87% in Quarterly Assessment (Third Grading), and 39.59% in Written Work (Second Grading). From the given graph in Figure 2, Teaching Strategies were most effective in Performance Task under the class of Grade 8-Charity.

Table 3: Percentage Score (PS) of Grade 8-Charity

Grading Period	**Written Work**			**Performance Task**			**Quarterly Assessment**		
	Boys	Girls	PS (100)	Boys	Girls	PS (100)	Boys	Girls	PS (100)
First	31.76	36.52	34.14	54.31	55.37	54.84	47.33	43.58	45.46
Second	36.36	42.82	**39.59**	53.68	68.14	**60.91**	37.35	35.31	36.33
Third	22.78	32.24	27.51	47.24	67.85	57.55	42.21	59.53	**50.87**

The data in Table 3 supports the graph in Figure 2. The process was accomplished via percentage score given from DepEd Order No. 8, s. 2015.

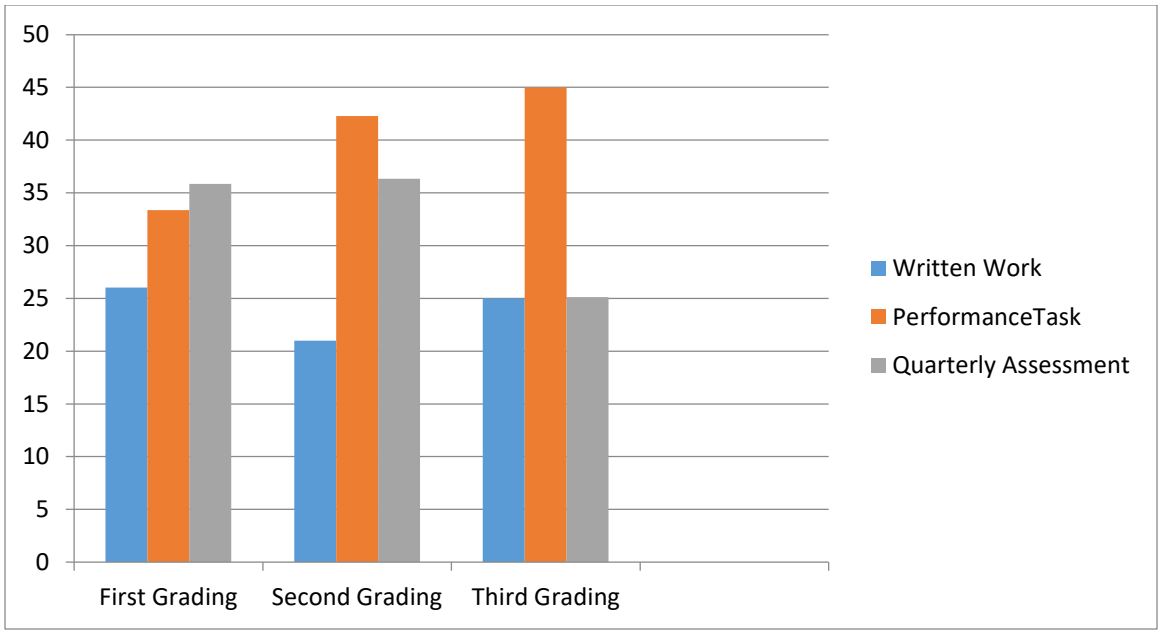

Figure 3: Distribution of Percentage Score of Grade 8-Diligence

In reference to DepEd Order No. 8, s. 2015, 44.98% in Performance Task (Third Grading), 36.33% in Quarterly Assessment (Second Grading), and 26.03% in Written Work (First Grading). From the given graph in Figure 3, Teaching Strategies were most effective in Performance Task under the class of Grade 8-Diligence.

Table 4: Percentage Score (PS) of Grade 8-Diligence

Grading Period	**Written Work**			**Performance Task**			**Quarterly Assessment**		
	Boys	Girls	PS (100)	Boys	Girls	PS (100)	Boys	Girls	PS (100)
First	26.65	25.41	**26.03**	31.85	34.91	33.38	38.62	33.10	35.86
Second	21.17	20.80	20.99	38.77	45.78	42.28	37.13	35.52	**36.33**
Third	26.35	23.63	24.99	47.85	42.11	**44.98**	28.02	22.19	25.11

The data in Table 4 supports the graph in Figure 3. The process was accomplished via percentage score given from DepEd Order No. 8, s. 2015.

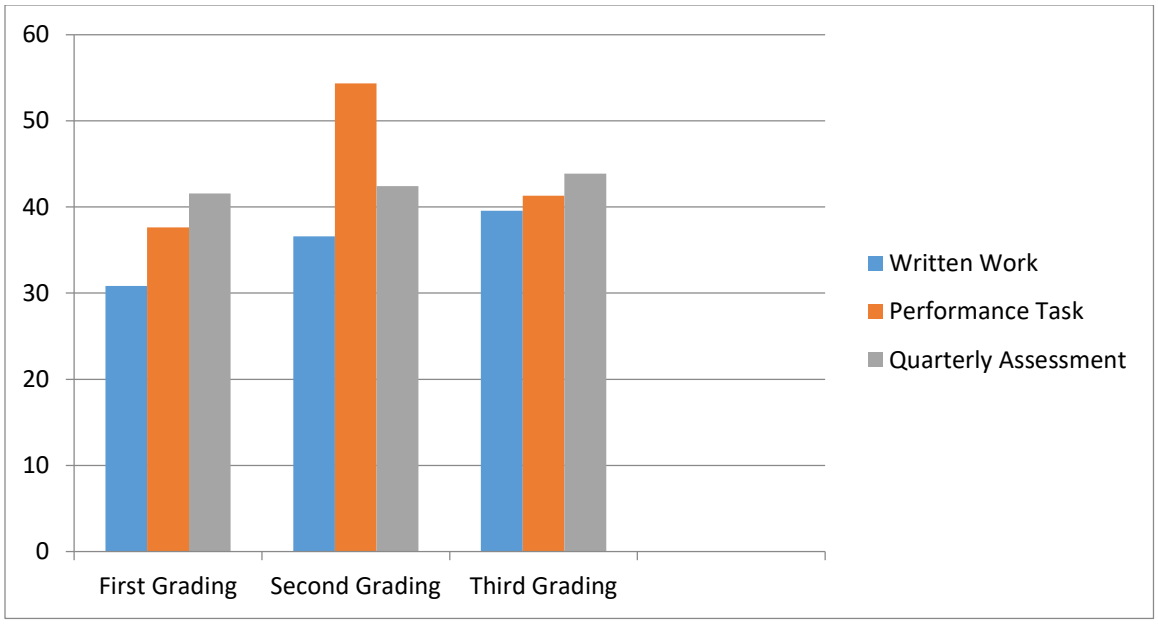

Figure 4: Distribution of Percentage Score of Grade 8-Humility

In reference to DepEd Order No. 8, s. 2015, 54.35% in Performance Task (Second Grading), 43.85% in Quarterly Assessment (Third Grading), and 39.57% in Written Work (Third Grading). From the given graph in Figure 4, Teaching Strategies were most effective in Performance Task under the class of Grade 8-Humility.

Table 5: Percentage Score (PS) of Grade 8-Humility

Grading Period	**Written Work**			**Performance Task**			**Quarterly Assessment**		
	Boys	Girls	PS (100)	Boys	Girls	PS (100)	Boys	Girls	PS (100)
First	25.10	31.56	30.83	33.48	41.77	37.63	38.24	44.86	41.55
Second	19.17	26.57	36.57	52.83	55.87	**54.35**	41.43	43.41	42.42
Third	23.36	29.57	**39.57**	28.84	53.73	41.29	40.29	47.41	**43.85**

The data in Table 5 supports the graph in Figure 4. The process was accomplished via percentage score given from DepEd Order No. 8, s. 2015.

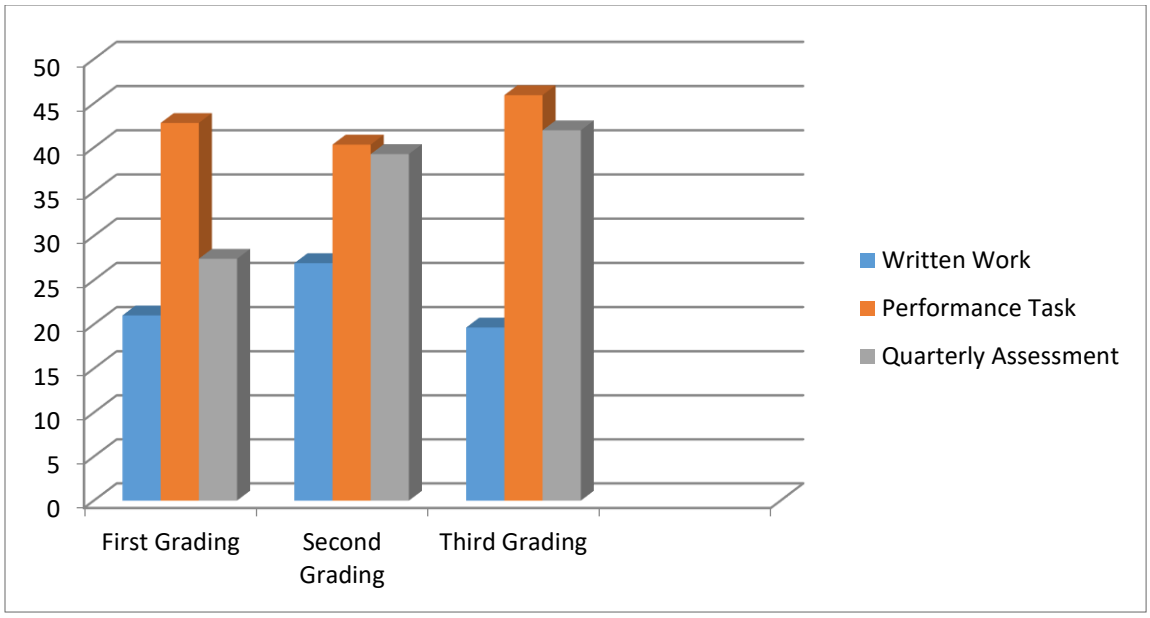

Figure 5: Distribution of Percentage Score of Grade 8-Truthfulness

In reference to DepEd Order No. 8, s. 2015, 45.93% in Performance Task (Third Grading), 41.95% in Quarterly Assessment (Third Grading), and 26.92% in Written Work (Second Grading). From the given graph in Figure 5, Teaching Strategies were most effective in Performance Task under the class of Grade 8-Truthfulness.

Table 6: Percentage Score (PS) of Grade 8-Truthfulness

Grading Period	**Written Work**			**Performance Task**			**Quarterly Assessment**		
	Boys	Girls	PS (100)	Boys	Girls	PS (100)	Boys	Girls	PS (100)
First	21.65	20.36	21.01	36.67	48.89	42.78	27.39	27.45	27.42
Second	26.51	27.32	**26.92**	34.42	46.23	40.33	37.31	41.21	39.26
Third	17.41	21.87	19.64	35.03	51.83	**45.93**	40.34	43.56	**41.95**

The data in Table 6 supports the graph in Figure 5. The process was accomplished via percentage score given from DepEd Order No. 8, s. 2015.

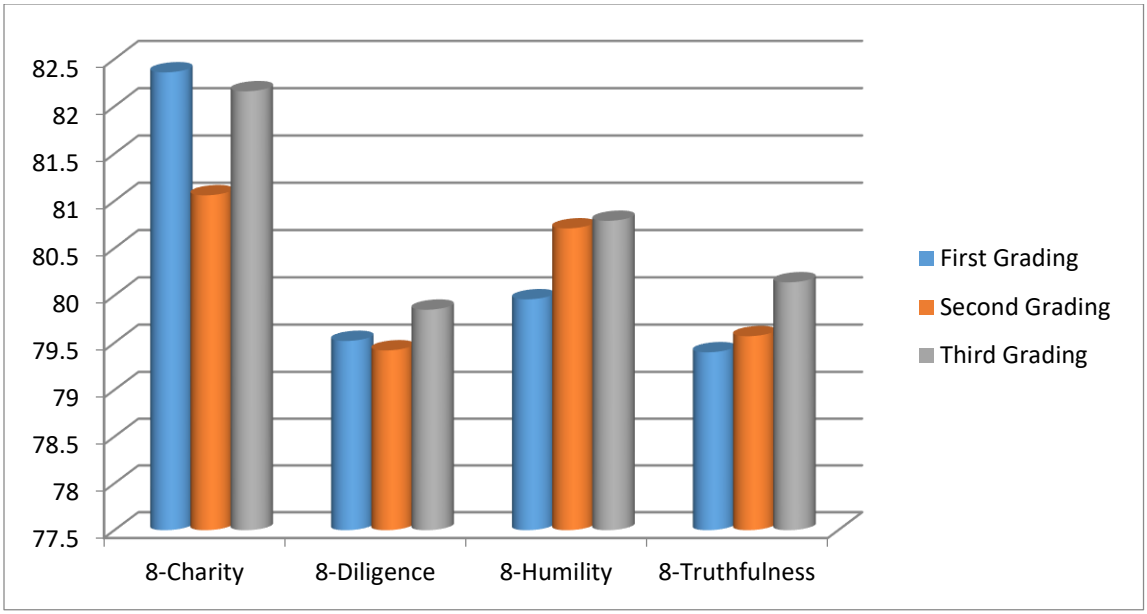

Figure 6: Final Grades of Grade 8 students from First, Second and Third Grading

Figure 6: The graph reveals that the strategy used by the researcher was inconsistent in the class of section Charity and Diligence as shown that there was an increasing and decreasing order of graph. However, the Strategy used by the researcher were most effective on the class of Humility and Truthfulness as it shown that the graph was continuously increasing from first, second and third grading.

Table 7: Final Grades of Grade 8 students from First, Second and Third Grading

	Grading Period/s		
Grade and Section	First	Second	Third
8 – Charity	82.36	81.06	82.16
8 – Diligence	79.52	79.42	79.85
8 – Humility	79.96	80.71	80.79
8 - Truthfulness	79.40	79.57	80.14

The data in Table 6 supports the graph in Figure 6. The process was accomplished via general average given from DepEd Order No. 8, s. 2015.

Conclusions

Based on the data presented, analyzed, and interpreted, the following findings are hereby stated.

1. The learning difficulties in Mathematics encountered by the researcher were Very Evident with an overall mean of 3.88

2. The Teaching Strategies used by the researcher was Very Evident with an overall mean of 3.54.
3. The Teaching Strategies of the researcher as perceived by the students' were rated Satisfactory with an average grade of 80.41.
4. The teaching strategy used by the researcher doesn't show a constant effectiveness in two sections therefore the learning style of the students' must be studied.

Recommendation

Based on the stated findings, the following are hereby recommended:

1. Teachers use non-traditional assessments for the students such as: (1) Brainstorming; (2) Peer Tutoring; (3) Think, Pair, Share; (4) Redo and Review; and (5) Student Score Card. Since it was shown in the study that the teaching strategies used by the researcher had increasing and decreasing order of result. It is also recommended to conduct a research about learning styles.
2. Teachers should recognize the learning difficulties of their student on their classes for them to know the better way to avoid the failing grades. In assessment of performance, rubrics should be used.
3. The following strategies and suggestions can be used by the teachers that may help students' who are experiencing difficulties with mathematics: (1) Maintain consistency and communication across school and home settings; (2) Teach basic concepts using concrete objects; (3) Provide specialized materials; (4) Make your expectations explicit; (5) Provide time for checking work; (6) Give students opportunities to connect mathematical concepts to familiar situations; (7) Help students apply math concepts to new situations; (8) Provide access to programs or tutors that can students improve his or her math skills; (9) Help students keep track of problematic areas and (10) Play math games.
4. Make an evaluation study on the effectiveness of the recommendations mentioned above after implementation/application.

Recommendations to Address the Findings of Action Research Entitled

Understanding Students' Learning Difficulties in Mathematics: Basis for Proposed Teaching Strategies

Action Research Work Plan and Timelines

PROGRAMS / PROJECTS	OBJECTIVES	ACTIVITIES/ STRATEGIES	PERSONS INVOLVED	TARGET PARTICIPANTS	TIME FRAME	SOURCE(S) OF FUND	EXPECTED OUTPUT/ OUTCOME
A. Dissemination of Research Results							
Research Generation/ Submission Research Presentation	Disseminate the results of the research for possible implementation	Submission of full paper to school head Presentation in INSET seminar and Research Conference	Researcher Research Focal Person School Head	Educator	October 2018	Researcher's Own	Full paper Disseminated/ presented research
B. Mathematics Learning Disabilities							
Inventory test for the Mathematics Learning Difficulties	Determine Mathematics Learning Difficulties	Secure Parental Consent Counselling	Guidance Counsellors Class Advisers Mathematics Teachers Parents	Students	October2018 – March 2019	School Fund	Teacher recognizes the learning difficulties in Mathematics of students for them to provide suited teaching strategies in class.
C. Student Forms							
Card (F-138)	Inform parents of the results of the strategies	Parent – Teacher Conference	Department Head	Students Parent	July 2018 – January 2019	School Fund	Well-informed parents Support to students

PROGRAMS / PROJECTS	OBJECTIVES	ACTIVITIES/ STRATEGIES	PERSONS INVOLVED	TARGET PARTICIPANTS	TIME FRAME	SOURCE(S) OF FUND	EXPECTED OUTPUT/ OUTCOME
School – Home Partnership	used in the section.		Mathematics Teachers Parents				
D. Proposed Teaching Strategies							
Non-traditional Teaching Strategies	Conduct teaching strategies for students who have difficulties in understanding mathematics	Brainstorming Peer Teaching Think, Pair, Share Redo and Review	Mathematics Teachers	Students	July 2018 – January 2019	Teachers Own	Improved students' achievement
E. Activity Bank							
Daily Lesson Log Class Record Portfolio Student Score Card	Provide a reference when planning activities and assessment	Research on appropriate activities for each type of learning disabilities Compile the activities with instructions, materials needed, and mechanics	Researcher Department Head Mathematics Teacher	Mathematics Teachers Students	October2018 – March 2019	Teachers Own	Printed Activities Portfolio Student Score Card Class Record Daily Lesson Log

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DATA MANAGEMENT PRACTICES AND CHALLENGES IN GEN. EMILIO AGUINALDO NATIONAL HIGH SCHOOL: BASIS FOR AN ONLINE SCHOOL DATA MANAGEMENT SYSTEM

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Abstract

This research examined the data management practices in Gen. Emilio Aguinaldo National High School (GEANHS) to develop a school-based online data storage and management system. Focus group discussions about the current document management practices were conducted with school personnel who are in-charge of submitting, storing, and managing school data. The existing data management practices in the school involved: 1) data gathering and receiving of reports, 2) filing and storage, and 3) retrieval of data. Upon identifying time and organization as major challenges in the existing process, project GEARS (GEANHS' Electronic Archiving & Retrieval System) was developed and introduced. Implications on the new system were positive and was observed as efficient, accessible, organized, and secure. The research was conducted within school year 2017-2018, and was limited only with the findings of the researcher within the specific setting where the study was conducted. Nevertheless, the new system can be modified to electronic document management needs in both secondary and elementary schools.

Keywords: *data management, data storage, electronic filing, school data*

Introduction

Information is a fundamental aspect of an organization's existence, and is central for effective operations. It is imperative, especially for the administration, to direct the present organization, to allow decision-making, and to undertake necessary actions. In order to preserve administrative information, organizations use records to reinforce accountability, when they need to ascertain that they have met their commitments or complied with the best practice or established policies. The maintenance of records is needed because it acts as evidence for decisions and activities made in the past. It is every administration's most basic resource, which also requires effective management. "An unmanaged record system makes the performance of duties more difficult, costs organizations all resources (e.g. time, money etc.) and makes them vulnerable to security breaches, prosecution and embarrassment" (Adu, 2014). Important information of an organization can be lost forever if records are not kept properly.

The systematic control of all information is known as data management (Pali, 2009). It can be done either in electronic format or printed materials from their creation until its final disposition. The process includes the development and application of standards to the creation, use, storage, retrieval, disposal and archival preservation of recorded information. Makhura (2005) suggested the two phases in the life cycle of data. The first phase in the life cycle of a record is the creation and receipt. A paper document is

in this phase when the document is written; an electronic document is in this phase when it is sent from a person to another. The second phase is maintenance and use. This is the part for which the life of a records exists. A record's purpose is for retrieval of information used in daily operations. In summary, an effective data management program will ensure that records are available for use when needed, that privacy and confidentiality are maintained, that redundant records are destroyed and that records ultimately contribute towards sustaining service delivery.

At present, however, some organizations still maintain a paper-based data management system, which in turn, faces a major challenge (Gregg, 2013), in terms of accessibility. Since paper-based information can only exist in a single location at a time, only one person can access that information at any given time. This serialized method to information management does not play well in today's "I need it now" business environment. Hence, data management has evolved from a paper-based function to technology-based investments (Mokhtar and Yusof, 2009). Electronic data management gives unlimited storage space as compared to conventional method of office cataloging that allow for retrieval when needed.

Institutions, especially public schools, produce increasingly large volumes of information in both paper and electronic forms, which should be stored, managed and preserved in an organized system that "leads to quick decision making, saves office space, and promotes good corporate governance" (Adu, 2014).

The setting of the study is a large school in City of Imus, Gen. Emilio Aguinaldo National High School (GEANHS). As of March 2017, GEANHS has a total enrollment of 7,854 students. 26% of which are Grade 7, 26% are Grade 8, 24% are Grade 9, and 28% are Grade 10. Moreover, founded in 2017, the Special Education Program has an enrollment of 58 students. As the enrollment ballooned since its founding in 1996, the number of teachers also increased. As of February 2017, GEANHS has 304 teachers and 7 Head Teachers, divided into the 8 subject departments.

The school is required to submit important information, reports, and documents in various time frames (i.e. monthly, quarterly, and annually). The monthly reports include Supervisory Plan and Report, Canteen Report, Monthly Accomplishment Report, Learning Action Cell (LAC) Plan and Report, Feeding Report, Narrative Reports (i.e. Monthly School Celebrations, Awards, Seminars) School Form 2, and School Form 4. Quarterly reports include Adopt-a-School, Gulayan sa Paaralan, Quarterly Accomplishment Report, Mean SD MPS per Subject Area, and Personnel Services Itemization and Plantilla of Personnel (PSI-POP). Other reports are submitted during either or both the start and end of the school year, such as Nutritional Status Report, Brigada Eskwela Report, NSBI, BED and BAR, and School Forms 1 to 7.

GEANHS' huge population contributes to the heavy flow of administrative information that the school needs to produce, submit, and store. Moreover, the School Improvement Plan (SIP) to be submitted by the end of the school year requires all the data produced and submitted during the entire school year. Hence, data must be stored effectively, with an accessible way of retrieval for future use.

With varied data as discussed, an attempt is made to develop a school data storage and retrieval system, focusing on administrative information, for enabling data search and retrieval from a digital interface. This study aims to improve the data management process of Gen. Emilio Aguinaldo National High School. Specifically, it seeks to answer the following questions:

1. What are the data management practices in the school?
2. What are the challenges in data management?
3. What are the factors for designing an effective data management system?
4. How does electronic archiving and retrieval system improve the school's data storage and management system?

Methodology

The study used the basic qualitative research method in gathering and analyzing data. Qualitative research uses methods such as participant observation or case studies which result in a narrative, descriptive account of a setting or practice (Drislane, 2011). The research aimed to identify the administrative offices' viewpoint on the data management practices before and after the creation of an electronic data management system.

The study is conducted in Gen. Emilio Aguinaldo National High School, using the simple non-random sampling. Participants in the study are 14 individuals who are directly involved in the production and safekeeping of various administrative reports and documents. These include the: 8 Department Heads, 3 Principal's Office personnel, and 3 E-BEIS personnel.

To gather data for the study, a focus group discussion was conducted among the participants of the study. Focus group methodology is useful in exploring and examining what people think, how they think, and why they think the way they do about the issues of importance to them without pressuring them into making decisions or reaching a consensus. There were two sets of focus group discussion with the participants. The first set concentrated on the participants' experiences and opinions on existing archiving and retrieval practices before a new system was created and implemented. This set answers the first three research questions. The second focus group discussion was conducted to identify the participant's views on the new system and its implications to the school's data management process, shedding light to the final research question.

Since the study focused on individual experiences, beliefs, and perceptions of the participants towards data management, thematic data analysis was employed. Using open-ended questions and conversational inquiry allows research participants to talk about a topic in their own words, free of the constraints imposed by fixed-response questions that are generally seen in quantitative studies. The conversations were transcribed and noted down. The responses were then coded and organized into emerging themes for analysis.

Results and Discussion

The themes identified within the data include: (a) the existing management practices, (b) challenges in the existing data archiving and retrieval process, (c) participants' suggestions on how to improve the data archiving and retrieval system, (d) the design and implementation of project GEARS and (e) the participants' perceived implications of the new system on the data management process in school.

The Existing Data Management Practices

The analysis of participants' experiences led to an understanding of the existing process of data management in the school: a) data gathering and receiving of reports/documents by E-BEIS and Principal's Office, b) filing and storage, and c) retrieval of data. Figure 5 shows the overview of the existing management process.

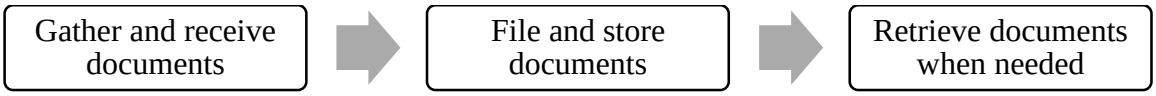

Figure 1. Data Management Process of Administrative Offices in Gen. Emilio Aguinaldo National High School

Data Gathering and Receiving of Reports. Data gathering in data management involves the process of submission of required reports and documents by teacher/ department head to the E-BEIS and the Principal's Office. An E-BEIS personnel described that "*to ensure that all necessary data are gathered, the offices inform the concerned teacher either personally or through electronic forms of communication such as a text message, a phone call, or an online message (Facebook)*". Submission of data to the offices occur in two ways: a) handing a printed copy of the document and b) sending a softcopy of the file. In handing a printed copy of the report, the submitting party prepares three copies of the report—a copy each for the E-BEIS and Principal's Office, and one as a receiving copy. On the other hand, a softcopy can be sent through email, Facebook, or external memory stick.

Filing and Storage. The E-BEIS and Principal's Office also serve as a storage facility for submitted documents and reports. Both have cabinets filled with filing boxes and binders which are labelled according to content (e.g. Supervisory Plan and Report, School Form, Memoranda, etc.). The document, once received by an office personnel, is assessed according to content and placed in its appropriate box/binder. For softcopy files, .doc, .xls, and .pdf files are saved in the internal memory of one of the computers in either the E-BEIS or the Principal's Office. Often, these files are saved in "My Documents", a default folder in a Windows computer. Another practice in saving softcopy files is through the use of Facebook groups. This feature of Facebook is used as a cloud storage where files are uploaded and stored.

Retrieval of Data. In cases when a teacher, a department head, school head, or the Schools Division of Imus City personnel asks for data, retrieval of archived documents is necessary. E-BEIS and Principal's Office personnel will look for the document in the boxes/binders, produce a photocopy of the document, and return the document to the same box/binder. Softcopy files are retrieved in two ways. If the file is saved in the computer's

internal memory, the office personnel searches though the files until the document is found. Another option is by finding and downloading the uploaded document in Facebook group.

Table 1. Data Management Processes of Hardcopy and Softcopy Files

Sub-Process	Hardcopy	Softcopy
Data Gathering and Receiving of Reports	Document is handed to the office personnel.	Document is sent online (e.g. Facebook) or copied from an external drive.
Filing and Storage	Documents are placed in cabinets filled with filing boxes and binders which are labelled according to content.	Documents are saved in the internal memory of one of the computers in either the E-BEIS or the Principal's Office.
Retrieval of Data	Personnel will look for the document in the boxes/binders, produce a photocopy of the document, and return the document to the same box/binder.	Personnel will search through the files in My Documents until the document is found. Another option is by finding and downloading the uploaded document in Facebook group.

Challenges in the Existing Process

In the course of the focus group discussion, participants recalled their experiences with data management. They were asked to tell about challenges or struggles that they encountered with any part of the data management process they have defined previously. In the reflections of the participants, two themes emerged: a) time and b) organization.

Time. The present process was identified by one of the participants as a "traditional form of data management, involving filing of printed documents". Upon reflection, they considered the existing process as time-consuming, particularly the sub-processes of filing and retrieval of data. When filing data, the office personnel needs to look for the appropriate box among the cabinets in the office. Once found, the personnel will search for the folder where the document belongs to. If no such folder exists, the personnel will have to make one by printing a label and pasting it to the folder. Afterwards, the box will be put into its original position in the cabinet. A common struggle in this filing method, encountered by the participants, is the lack of proper labels. Once a personnel forgets to put a label onto the box, it will be difficult to find the most appropriate box/binder to which the document will be filed. The same issue is observed with retrieving data. When asked for a document, the personnel will have to search though the cabinets, boxes, and binders, to get the required data. Often, the party asking for the document will have to wait until the data is found.

Organization. The participants were asked to clarify what they meant by lack organization in the current process. Most of the participants defined organization as "a state of sorting and storing documents", as in an archive. Both the E-BEIS and the Principal's Office lack room for storage, given that they keep documents dated as far as three years

ago. One of the challenges faced by office personnel is how to keep all the documents well-sorted out, properly labelled, and easily retrieved when necessary. Once the documents are not properly sorted, it leads to missing or misplaced files and data. On the contrary, one participant defined lack of organization as "*redundant style of data management*". When asked to explain further, she pointed out that it was "*redundant to have two offices store the same documents*". It was a waste of space, energy, and time to have two offices file the same data, with neither being able to retrieve data as quickly as possible, without the need to search through boxes and folders.

The New System: GEANHS' Electronic Archiving and Retrieval System (GEARS)

Upon identifying the participants' challenges with regards to data management, they also shared their ideas on how to make the process more efficient for all personnel involved. Their unified response to this matter is having a data bank for the school. They described data bank as a platform which is more secure, safe, timely, and organized, addressing the concerns and challenges previously mentioned. Hence, upon hearing the concerns and suggestions of the participants, the Principal's Office initiated a project entitled GEARS or GEANHS' Electronic Archiving & Retrieval System. The project involved creating a Google Drive account for the school where all documents submitted to the office are scanned and stored. Links to these documents are placed in a Wix.com website in an organized manner so that these files could easily be retrieved.

Wix and Google Sites, web hosts, and Google Drive, a cloud service database management system, were chosen for developing Project GEARS. The main online platform chosen is Wix.com, a cloud-based development platform, which allows users to create web sites through the use of online drag and drop tools, with no coding needed. To serve as a back-up platform, Google Sites was also being utilized. Google Sites is a structured web page creation tool that allows users to create a team-oriented site where multiple people can collaborate and share files. Google Drive, to be used together with Google Sites, is a file storage and synchronization device that allows users to store files in the cloud, synchronize files across devices, and share files.

The Home Page of the Data Bank contains three important parts: The Upload Box is used to add files to the archive; the Menu Tab enables a user-friendly navigation through monthly, quarterly, semiannual and annual reports, and; the Search Box gives instant results for reports typed. A special feature of the site is the clock, which symbolizes timeliness of reports. Once a user clicks any tab from the menu bar, it gives a menu containing links to different reports, which are categorized as monthly, quarterly, semiannual, and annual documents. Clicking on a link, for instance, Supervisory Report, will open a Light box (similar to a Pop-Up Page), which contains links to the Google docs format of the reports. Scanned documents are saved as Google Docs files, and stored in the school's Google Drive account, which is then linked to Wix.com and Google Sites. Once the links are clicked, the copy of the document corresponding to the clicked link will appear on a new tab on the browser.

As designed, the system stores: 1) all reports submitted to the Schools Division Office, sorted by monthly, quarterly, biannual, and annual basis; 2) Narrative Reports; and 3) School Memoranda. Once uploaded, these reports can also be retrieved by simply

clicking the link on the website. The administrative offices, particularly the Principal's Office, Department Heads' Office, and the E-BEIS office will act as the main consumers and suppliers of data on the system.

Implications of GEARS

The purpose of GEARS was to address the challenges that reflected on the prior focus group discussion with the participants. After a two-week dry run on the implementation of the new system, a focus group discussion was again made in order to gain the insights of the research participants. For the second phase of the interview, they were asked about the implications of the project with the data management process of the school. As codes and thematically organized, the responses of the participants were categorized into four: 1) efficient, 2) accessible 3) organized, and 4) secure.

Efficient. Through project GEARS, the participants observed important changes in the data management practice, particularly in saving time and finances. A Principal's Office personnel noted that the new system enabled "an easier way of storing, organizing and retrieving documents, which saves about half of the time spent on the old process." In the new process, the document is scanned and saved in the Google drive. According to a clerk, "This spares us from manually labeling each file and folders. We also do not have to purchase many folders, binders, and filing boxes because documents are already stored in the cloud." This is similar to Richmond's (2010) findings that electronic filing saves production cost for the company, which also enhances productivity. Costs are reduced by an effective data management system because less money are spent for equipment.

Accessible. Another significant change is in the new system is its advocacy for transparency and accessibility. Since all documents are linked to the Wix.com site, they can be easily accessed anytime and anywhere with internet connection. This is especially necessary for an organization that is geographically dispersed, such as GEANHS which has faculties and offices in different buildings around the campus. According to Gregg (2013), when there is only one file of the data, managing the printed document involved becomes a physical challenge. Through the new system, this challenge is addressed. One of the Department Heads stated that they did not need to go to the E-BEIS or Principal's Office to retrieve data they needed; as long as they had internet connection, they could easily access all the documents, saving the time, effort, and energy. When the schools division office also asks for information on school data, clerks can simply turn to the website, click on the links of the documents or use the search button, and they easily access the information needed.

Organized. Since the uploaded documents are sorted into categories, it is much easier to organize data, as compared to the manual filing which involved pasting labels to folders and putting them in boxes and cabinets. Data are organized and it is simpler to retrieve data for there is no need to search for boxes and folders. Moreover, electronic data management gives unlimited storage space as compared to conventional method that involves categorizing several printed papers in a cabinet to allow for retrieval when needed (Iziomo, 2014).

Secure. As a participant stated, with the new system, "there is no fear of getting data lost." As mentioned earlier, all files in electronic format are saved in Google drive and

Wix.com, aside from the server's internal storage. An office clerk narrated, "with manual filing, natural disasters, like the typhoon and flooding we experienced in the past, damaged most of our documents. We managed to save the papers but the data written on them were already lost since they were drenched." By safekeeping electronic files of printed documents, data is more secure and protected.

Summary and Recommendations

Findings of the study can be summarized as follows:

1. The existing data management practices in the school involves: 1) data gathering and receiving of reports/ documents by E-BEIS and Principal's Office, 2) filing and storage, and 3) retrieval of data. The same process is undergone by both the hardcopy and the softcopy of a files. A printed document is received personally by an E-BEIS or Principal's Office staff; assessed and labeled according to content before being filed in folders, boxes, and cabinets; and retrieved by locating the folder where it was placed. A softcopy, on the other hand, is received by the E-BEIS or Principal's Office staff through email or Facebook; saved in the computer's internal memory or uploaded in Facebook group; and retrieved by clicking links in the group or by asking for a copy from the offices.
2. Challenges in the existing process mainly revolves around time and organization. The existing process was time-consuming, particularly with filing and retrieval of data. When filing data, the office personnel needs to look for the appropriate box among the cabinets in the office. When retrieving, the personnel will have to search though the cabinets, boxes, and binders, to get the required data.
3. The new system introduced is project GEARS or GEANHS' Electronic Archiving & Retrieval System. The project involved creating a Google Drive account for the school where all documents submitted to the office are scanned and stored, and linked to a Wix.com website for retrieval.
4. Assessments of the new data management system were positive. The new system was considered efficient, easily accessible, organized, and secured.

Based on the findings of the study, the following recommendations are presented:

1. Records management function should be incorporated into the organization-wide strategic planning initiatives. Most importantly, senior managers should embrace the records management function to ensure its effectiveness and should be incorporated into their performance management targets.
2. The study reveals the importance of a data bank manager/ coordinator. It is imperative for the school to appoint a coordinator whose responsibilities will be compilation, maintenance and utilization of the data bank and the documents filed within.

3. It is necessary that administrators and key personnel are trained on data management, particularly on the use of online data bank. This will ensure sustainability of the project and will encourage future improvements of the system.

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CONTENT KNOWLEDGE ON THE HIGHLIGHTS OF THE K TO 12 CURRICULUM IMPLEMENTATION

by Joseph R. Carreon, General Emilio Aguinaldo National High School

Abstract

Teachers in the 21st-century must keep abreast with content knowledge of the recent development in education. Teachers as steward for cognizant transformational change must continuously upgrade their personal growth and professional development. Thereby, there is a need to optimize competency-based teacher standards in order to carry out a high performance of their roles and responsibilities as a key to realize the imperative of the K to 12 curriculum program. The action research was attempted to assess the content knowledge on the highlights of the K to 12 curriculum implementation of the teachers from General Emilio Aguinaldo National High School using the descriptive research method and focused group discussion. The study was purposively involved 31 teachers from Technology and Livelihood Education Department during the school year 2015-2016. A simple researcher-made questionnaire was used in the study validated by School Head. The pre-assessment survey revealed that teachers had satisfactory level of awareness on the content and underlying principles of the K to 12 Enhanced Basic Education curriculum in TLE with a mean of 3.08 or 77% indicative level of awareness. A lecture as an interventional mechanism that was given during the in-service training program had highly improved teachers' content knowledge on the highlights of the K to 12 curriculum implementation with a mean of 3.79 or 94.75% indicative level of awareness. This implies that in-service training program that responds to teachers' competency needs standards was deemed effective in intensifying content knowledge of the TLE teachers of the current development in education. It was suggested to sustain the action plan in initiating seminar, training, and assessment to further upgrade teacher's competence.

Keywords: *Action Plan, Competency-Based Teacher Standards, Content Knowledge, K to 12 Curriculum Highlights*

Introduction

The empirical initiatives of Basic Education Reform Agenda (BESRA) are the creation of the National Competency-Based Teacher Standards (NCBTS). This framework establishes the competency standards for teachers' performance. This complex set of knowledge, skills, and attitudes that each teacher must possess in order to demonstrate the adequate performance of their duties and responsibilities. Department of Education Basic Education System Reform Agenda considered the K to 12 curriculum as the flagship reform initiatives that will produce ideal graduates who are more productive and effective people geared with essential knowledge and skills for life-long learning. In response to the need, the DepEd continuously used National Competency-Based Teachers Standards – Teachers' Strength Needs Assessment (NCBTS-TSNA) as an instrument to identify the professional strengths, current competencies and the development of teachers to address teachers need assessment.

Domain 7 (Personal Growth and Professional Development) of NCBTS-TSNA consolidated report of teachers assessment of TLE Department revealed that building

professional links with colleagues to enrich teaching practices particularly at the level of keeping abreast with recent development in education got third-lowest performance indicators of Basic Education Reform Agenda created NCBTS-TSNA as part of policy reforms of DepEd pursuing a package of reforms that seek towards the quality of basic education. These policy reforms are expected to create the crucial changes necessary to further accelerate, broaden, deepen and sustain the improved effort already started (DepEd-BESRA). Aguino, (2015) stressed that far from being a quick fix to our laggard status, the K to 12 programs were carefully studied and designed by both private and public education stakeholders based on research from other countries and our own local successes and failures in education. According to Vernez, (2012) the process of development gave authority for schools to arrange, improve or develop, assess and evaluate their curriculum by considering social, cultural, financial, and local potentials as well as society needs and other results of the different aspects which pertains to performance indicators of the schools that affect the education process, performance of the teachers and students.

Teachers as agent for transformational change must demonstrate a deep understanding of the highlights of the K to 12 curricula. Therefore, the Department of Education must assure that the K to 12 teachers must be fully aware of the highlights of the new curriculum design. Despite the reform strategy of the Department of Education, the question still remains: Are the K to 12 teachers able to demonstrate understanding for such change of the current development in education? Presently, the K to 12 curriculum runs for four years after the government implemented the new educational system last 2012. As emphasized by Braza and Supapo, (2014) the problems encountered in the implementation of the K to 12 curriculum are the lack of training, seminars and unclear standard operating procedures. Since the teacher still found difficulty in adhering the standards and principles of the K to 12 curriculum in the Philippines. A challenge was drawn in supporting teachers in mastering a new curriculum and introducing a student-centered inclusive pedagogy. According to Torres, (2015) there is a significant gap between the competency level and the anticipated competency standard of TLE teachers of the Division of Imus City particularly on the teaching pedagogy that foster motivation and opportunity for students that would enhance their competency; transformed professional oath and revitalized unparalleled nobility.

The Philippine Department of Education indeed believes that transforming basic education system improves education outcomes. Cruz, (2011) stated that the K to 12 curriculum program must adequately respond to local needs while allowing graduates to maximize job opportunities beyond boundaries by reducing jobs-skills mismatch and better preparation for higher learning and achieve education for all, but, still an issue and challenge for 21st-century trends in Philippine education emerge while upgrading teachers competence in teaching the new curriculum. A major reform movement has placed accountability on the shoulder of the K to 12 teachers' commitment to structure content knowledge of curriculum for democratic education informs their teaching practice while fostering their novice pedagogy (Chang, 2005). Potential for collaborative professional development in In-Service Teacher's training and promoting inquiry-based develop a more in-depth understanding of the nature and processes of content knowledge (Lee, 2011).

This study is grounded on the consolidated report on National Competency-Based Teachers' Standards Performance Appraisal of TLE Teachers which reflects on the TSNA report performance indicator needs to intensify. In connection with the implementation of the K to 12 curriculum, it can be said that the performance of the students reflects the performance of the teacher and the school as a whole. This study aims to assess the content knowledge of the TLE Teachers regarding the highlights of the K to 12 Curriculum. It will enable school managers to understand the current status of the K to 12 teachers regarding their level of awareness of the content and underlying principles of the K to 12 curriculum program. Thus, it will serve as reference point for continuous improvement plan towards the attainment of the overarching goal of the implementation of the K to 12 curriculum framework of TLE components in General Emilio Aguinaldo National High School. The purpose of this action research to determine the demographic profile of the TLE teachers and to assess their level of awareness of the content knowledge on the highlights of the K – 12 curriculum implementation before and after the In-Service Training Program Intervention

Research Question

In this context, the research aims to determine the content knowledge of the TLE teachers on the highlights of the K to 12 curriculum implementation in General Emilio Aguinaldo National High School.

Specifically, it sought to answer the following questions:

1. What is the level of content knowledge of the teachers on the highlights of the K to 12 curriculum before the conduct in-service training program?
2. What is the level of content knowledge of the teachers on the highlights of the K to 12 curriculum after the conduct in-service training?
3. Based on the findings, what recommendations for action is to adhere in order to maintain the teachers' personal growth and professional development on the area of content knowledge of the K to 12 curriculum program implementation?

Methodology

The study used the descriptive research method. Descriptive research may be defined as a purposive process of gathering, analyzing, classifying, and, tabulating data about prevailing conditions, practices, beliefs, processes, trends and cause-effect relationship and then making an adequate interpretation about such data without the aid of statistical methods (Calderon and Gonzales, 2012). The study involved 31 K to 12 teachers from different learning sector and grade level in Technology and Livelihood Education Department in General Emilio Aguinaldo National High School during the school year 2015-2016. Hence, the K to 12 program implementation major curriculum transformation focuses on the TLE curriculum framework. A simple researcher-made questionnaire was used in the study that was validated by the officer-in-charge and education program supervisor of TLE. The questionnaire composed of 15 essential elements of the curriculum

implementation in TLE. A pre-assessment questionnaire was given to determine teachers' level of awareness on the highlights of the K to 12 curriculum implementation before the lectures. The topic embedded on the in-service training program deals with keeping abreast with recent development in education, since this indicator is among the top 3 lowest performance indicator of TLE Department. The topic was served as intervention in response to teachers' need assessment consolidated report of the NCBTS appraisal of TLE Department from academic year 2015 up to 2017. An In-Service Training Program was conducted during the last week of October. Right after the conduct of in-service training program, a post-assessment was given to the teachers which encompasses the content and underlying principles of K to 12 curriculum to further determine the present status regarding the level of awareness of the TLE teachers on the highlights of the K to 12 curriculum implementation. A synthesize focused group discussion was also part of gathering information during the seminar. Thus, an action plan was part of individual professional development to enhance K to 12 curriculum program which aims to enrich teachers' professional standards in the implementation of the TLE K to 12 curriculum towards the continuous personal growth and professional development. The study used frequency distribution to describe the demographic profile of the respondents and average mean to describe the level of content knowledge using the 4 points Likert scale with corresponding verbal interpretation: (3.1 – 4 - High, 2.1 – 3 - Satisfactory, 1.1 – 2 - Fair, and 0 – 1 – Low).

Results and Discussions

In terms of respondents' demographic profile, 22 or 71% were able to attend the K to 12 seminars/training. Therefore, 9 or 29% of the respondents were not able to attend K to 12 seminars and were not totally oriented on the highlights of the K to 12 curriculum implementation; 16 or 52% of the respondents have MA units, 1 or 3% with Ph.D. units. The majority of the respondents were less than 3 years in service with the percentage distribution of 45%. Nevertheless, respondents must be 100% aware on highlights of the K to 12 curriculum implementation and imperatives of the new curriculum, teachers must evidently demonstrate an understanding of the content and underlying principles of the K to 12 curriculum. Talon, (2014) stressed that teachers should upgrade their technical knowledge in the field of teaching TLE and should attend more seminars, workshops and other activities that may lead them to be competent teachers. School administrators must address teachers' professional needs in response to emerging changes in the recent development of the new curriculum in order to maximize such competency standards that will improve school performance indicators. Research confirms that teachers' quality is one of the most important factors influencing student achievement and the performance of the school as a whole. Knowledge, skills, and attitude of the teachers are significantly different in relation to their motivation and self-efficacy (Torres, 2015).

In can be said that educational policies encourage school leaders to engender teachers to demonstrate an understanding of the framework of the K to 12 curriculum embedded on the components of the curriculum support system deemed to maximize students learning performance. There is a need for continuous capacity building as a key to national development, accessibility, and quality in providing education for all (EFA,

2015). Teachers' transformation, in terms of their content knowledge on the implementation of new curriculum is vital to carry out meaningfully their roles and responsibilities. Durban and Catalan, (2012) stressed that part of the teachers' transformation must include their upgrading and updated professional and personal development.

Table 1: Level of Content Knowledge of TLE Teachers on the Highlights of the K to 12 Curriculum Implementation before the In-Service Training Program

No.	Curriculum Highlights	Mean	Verbal Interpretation
1	Republic Act 10533	2.77	Satisfactory
2	Standard and principles in developing the enhanced basic education curriculum	3.26	High
3	Overall goal of the K to 12 curriculum	3.32	High
4	The K to 12 Philippine basic education framework	3.13	Satisfactory
5	Four areas of 21st century skills	3.00	Satisfactory
6	Important components of the curriculum	3.06	Satisfactory
7	Principles of the curriculum	3.00	Satisfactory
8	Salient features of the curriculum	3.06	Satisfactory
9	K to 12 curriculum model	3.19	Satisfactory
10	The Philippine qualification framework	3.13	Satisfactory
11	The conceptual framework of teaching the TLE	3.13	Satisfactory
12	Content standard, performance standard and Learning competencies	3.23	Satisfactory
13	Phases of strategic learning in TLE	3.10	Satisfactory
14	P4A model in teaching TLE	2.77	Satisfactory
15	Facet of understanding	3.13	Satisfactory
	Average	**3.08**	**Satisfactory**

***Legend: 3.1 – 4** - High, **2.1– 3** - Satisfactory, **1.1 – 2** - Fair, **0 – 1** - Low*

Table 1 shows the result of the pre-assessment survey regarding teachers' content knowledge on the highlights of K to 12 curriculum implementation. Out of 15 indicators that serve as the content and underlying principles of the K to 12 curriculum program implementation, the highest mean score was obtained by indicator number 3 where teachers are aware of the overall goal of the K to 12 curriculum, followed by indicator 2 which observed by teachers as they are aware of the standards and principles in the enhanced basic education curriculum. The level of awareness describes as satisfactory with a mean of 3.26 and 3.32 respectively.

From the gathered findings above, it statistically showed that respondents' level of awareness was majority satisfactory which can be described as to a limited extent with a mean of 2.77 to 3.24. The overall mean obtained is 3.08, satisfactory or 77% index of awareness on the highlights of the K to 12 curriculum implementation. Item 1 and 14 are indicators obtained by the respondents with the lowest mean score of 2.77 that refers to knowledge of Republic Act 10533 as the fundamental basis of implementing the curriculum and likewise, the P4A model of as strategic learning procedures of teaching the lessons in TLE as prescribed by TESDA. The status implementation of basic education program was evident in 19 schools in region IV-A, however, issues on teachers competency

to subject being taught, lack of classroom according to K to 12 standard size, lack of adequate resource materials and equipment needed for the profound implementation of the K to 12curriculum still an existing challenge in Philippine schools (Osmeña et al, 2016 and Lucban, 2017).

Table 2: Level of Content Knowledge of TLE Teachers on the Highlights of the K to 12 Curriculum Program Implementation after the Conduct of In-Service Training Program

No.	Curriculum Highlights	Mean	Verbal Interpretation
1	Republic Act 10533	3.84	High
2	Standard and principles in developing the enhanced basic education curriculum	3.71	High
3	Overall goal of the K to 12 curriculum	3.87	High
4	The K to 12 Philippine basic education framework	3.77	High
5	Four areas of 21st century skills	3.65	High
6	Important components of the curriculum	3.71	High
7	Principles of the curriculum	3.77	High
8	Salient features of the curriculum	3.61	High
9	K to 12 curriculum model	3.90	High
10	The Philippine qualification framework	3.77	High
11	The conceptual framework of teaching the TLE	3.90	High
12	Content standard, performance standard and Learning competencies	3.94	High
13	Phases of strategic learning in TLE	3.87	High
14	P4A model in teaching TLE	3.81	High
15	Facet of understanding	3.81	High
	Average	**3.79**	**High**

***Legend: 3.1 – 4** - High, **2.1 – 3** - Satisfactory, **1.1 – 2** - Fair, **0 – 1**– Low*

Table 2 shows the results of the post-assessment survey pertaining teachers' content knowledge on the highlights of K to 12 curriculum implementation after the in-service training program conducted. The results revealed that respondents achieved all of the 15 indicators to a great extent level of awareness with a mean of 3.61 to 3.94. The highest mean score of 3.94 was obtained from 3.23 in the pre-assessment by item 12 stating that teachers are really aware of content standard, performance standard and learning competencies indicated in the TLE curriculum. It was followed by item 9 which disclosed that teachers were totally aware of the K to 12 curriculum model and item 11 which describes that teachers are cognizant about the conceptual framework of teaching the TLE with a mean of 3.90.

The top 3 lowest mean score in the post-assessment is 3.61 was obtained by item 8 "Salient features of the curriculum" followed by item 5 "Four areas of 21st-century skills" with a mean score of 3.65 and item 2 and 6. Item 2 pertains to "Standard and principles in developing the enhanced basic education curriculum" and item 6 pertains to "Important components of the curriculum" with a mean of 3.71. Other indicators obtained a mean of 3.77 in item 4, 7 and 10. From data gathered and interpreted in table 2, it shows that the respondents obtained a mean of 3. 81 to 3.87 on item 13, 14 and 15, item 1 with a mean of 3.84 and item 3 with a mean of 3.87.

The overall mean score of the respondents in the post-assessment was 3.79 or 94.75% index of awareness. This implies that the level of awareness of the TLE teachers on the highlights of the K to 12 curriculum implementation after the in-service training improve to a great extent. Hence, seminar-training regarding the consolidated TSNA results of the teachers that were incorporated during In-Service Training Program must continuously adhere to the teachers' development program. Teachers must be aware of the implementing guidelines of the curriculum to intensify professional growth and development (Macalindog et al, 2016).

In the Focus Group Discussion (FGD), teachers' perspective was to augment the alignment of competency to the subject being taught with the provision of the learning module and teacher guide to all learning areas to be offered in school. Streamlined the elective specialization courses to the course offering in senior high school. A continuous capacity building seminar, training, workshop and passing National Certification and Trainers' Methodology of all TLE teachers as well as the procurement of necessary tools and equipment for the elective course in TLE. Enhance further the pedagogic approach in teaching TLE to elevate the national achievement level.

Conclusions

Teachers have a high level of awareness of the content and underlying principles of the enhanced basic education curriculum after the conduct of in-service training pertaining to the K to 12 curriculum framework in TLE.

The conduct of In-Service-Training Program was an integral part of teachers' personal growth and professional development which improved the content knowledge of the TLE teachers on the highlights of the K to 12 curriculum implementation.

Teachers were able to adopt change towards curriculum transformation. Hence, sustainable program for seminars, training, and coaching, for teachers concerning the features and imperatives of the K to 12 curriculum intensifies personal growth and professional development.

Recommendations

1. Designated school administrators/heads should maintain the image of model implementers of the in-service training program and other related seminars in response to teachers' needs and standards toward the profound realization of the educational program under K to 12 curriculum.
2. Consistent evaluation and review mechanism in maintaining a high standard of teachers' content knowledge on the highlights of the K to 12 curriculum implementation.
3. Allocate enough financial resources that will support programs related to teachers' personal growth and professional development and research development in relation to the K to 12 programs of TLE component.
4. For future research might conduct assessment on technical and instructional competence of TLE teachers and students in line with the TLE curriculum framework.

Proposed Action Plan

Goal: Upgrade TLE teachers toward high level of technical competencies and upgrade personal growth and professional development in the recent development of education.

General Objective: To enrich teachers' professional standards in the implementation of the TLE K to 12 curriculum.

AREA	SPECIFIC OBJECTIVES	STRATEGIES	PERFORMANCE INDICATOR	TIME FRAME	RESPONSIBLE PERSON	BUDGET
Highlights/ Imperatives of the K to 12 Curriculum	To keep updated with the recent development in education and enhance teachers' 21st century skills through In-service training and National Certification from TESDA	Provide sustainable support about conducting training, seminar, mentoring, and coaching teachers knowledge and skills on the 21st century competencies Send teachers in acquiring competency assessment certificate to upgrade technical competence	100% of the teachers should have enhanced the 21st century skills and content and performance standard of the curriculum Increased awareness of the highlight of the K to 12 Curriculum and obtained National Certification and Trainers Methodology (NC and TM) from TESDA	April to May	EPS Principal Head Teachers Master Teachers Teachers	MOOE Fund Dept. Fund Personal
NCBTS-TSNA/RPMS	To enhance effectively teachers' competency standards regarding TSNA consolidated results and or RPMS evaluation	Consistent and sustainable In-service training program Conduct seminar-workshop related to TSNA/RPMS report	100% of the teachers should have attended necessary In-service training program All teachers should have attended required seminars, training and workshops	April to October	EPS Principal Head Teachers Master Teachers Teachers	MOOE Fund Dept. Fund Personal

AREA	SPECIFIC OBJECTIVES	STRATEGIES	PERFORMANCE INDICATOR	TIME FRAME	RESPONSIBLE PERSON	BUDGET
	within their respective performance indicators					
Conduct of Action Research	To enrich research capability of the teachers and conduct action research in relation to the TLE components, dimensions and curriculum framework	Attend seminars-workshop on research Create research technical working group to facilitate and assist researchers and the conduct of action research regarding K to 12 curriculum framework of TLE	100% of the faculty should have attended a workshop related to conducting research At least 25% or more of the teachers should have conducted or submitted an action research proposal and/or completed research	Whole Year Round	EPS Principal Head Teachers Master Teachers Research Coordinator	-National Fund -Dept. Fund -Personal

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FACEBOOK AS INTEGRATED BLENDED LEARNING TOOL IN TECHNOLOGY AND LIVELIHOOD EDUCATION

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Abstract

The unprecedented emergence of digital learning tools and the need to incorporate contextualized pedagogy play a vital role towards enriching the curriculum of the 21st century. The action research sought to explore the use of Facebook as an integrated blended learning tool in teaching Technology and Livelihood Education (TLE) for Grade 7 and its effect to students' learning outcomes using a quasi-experimental pretest-posttest research design and focus group discussion. The study gathered data from 15 students both from homogeneous class and heterogeneous class. The experimental group who were exposed on a contextualized blended learning mechanism and for the control group who were engaged in the traditional setting. The experimental study used a validated 30-item researcher-made test that was based on the prescribed learning competency in TLE Grade 7, while the focus group discussion underscores the perception of the students on the use of Facebook as contextualized blended learning integrative instruction. The salient findings yielded that students who were involved in integrated blended learning tool have had significantly improved their learning outcomes in the two learning competencies: entrepreneurship and use of tools and materials. Despite limited access to the internet, student's experience in Facebook as blended instruction was engaging which implies that Facebook was an effective learning-teaching integration and supplementary instruction for millennials which foster motivation and confidence Thus, Facebook as blended learning integration can be utilized as an instructional tool for teaching TLE subject that serve as an avenue towards learning according to students' pace, time and place.

Keywords: Blended Learning, Facebook, Integration, Supplementary Instruction, Technology and Livelihood Education

Introduction

Nurturing the holistically developed 21st-century learners catalyze every student to be equipped with information, media, and technology skills, learning and innovation skills, effective communication skills, and life and career skills. Enriched curriculum is one of the salient features of the K to 12 Curriculum, it encompasses contextualized curriculum flexible enough to enable and allow schools to localize, indigenize and enhance the curriculum based on their respective educational, social, technological and global context (R.A.10533). The proliferation of digital tools plays an important part in re-engineering the 21st-century pedagogical approaches. Studies show that students grasp their lesson well if they can relate to them articulated as millennial learners. Indeed, substantial change brought by globalizing the curriculum relevant to the learner creates remarkable learning outcomes. The significance of technology creates an opportunity for innovation and

development of instructional tools that brought a valuable contribution in various institutions and considered as future of education (APEC, 2015). It can be said that one important feature of curriculum development is enriched with the use of technology. Technology infused with online learning is blended learning and the concept of anytime and anywhere education is optimized through the availability of computer equipment or gadget and internet connection (Mancao et al. 2014). To feed young minds encourage budding dreams and inspire promising lives, harnessing the best of tradition and technology (Aguiluz, 2016).

In today's generation, blended learning approach was modified in various researches and was made contextualized utilizing facebook as platform. These studies assumed that all students had access to the internet using facebook, but there were a handful of students who had difficulties in going online regularly. Blended learning is highly dependent in ICT resources. Integration of ICT into teaching and learning promotes better learning and retention, motivations, individualization, consistency, learner control, high-speed personalized responses, and collaboration. Besides, it arouses interest and increases achievement rate of the learners (R.A. 10533). House Bill No. 53, state that one of the solutions to address the deteriorating quality of education is through the utilization of various ICT as a tool for learning and teaching. Several studies have underscored the benefits of integrating ICT particularly in the education system (Benitez, 2013). Utilizing ICT significantly contributed to the acquisition and absorption of knowledge among the students by increasing their motivation and engagement in classroom activities, particularly a computer with internet connectivity provides the learner an opportunity to connect with other people and provides them ready access to wireless data and information. Blended learning, where students' face-to-face education is blended with internet resources or online activities, has been gaining considerable attention in education reform circles (Aguinaldo, 2013). It has become entangled with the ambiguous notion of personalized learning and is being positioned as the new way to individualize learning in competency-based education systems (McRae, 2014).

Radical teaching-learning strategies focus on the holistic development of the learners anchored with 21st-century skills adhering technology-mediated instruction such as social media, quipper school, and school book and other blended platforms which are now considered in modern instructional practices. Teachers as technology-driven leaders can do strategic to maximize the use of any available new technology in redefining classroom instructions with the combining instructional approaches and digital tools that allow students to control learning at their own pace, time and place appropriate to millennials. The rapid change of technology and how it is used yield another challenge to overcome towards the attainment of inclusive education. Classroom teacher plays a vital role in breaking down the barriers to students' failure. Moreover, different models of blended learning such as face to face driver, rotational, flex, online lab, self-blend and online drivers (Staker and Horn, 2011). These four combinations range from those that are more connected to people and brick-and-mortar buildings or rotation, flex to contexts in which the students are primarily self-directed through online courses or platforms that deliver the curriculum--self-blend and enriched virtual. Since the student is the core of learner-centered education, one that would benefit most should be the utmost priority of education sector to invest enough for blended learning indicative capabilities that will

prepare learners to be globally competitive, adequately equipped with necessary skills and competencies required for work and lifelong learning. Many blended learning practices already fit well with a vast array of hybrid face-to-face and digital experiences that students encounter in K–12 schools, including distributed learning, distance learning, or e-learning (Friesen, 2011). The flipped classroom experience showed that by transferring classroom components online, students take control of learning. Better class interaction meanwhile allowed the teacher to better guide student learning through the use of Facebook (Carpio and Mahinay, 2017).

Blended learning is a "mix" of two different training delivery methods. Here, the traditional and online learning formats are combined together to create a comprehensive learning experience (Deepika, 2015). These instructional approaches and digital tools that allow students to control learning at their own pace, time and place appropriate to diverse learners. Classroom teacher plays a vital role in breaking down the barriers to students' failure. Different models of blended learning such as face to face driver, rotational, flex, online lab, self-blend and online drivers create potential opportunities for students' learning outcomes (Staker and Horn 2012). The transition of education system creates flexibility that allows students to progress to master skills at their own pace, time and place. Make better use of technology, support new staffing patterns that utilize teacher skills and interests differently and each of these presents an opportunity to achieve greater efficiency and increase productivity (Khan Academy).

The learners of the 21st-century are pronounced as millennial as they are also called digital natives who are born in the digital age, an environment where they can easily access on the internet and knowledgeable on using gadgets, social media communities such as facebook, online platforms and digital-based materials. Despite the scarcity of technology resources, congested classroom size in General Emilio Aguinaldo National High School and students failure in school, still teachers engagement on enrich curriculum is the key towards students learning achievement. It is therefore imperative for educators to learn to incorporate various 21st-century technologies and platform in order to make learning relevant to the learners. Teacher as transformative classroom leader of adopting change must be an agent in redefining classroom and embrace innovative pedagogical practices, making the teaching-learning process relevant and engaging and it allows learning according to students pace, time and place as well. In this context, the research conceptualized facebook as a contextualized blended learning platform integrated in teaching involving 15 Grade 7 students in homogeneous and heterogeneous both for experimental and control group. To superficially know if the Facebook as contextualized blended learning tool can be effective using experimental approach, the study aims to determine the effect Facebook as integrated blended learning tool in Technology and Livelihood Education exploratory among Grade 7 students of General Emilio Aguinaldo National High School, Imus City, Cavite.

Research Questions

In this context, the research aims to determine the effect of Facebook as an integrated blended learning tool in teaching Technology and Livelihood Education exploratory among grade 7 students.

Specifically, it sought to answer the following questions:

1. Is there a significant difference in the pre-assessment mean scores of the control and experimental group?
2. Is there a significant difference between the pre-assessment and post-assessment mean scores of the control group?
3. Is there a significant difference in the post-assessment mean scores of the control and experimental group?
4. Is there a significant difference between the pre-assessment and post-assessment mean scores of the experimental group?
5. How the students perceived Facebook as a teaching-learning tool?
6. Based on the findings, what recommendations for action is to adhere in school context towards redefining classroom?

Methodology

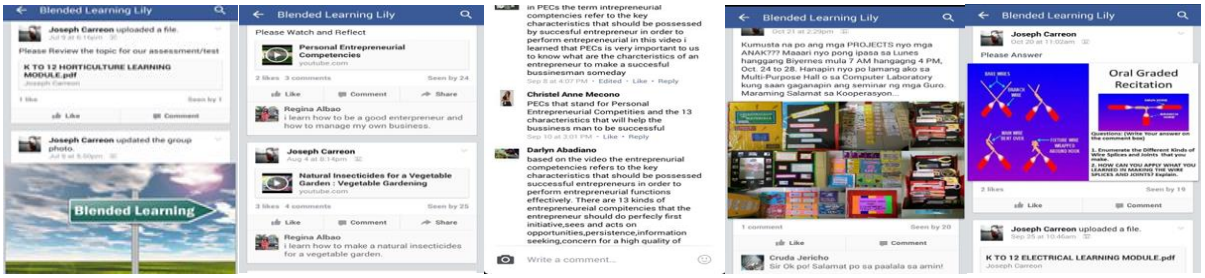
This study aimed to explore the effect of Facebook as an integrated blended learning tool on the learning outcomes among grade 7 of students in TLE exploratory. A quasi-experimental method of research, particularly the nonrandom sampling was used with counter support of the focus group discussion that answers the perception of the students towards the use of Facebook as contextualized blended learning integration among the homogeneous and heterogeneous class of grade 7 students of General Emilio Aguinaldo National High School. The homogeneous class was the same proficiency level while the heterogeneous class was varied in terms of the level of proficiency.

The researcher utilized his class for the experimental and control group both for homogeneous and heterogeneous to further investigate the effectiveness of Facebook as an integrated blended learning tool. The experimental group composed of 15 students who were engaged on Facebook as supplementary integrative blended learning instruction and another 15 students for the control group who were engaged in the conventional method or usual classroom instruction. The study used the following strategies for contextualized blended learning integration and supplementary instruction: flipped, flex and cooperative learning-teaching approach using the Facebook group as technology-mediated instruction. The study used to sets of teacher-made formative test, one for the pre-assessment and the other one for the post-assessment which composed of 30 items, which covers the basic learning competency prescribed by K to 12 Curriculum of TLE exploratory particularly personal entrepreneurial competencies, use of hand tools and mensuration. The tests were administered before and after both for experimental and control group. T-test for dependent variable was used in the study that determined the significant differences between the pre-assessment mean score and the post-assessment mean score of either control or experimental group.

The lessons were presented in various pedagogical approach using differentiated instructional materials: modules, topic videos, audio-visual presentation, enrichment and

online activity posted on the Facebook group. The close group accounts strictly for students' member only to be utilized for teaching-learning purposes. The students were given ample time to respond according to their pace, time and place. They were also given the prerogative to work alone or in groups and interest. Restriction from the unrelated topic or media posted on the group is not allowed. Orientation, motivation, and encouragement to create their own Facebook account and join the group were made. Figure 1 shows some of the pedagogical activity using Facebook as contextualized blended learning integration.

Figure 1. Facebook Group as Contextualized Blended Learning Integration and Instructional Intervention



Results and Discussions

The results and discussion of the study presents the findings in illustrative tables, analysis and interpretation based from the treatment of the data.

Table 1. Equivalence between the Control Group and the Experimental Group before the Experiment

Group	Homogeneous Class			
	Pretest Mean	t-value	p-value	Remarks
Control Group	14.67	2.863	0.006	There is
Experimental Group	14.8			significant
Mean Difference	0.13			difference

Group	Heterogeneous Class			
	Pretest Mean	t-value	p-value	Remarks
Control Group	13.07	1.086	0.147	There is no
Experimental Group	14.67			significant
Mean Difference	1.6			difference

N = 15

Based on Table 1, the findings revealed that the homogeneous class in the control group got a mean pretest of 14.8 while the experimental group got pre-test mean score of 14.67. This yielded a difference of a mean of 0.13. For heterogeneous class, the control group got a mean pretest of 13.07 while the experimental group got pre-test mean score of 14.67. This yielded a difference of 1.6. Using t-test, the obtained t-value was 2.863 and p-value was 0.006. Since the p-value < .05, then the differences in the pretest scores were

statistically significant in homogenous class. This means that before the experiment, the experimental group has prior knowledge in the learning competencies compare to control group. The heterogeneous class obtained t-value of 1.0862 and p-value of 0.1478. Since the p-value > .05, then the difference in the pretest scores was not statistically significant. This means that before the experiment, the control group and the experimental group were equivalent in terms of knowledge in the learning competencies. The experiment conducted in the two groups are equivalent or equal. The result of homogeneous class led to the rejection of the null hypothesis that there is significant difference in the pretest scores between the control and the experimental group while the result of the heterogeneous class led to the acceptance of the null hypothesis that there is no significant difference in the pretest scores between the control and the experimental group.

Table 2. Difference in the Performance of the Control Group

Test	Homogeneous Class			
	Mean	t-value	p-value	Remarks
Pretest	14.8	3.027	0.002	There is
Posttest	19.13			significant
Mean Difference	4.33			difference

Test	Heterogeneous Class			
	Mean	t-value	p-value	Remarks
Pretest	13.13	3.424	0.000	There is
Posttest	17.6			significant
Mean Difference	4.47			difference

N = 15

The homogeneous and heterogeneous class which consists of 15 students in the control group who were not engaged in blended learning have no significant difference in performance. To determine if the performance of the control group improved significantly in the prescribed learning competencies even without blended learning, t-test for dependent samples was used between the pretest and posttest scores in the control group. Table 2 shows the result. Using t-test for dependent samples, the obtained t-test value was 3.027 and p-value was 0.002 in the homogeneous class. Since the p-value < .05, then there is a significant difference between the pretest and posttest scores of the students in the control group while the obtained t-value of heterogeneous was 3.424 and p-value were 0.000. Since the p-value < .05, then there is a significant difference between the pretest and posttest scores of the students in control group.

Hence, control group is more on face-to-face approach. It can be said that face-to-face learning activities still increase motivation of the subject. Nevertheless, to use online learning tool as the lessons learned from online learning were used in face-to-face learning which indeed a right blend of online and face-to-face learning activities results to successful blended learning (Aguinaldo, B. 2013).

Table 3. Equivalence between the Control Group and the Experimental Group after the Experiment

Group	Homogeneous Class			
	Pretest Mean	t-value	p-value	Remarks
Control Group	19.13	4.261	0.000	There is significant difference
Experimental Group	23.73			
Mean Difference	4.73			

Group	Heterogeneous Class			
	Pretest Mean	t-value	p-value	Remarks
Control Group	17.6	0.888	0.191	There is no significant difference
Experimental Group	18.67			
Mean Difference	1.07			

N = 15

Using t-test showed the obtained t-value of the homogeneous class was 4.261 and p-value was 0.000. Since p-value < .05, then there was a significant difference in the mean gain scores of the control group and experimental group. The heterogeneous class obtained t-value was 0.888 and p-value of 0.191. Since p-value > .05, then, there was no significant difference in the mean gain scores of the control group and experimental group. This means that the performance of the experimental group who engage in blended learning model in homogeneous class improved significantly better than the control group who did not engage in blended learning. This was revealed by the higher gain scores obtained by those who infuse blended learning. This result led to the conclusion that blended learning helps significantly in improving the student's performance in exploratory TLE for grade 7. Hence, blended learning is a positive approach that increases students' performance. However, the performance of the experimental group in heterogeneous class who engage in blended learning has no significant effect than the control group who were not engaged in blended learning approach. This means that the two groups were a correspondent in terms of their knowledge in the learning competencies. Blended learning has been effective in improving the performance of the Grade 7 TLE exploratory as compared to conventional method of teaching without blended approach.

Mancao, et al. (2015) stressed that teacher factor can be significantly influenced student's attitude towards the use of the blended platform. Quality of technology, online tools, and interactions are the design features predicting intrinsic motivation towards blended learning (Kintu et al. 2017).

Table 4. Difference in the Performance of the Experimental Group

Test	Homogeneous Class			
	Mean	t-value	p-value	Remarks
Pretest	18.6	4.379	0.000	There is significant difference
Posttest	23.73			
Mean Difference	5.13			

Test	Heterogeneous Class			
	Mean	t-value	p-value	Remarks
Pretest	14.67	2.733	0.000	There is significant difference
Posttest	18.6			
Mean Difference	0.13			

N = 15

Based on table 4, the pretest score of the homogeneous class experimental group got a mean of 18.6 while the posttest scores got a mean of 23.73. This yielded a mean difference of 5.13 while the pretest scores of the heterogeneous experimental group got a mean of 14.67 while the posttest scores got a mean of 18.6, yielded a mean difference of 3.93. Using t-test for dependent samples, the homogeneous class obtained t-value was 4.379 and p-value of 0.000 and the heterogeneous class obtained t-value < 2.733 and p-value 0.010. Since the p-value of the homogeneous and heterogeneous class is < .05, then there was a significant difference between the pretest and posttest scores of the students in the experimental group.

The study of Mula (2015) confirmed that there is a significant effect of E-blended instruction in the academic performance of grade 10 students in geometry and improved mathematical reading comprehension and it further suggests to exposed students to a Math E-blended instruction. Students in the 21st century as digital natives underscores technology orientation which creates learning impact significantly. Nevertheless, because more classroom time is devoted to student interaction, the value of blended learning in many classrooms is seen as advantageous (Nicdao, 2012).

When asked about their perception of the use of Facebook as contextualized blended learning integrative instruction and intervention, here are some of the coded voices of the students:

> Interesting, because I learned the lessons according to my own time and capacity and I have self-confident to answer assessment online. I was able to express my answer freely and given enough time to answer classroom activities. I am aware of a blended learning approach which provides me ample time to answer the activities and assessments within my ability and collaborate with my classmates in the classroom. When I am absent in the class, our Facebook group helps me to remind, update and inform in advance with our lessons and our teacher is always there to provide intervention to cope up with the lessons tackled. This is my first time to join an online group wherein I am allowed to answer online. Blended learning enhanced my skills through the ideas on the video, files, and pictures that our

teacher posted which help my study in TLE. It helps us to learn easier, like in public school where we have limited books, but, through blended learning, we can access information and gain knowledge with the help of our computer, gadget and the internet.

The use of ICT tools with combining online learning has been found useful in communication and interaction capabilities which improve student attitudes towards learning (Mancao et al. 2014).

Conclusions

There is a significant difference in the performance between the control group and experimental group before the experiment was conducted in homogeneous class while there is no significant difference in the performance between the control group and experimental group before the experiment was conducted in heterogeneous class. This implies that the two groups in homogeneous class are not equivalent in terms of their knowledge while the heterogeneous class is the same in terms of their knowledge in the aforementioned learning competencies in grade 7 exploratory.

Students who engage in the contextualized blended learning instruction and intervention showed significant improvement in the learning outcomes in grade 7 TLE exploratory. This means that blended learning is a helpful mechanism for grade 7 students that improve their learning outcomes.

There is a significant difference between the performances of the control and experimental group in homogeneous and heterogeneous class after the conduct of the experiment. This means that the performance of the experimental group who engage in blended learning methods improved significantly better than the control group who did not engage in blended learning. The primary reason for this is that grade 7 students have internet access and find Facebook as a user-friendly blended learning tool, motivating and interesting. It requires consistency on the part of the teacher to expose students and continuously motivate them to engage on the supplementary blended instruction using facebook.

The contextualized blended learning integration provides the students with a positive impression as a user-friendly instructional tool which bridges learning according to their own pace, time and place. It fosters supplementary teaching-learning alternative delivery and strengthens collaboration, communication, and interaction. The technology-mediated instruction is relevant to them as digital natives which support student's learning.

Recommendations

1. There is a need to blend traditional and online learning by integrating Facebook as a contextualized blended learning mechanism, supplementary teaching-learning instructions, and intervention for a public school setting

2. Students may engage in blended learning approaches that are suitable for millennial learners.
3. Students could develop intrinsic motivation and responsiveness on blended learning instructional integration and intervention.

Classroom Implementation Plan

Area of Concern	Objectives	Action to be Taken	Expected Outcomes	Person Involved	Timeframe	Resources
Utilization of ICT tools	Integrate the use of technology in teaching-learning TLE exploratory	Utilize ICT tools in pedagogic practice	100% of the students should have involved in the use of ICT in learning TLE exploratory	Teacher Students	Whole Year Round	Personal
Integration of innovative user-friendly online learning	Maximize learners' involvement in blended learning mechanism that allows learning prior to students' pace, time and place.	Engage students in blended learning-teaching approach using Facebook	100% of the students should have engaged in blended learning instructional tool in TLE exploratory	Teacher Parents Students	Whole Year Round	Personal
Track and monitor online learning	Consistently provide feedback and maintain online interaction on teaching TLE exploratory	Consistently monitor blended learning instructions	Teachers should have monitored efficiently blended learning instructions and intervention to various learners	Teachers Parents Students	Whole Year Round	Personal

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UNVEILING THE CHALLENGES IN TVL TRACK IN SENIOR HIGH SCHOOL IN IMUS CITY

by Lydia S. Villanueva, General Juan Castañeda Senior High School

Abstract

The purpose of this study is to find out the different challenges faced by the students and teachers in Technical Vocational-Livelihood that may affect the acquisition of employable skills of Senior High School students in City of Imus. The descriptive survey and the simple random technique were used to gather data. The questionnaire used was adapted and modified by the researcher from the work of Usman et.al (2013), Dasmani (2011) and SEAMEO INNOTECH (2016). Separate questionnaire was given to teachers and students using a five-point Likert-type test. TVL students and teachers from the three Senior High Schools answered the survey. The data gathered were organized using descriptive statistical analysis. The study revealed that the absence of instructional materials from DepEd and the workshop and its equipment are the challenges in the TVL track in Senior High School. The concerns were the location and policy for the work immersion and the lack of industry exposure among teachers. Only four TVL specializations were included in the survey due to conflict in schedule. Challenges and concerns may be an obstruction but when addressed properly it will benefit both the schools and the students.

Key words: *Practical skills Training; Employable Skills; Technical Vocational Education and Training.*

Introduction

"At the end of basic education, every Filipino should be able to make a living"- President Benigno Aquino III.

The Department of Education is currently implementing its major reform in education system that aims to improve the education of every Filipino student. Republic Act 10533, otherwise known as the Enhanced Basic Education of 2013, an act enhancing the Philippine Basic Education System by strengthening its curriculum and increasing the number of years for basic education, is on its second year of full implementation.

The enhancement of the Basic Education system is not only to make the Philippine Educational system align with international standards but also making the Filipino graduates globally competitive and ready for work. President Benigno Aquino III on his speech at the Philippine International Convention Center in 2015, said that some Filipino workers abroad found it hard to land a job due to curriculum gap or the 12-year basic education imposed as international standards. While Uyquiengco (2013) in her article, the *Asian Parent* explained that the ten years in basic education has seen the disadvantage of the Filipino graduate in the global job market. As a result, Filipino workers abroad have

to take another two years of education to meet the host country's educational standards. In addition, the K to 12 Curriculum is seen as critical in giving Filipino students a high quality education because it is designed to enable graduates to join the workforce right after High School and at the same time prepare the students to go on higher education. K to12 offers four tracks for senior high school; Academic, Technical Vocational and Livelihood, Arts and Design, and Sports. One of the tracks that prepare the students' employable skills is the re-introduction of Technical Livelihood Education in the public High Schools that provide a better alternative to students for the world of work. Technical Livelihood Education (TLE) has specialized subjects that develop specific needs of students going into particular occupation immediately after graduation (Cruz 2014).

Technical -Vocational in Senior High School

Senior High Schools follow a common academic curriculum in alignment with the General Education (GenEd) subjects in college. The inclusion of the GenEd subjects is in preparation for a possible entry of students in college (SEAMEO 2016). Technical Vocational-Livelihood (TVL) is one of the specialization courses offered in Senior High Schools. There are four courses offered in TVL, Home Economics, Information and Communication Technology, Agri-fishery Arts and Industrial Arts. Each course has sub-specialization subject based on TESDA Training Regulations (SEAMEO 2016). Each course or TVL strand is under TESDA Training Regulations-Based Specializations and aligned with TLE in Grades 7-10

The reintroduction of technical-vocational education in the public high school curriculum is part of the education reform to link schooling to local industry needs and employment and provide and educational alternative to better prepare the students for the world of work. Cruz (2014) in his article explained that experts from Department of Education (DepEd), Commission on Higher Education (CHED), and Technical Education and Skills Development and Authority (TESDA) worked together to ensure that the academic part corresponds to the College Readiness Standards mandated by the Commission on Higher Education (CHED). DepEd and TESDA worked together on a curriculum that is both academic and vocational.

In Imus City, there are four standalone Senior High Schools, three of which offers TVL courses. Gen. Juan Castañeda Senior High School, aside from STEM, offers Industrial Arts (IA) strand with specialization in Electrical Installation Maintenance (EIM) and Shielded Metal Arc Welding (SMAW). Gen. Pantaleon Garcia Senior High School offers Information and Communication Technology (ICT), with specialization in Computer System Servicing and Industrial Arts with specialization in Electrical Installation Maintenance (EIM). Gov. Juanito Reyes Remulla Senior High School offers IA- SMAW and Home Economics strands. Based from the updated number of students enrolled in Senior High School, TVL track has the most number of enrollees. With the promise of possible job or business to open after graduation, employable skills should be ensured. All possible obstacles and hindrances in gaining the skills and competencies should be identified. In Gen. Juan Castaneda Senior High School students are struggling

in acquiring the skills. This prompted the researcher to investigate the challenges that may hinder the acquisition of skills.

The purpose of this study is to find out the different challenges faced by the students and teachers in Technical Vocational and Livelihood that may affect the acquisition of employable skills of Senior High School students in City of Imus.

Statement of the Problem

This paper aimed to identify the challenges faced by the teachers and students enrolled in Technical Vocational Livelihood track in Senior High School in the City of Imus, which may hamper the development of skills of the students.

Specifically, this study aims to answer the following questions.

1. What is the profile of the participants, both teachers and students in terms of:
   a. Specialization
   b. School
   c. Position
   d. Qualification?
2. What TVL track has the most and least number of enrollees?
3. Which of the TVL track components found challenging by the participants, both teachers and students in terms of:
   a. Teachers' qualification
   b. Equipment and facility
   c. Students' Training
   d. Instructional materials
   e. Curriculum, planning and implementation?
4. Based from the findings, what solutions can be recommended to address the problems?

Methodology

Design

This study utilized descriptive survey method of research design in determining the challenges and concerns of teachers and students. Descriptive survey method design is used whenever there is the need to investigate an existing condition or the nature of a situation. The survey was used to investigate the challenges faced by the students and teachers in TVL track of the three Senior High School during the second year of K-12 implementation. This method helped the researcher to describe, record, analyze and interpret the data gathered.

Participants

The respondents of this study were the selected Grade 11 and Grade 12 students and, Gen. Pantaleon Garcia Senior High School, Gov. Remulla Reyes Remulla Senior High School, and Gen. Juan Castañeda Senior High School teachers from the three Senior High Schools in Imus City. These schools, Gen. Juan Castaneda Senior High School in Anabu 2A, Gov. Juanito Reyes Remulla Senior High School in Toclong 2B, Gen. Pantaleon Garcia Senior High School in Malagasang 1G offer TVL track namely; Electrical Installation and Maintenance (EIM), Shielded Metal Arc Welding (SMAW), Computer System Servicing, HE Combo, and Dressmaking. A simple random and purposive sampling techniques were employed to select sample for this study.

Materials

A questionnaire was the main instrument used for the collection of data for the study. The questionnaire was adapted from the works of Usman et.al (2013), Dasmani (2011) and SEAMEO INNOTECH (2016) and was modified by the researcher to suit the needs of the study. Two sets of questionnaires containing 25 and 20items were designed for the respondents- teachers and students. The questionnaire used a 5-point Likert scale. For teachers, part one of the survey was the profile the teachers including the qualification and the part two was the 25-item tool. Students' questionnaire has also two parts; profile and the 20 items test. The items in the questionnaires were validated by experts and tested to a class of 25 students, which were not part of actual sample of the study. The Alpha coefficient for the 20 and 25 items is 0.959, suggesting that the items have excellent internal consistency. Students were encouraged to make suggestions on items with ambiguities.

Procedure

The researcher sought the permission of the Schools Division Superintendent to conduct the study. After the request was approved, the researcher then wrote to the Principals of the three schools to allow the conduct of the survey. The conduct of the data gathering was administered during the examination week. The researcher requested for the schedule of survey so that the activity will not disturb the students in their examination. The researcher personally administered the survey. The questionnaires were returned immediately after the respondents answered the survey which made a 100 percent return.

The tabulation and analysis of data followed after the administration of the survey instruments. The researcher, then sought the help of a statistician for tallying and statistical processing using the Statistical Packages for Social Sciences (SPSS).

The statistical tools used in the treatment of data include the following: frequency count to describe the respondents' answer. Mean was used to find the average scores of each sub scale. Percentage was used to determine the answer of the teachers about their qualification

Range	Interpretation
4.51 – 5.50	strongly agree
3.51 – 4.50	agree
2.51 – 3.50	undecided
1.51 – 2.00	disagree
0 – 1.50	strongly disagree

Results and Discussion

1. What is the profile of the participants both teachers and students in terms of School and Teachers' Qualification

Table 1. Participants according to School and Position

School	Teachers		Students	F
	F	%	F	%
Gov. Juanito Reyes Remulla Senior High School	10	62.5%	49	20.1%
Gen. Pantaleon Garcia Senior High School	2	12.5%	58	23.8%
Gen. Juan Castañeda Senior High School	4	25%	137	56.1%
TOTAL	**16**	**100**	**244**	**100**

Table 1 presents the participants according to school. The table showed that teachers from Gov. Juanito Reyes Remulla Senior High School (GJRRSHS) comprised the 62.5% of the total population of teacher-participants, while the students 23.8% of the total population of student-respondents. On the other hand, Gen. Pantaleon Garcia Senior High School (GPGSHS) had 12.5% teacher-participants while students comprised the 23.8% of the student population. Moreover, teachers of Gen. Juan Castañeda Senior High School(GJCSHS) comprised the 25% of teacher population while the students comprised 56.1% of the student population. The table revealed that GJRRSHS has the most number of TVL teachers while GPGSHS has the least number of teachers with 12.5%. GJCSHS has the most number of students with 56.1% while20.1% comes from GJRRSHS.

Table 2. Teachers' Qualification

	YES	NO
The teacher worked in the industry (welding, electrical, hotel, bakeshop etc.) before working in the DepEd.	50%	50%
The teacher has industry exposure through on –the-job training/immersion only.	81.3%	18.8%
The teacher is a National Certificate I/National Certificate II holder given by TESDA.	81.3%	18.8%
The teacher has attended various seminars on the TVL specialization/track.	81.3%	18.8%
The National Certificate owned by the teacher is due to training for the DepED.	31.3%	68.8%
Practical training in relation with the TVL specialization given to teacher is adequate	43.8%	56.3%

Table 2 presents the teacher qualification in TVL class. The table revealed that81.3 % of the teacher-respondents say that they have TESDA certificate due to training but they never experienced working in the industry. Moreover, 56.3% said that the practical training is inadequate. Usman (2013) who found out that lack of in-service program for technical teachers to upgrade their skills. On the contrary, students believe that the TVL teachers are competent in handling TVL subjects but are concern with the industry exposure of the teachers. This could mean that teacher handling TVL subjects became qualified due to series of training but has no industry experience.

Table 3 Specialization of Students under TVL Track

TVL- Specialization	F	Percentage
Shielded Metal Arc Welding (SMAW)	95	38.9
Electrical Installation and Maintenance (EIM)	96	39.3
Computer System Servicing (CSS)	46	18.9
Dressmaking and Tailoring	7	2.9
	244	100

Table 3 showed that there are 244 respondents surveyed under four specializations, Shielded Metal Arc Welding (SMAW), Electrical Installation and Maintenance (EIM), Computer System Servicing (CSS), and Dressmaking and Tailoring

2. Which TVL track has the most and least number of enrollees?

Using the data presented in Table 3, it revealed that 96 or 39.3% of the respondents were enrolled in Electrical Installation and Maintenance (EIM). While 38.9 % or 95 students were enrolled in Shielded Metal Arc Welding (SMAW), 18.9% or 46 were enrolled in Computer Servicing (CSS) and 2.9% or 7 students were from dressmaking. It can be gleaned that Electrical Installation and Maintenance has the most number of enrollees while dressmaking has the least.

There are several specializations offered under TVL track for Senior High School but the course offerings depend on the geographical location and job opportunity in the region or province. In Batangas, course offered is coffee-related courses, Cavite City- security and peace keeping, Bulacan- agriculture, Laguna- electronics, automotive, garments and food technology. Imus City, from agricultural town, is now a progressive and developing city. With the proliferation of subdivision and industrial park Electrical Installation Maintenance and Welding were offered in the three Senior High Schools.

3. Which of the TVL track components found challenging by the participants, teachers and students in terms of teachers' qualification, equipment and facility, students' Training, instructional materials, curriculum, planning and implementation

Table 4 TVL Track components that are challenging according to Teachers

	Mean	SD	Interpretation
EQUIPMENT AND FACILITY			
1.There is modern equipment, materials for practical work.	3.4375	1.15289	Undecided
2. The laboratory/workshop is well-equipped with tools/machine needed in the practice of skills.	3.1875	1.10868	Undecided
3.The workshop provide work experiences.	3.8750	.88506	Agree
4. The equipment and facility to train students is updated and available.	3.5625	1.03078	Agree
5. The workshop is safe, well-ventilated and conducive for learning the skills.	3.7500	1.00000	Agree
STUDENTS' TRAINING			
6. The training for the TVL students is enough to acquire the competencies and skill.	3.8750	.95743	Agree
7. Students have adequate time to practice their skills at school during training	3.8750	.88506	Agree
8. TVL subjects can help gain skills and competencies needed in work	4.1250	.71880	Agree
9. The training in the school developed the employable skills of the students.	4.0625	.85391	Agree
10. The training for TVL students in the school is of quality and competitive.	3.9375	.92871	Agree
INSTRUCTIONAL MATERIAL			
11. The learning materials used in TVL are from DepEd.	3.3750	.71880	Undecided
12. The work immersion is near the school/house.	3.5625	.89209	Agree
13. Training materials are available and in use by the students	3.5625	1.03078	Agree
14. The activities given to the students are customized to the students' needs.	3.8750	.88506	Agree
15. There is learning materials especially created by the teachers for the students.	4.1875	.54391	Agree
CURRICULUM, PLANNING, AND IMPLEMENTATION			
16. Specialization in TVL are based from TESDA.	4.3750	.71880	Agree
17. Teachers of Technical Vocational and Livelihood are involved in educational planning.	4.0625	.77190	Agree
18. The teacher-student ratio is proportion.	4.2500	.68313	Agree
19. The place for work immersion is part of the industry link of the school.	4.1250	.80623	Agree
20. Memorandum of agreement is signed before students are allowed for the work immersion.	4.1875	.83417	Agree
21. Expert in technical vocational courses take part in the planning of curriculum for TVL.	4.1875	.65511	Agree
22. The industry link of the school for the work immersion is submitted/identified at the start of the school year.	4.0000	1.03280	Agree
23. The insurance policy for work immersion is paid by the school's MOOE.	3.6250	1.25831	Undecided
24. The learning materials for TVL are distributed to school before the opening of the classes	3.3750	1.36015	Undecided
25. Students are sent to industry linkage of the school for work immersion	4.0625	.99791	Agree

Table 4 presents the results of the responses of teachers regarding the components of TVL track which they find challenging. The results revealed that under the component equipment and facility, statement 1- *There is modern equipment, materials for practical work* and statement 2- *The laboratory/workshop is well-equipped with tools/machine needed in the practice of skills,* have a mean average of 3.43 and 3.18 respectively and both interpreted as undecided.

This can be explained that through their responses, teachers believed that the equipment and materials used in the TVL work shop may not be the state-of-the art as to compare with the modern equipment used in the private sector or in the school around Asia. For the component, student training, all subscale has a verbal interpretation of agree. This could be interpreted that teachers agree that training for the students is enough, there is adequate time to practice, subjects help students gain skills and become competitive, training in school developed employability skills, and training provided is of quality and complete. For the Instructional material component, with a mean average of 3.37, 11. *The learning materials used in TVL are from DepEd,* is interpreted as undecided. The result can be interpreted that the materials used by the teachers in teaching are not from DepEd. For the Curriculum, Planning and Implementation, 23. *The insurance policy for TVL is paid by the school's MOOE, 24. The learning materials for TVL are distributed to school before the opening of the classes,* with mean average of 3.37 and interpreted as undecided.

Based from the data gathered, the components of the TVL track that are challenging to the teachers are modern equipment and materials for practical work, laboratory and workshop, learning material, insurance policy for work immersion.

Usman (2013) explained that an absence of modern equipment and materials for work resulted to untrained students for their technical skills and to theoretical teaching making the students' not being proficient in practical skills acquisition (Dasmani 2011).

Table 5 TVL track components that are challenging according to students

	Mean	StD	Verbal Interpretation
Equipment and Facility			
1. There is modern equipment, materials for practical work.	3.6598	1.05948	Undecided
2. The laboratory/workshop is well-equipped with tools/machine needed in the practice of skills.	3.6516	1.16779	Agree
3. The workshop provide work experiences.	3.7418	1.08627	Agree
4. The equipment and facility to train students is updated and available.	3.5943	1.05961	Agree
5. The workshop is safe, well-ventilated and conducive for learning the skills.	3.4754	1.10898	Undecided
Student Training			
6. The training for the TVL students is enough to acquire the competencies and skill..	3.4918	1.06764	Undecided
7. Students have adequate time to practice their skills at school during training	3.6107	1.09246	Agree
8. TVL subjects can help gain skills and competencies needed in work	3.9303	1.02201	Agree
9. The training in the school developed the employable skills of the students.	3.7992	.95400	Agree
10. The training for TVL students in the school is of quality and competitive.	3.6803	1.00013	Agree
Learning Materials			
11. The learning materials used in TVL are from DepEd.	3.2131	1.07901	Undecided
12. The work immersion is near the school/house.	2.9590	1.00121	Undecided
13. Training materials are available and in use by the students	3.0738	1.07855	Undecided
14. The activities given to the students are customized to the students' needs.	3.1230	1.06248	Undecided
15. There is learning materials especially created by the teachers for the students.	3.3279	1.00158	Undecided
Teachers' Qualification			
16. The teacher is skillful in using tools/machine/equipment in the workshop/laboratory.	3.9795	.95344	Agree
17. The teacher demonstrate expertise in teaching the subjects in TVL	3.8852	1.01184	Agree
18. The teacher has worked in the industry (hotel/ restaurant/housing/etc.) before teaching in Senior High School	3.3893	1.16889	Undecided
19. The teacher holds National Certificate in TechVoc from TESDA	3.9590	1.10664	Agree
20. The teacher has industry link for immersion.	4.0082	1.01832	Strongly agree

Table 5 presents the component of TVL tack that are challenging to students. The table revealed that in Equipment and Facility, statement 1. *There is modern equipment, materials for practical work,* garnered an average of 3.65 and interpreted as undecided. For the component Student Training, statement 6. *The training for the TVL students is enough to acquire the competencies and skill,* with a mean score of 3.4 and interpreted as undecided. For the Learning Materials, all sub scales are interpreted undecided; learning materials are from DepEd- 3.2, work immersion location- 2.9, training materials are available and in use by the students- 3.07, activities given are customized- 3.12, there is

learning materials especially created for students 3.32. According to students for the component Teachers Qualification, they are undecided that (18.) *The teacher has worked in the industry (hotel/ restaurant/housing/etc.) before teaching in Senior High School*, with a mean score of 3.3.

Based from the results of the data gathered, students found that the most challenging component in the TVL track was the learning material. In Equipment and Facility, modern equipment for practical work in the workshop was also considered challenging. In the component Training Material, the challenge among students was if the training is enough for them to acquire the needed skills.

As what Dasmani (2011) concluded that in the absence of the learning materials, acquisition of skill in TVL focused more on the theoretical teaching which leads the students to lack in proficiency in their specialization.

Conclusion

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

1. Gov. Juanito Reyes Remulla Senior High School has the highest number of teacher in TVL while Gen. Pantaleon Garcia Senior High School has the least. Gen. Juan Castaneda Senior High School has the most number of student enrolled in TVL, while Gov. Juanito Reyes Remulla Senior High School has the least. Teachers are qualified and TESDA certificate holders. Shielded Metal Arc Welding (SMAW), Electrical Installation and Maintenance (EIM), Computer System Servicing (CSS), and Dressmaking and Tailoring are the TVL specialization offered in the three Senior High Schools in Division of Imus City.
2. Electrical Installation and Maintenance has the most number of students enrolled among the four specialization. The second specialization that has the most number is Shielded Metal Arc Welding.
3. The components of the TVL track that are challenging to the teachers are modern equipment and materials for practical work, laboratory and workshop, learning material, insurance policy for work immersion. Students found that the most challenging component in the TVL track was the learning material. In Equipment and Facility, modern equipment for practical work in the workshop is challenging. In the component Training Material, the challenging for student is whether the student training is enough for the students to acquire the skills.

Recommendation

Based on the aforementioned findings and conclusions, the following recommendations are drawn:

1. To address the inadequate or absence of learning materials, the immediate department or division should create a pool or writers to customize the learning materials for the TVL students. This pool of writer should be made head writers and contributing writers, and technical writers. There should be the presence of TVL teachers and writers to ensure that contextualized competencies are identified.
2. Since Electrical Installation and Maintenance has the most number of enrollees and Shielded Metal Arc Welding follows, the industry linkage must be intensified for the training and future job. Also, intensified marketing should be utilized for the other specialization to increase in population.
3. For the teachers' qualification, encourage teachers to have continuous training.
4. For the future researcher, use other track as basis for investigation using the same component.

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PERFORMANCE OF GRADE 11 STUDENTS IN READING: BASIS FOR A READING PROGRAM

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Abstract

The study, which is theoretically underpinned by the principles of Self-Determination Theory, presents essential insights on the vacuum between reading and the reader. This study is aimed to analyze the performance of selected Grade 11 students in reading under Technical, Vocational, and Livelihood and Academic Tracks during the Third Quarter of the selected school in the Division of Imus City as basis for developing a Reading Program. Specifically, the study sought to answer the following questions: (1) What is the profile of the respondents in terms of: age, gender, and family economic status? (2) What are the reading habits of the respondents? (3) What is the performance of the respondents in reading in terms of: comprehension, vocabulary, strategies, challenge, and fluency? (4) Is there a significant relationship between the profile and the performance of the respondents?

Findings showed that most of the respondents' families were receiving below minimum wage per month. The reading habit of the student respondents were relatively poor; though, they still found reading as an essential part of their lives. In terms of comprehension, vocabulary, strategies, challenge, and fluency, the respondents performed averagely. This was contrary with the expectations for senior high students.

Finally, the study suggests that there should be an effective planning, designing, and facilitating of reading programs which should be horizontally and vertically articulated in the different disciplines taught. Moreover, a computer-aided reading program may be a viable solution to increase students' interest in reading. Lastly, that other research may be undertaken in other regions to determine comparability of results.

Keywords: Reading program, Self-Determination Theory, Macro skills, Motivation, Reading interests, Economic status, Automaticity.

Introduction

Reading is an essential part of one's life as it serves as the gateway toward a more productive individual in today's information age. It is a primary vehicle for cultural literacy that shapes both the understanding of one's identity and the environment by which the text has been contextualized. For many centuries, reading has taken part as the universal key towards success. Thus, schools and those who believe in the same cause embrace the lifelong value of reading for learning, exploration, personal expression, and pleasure.

As a child progresses through his or her academic program, reading becomes the most important facet of communication; so, to prepare the learners for reading instruction in the early grades, it is best that they be exposed to early literacy in their homes. However,

this expectation has never been carried out for most of the students in the public sector which contributed to the struggle of the students in their higher years.

With the current problem, an effective reading program may take an important role for the learner's success. Since reading is the most important subject taught, learners should be given a successful remediation in reading followed by a definite progress as the learner proceeds in the academic journey.

Reading and Its Definition

Reading is one of the most important language skill that should be mastered as it is fundamental in the daily engagement of an individual at home, in the school, or in the workplace. Though it deals primarily on the conversion of symbols or codes to understandable ideas, reading is indeed complex. A plethora of research has shown that "reading is a complex process and an impressive achievement" (Afflerbach, Pearson, & Paris, 2008, p. 364). Proficient reading requires the integration of motivational, cognitive, and language processes (Guthrie &Wigfield, 2000).

It extends from reading simple flashcards, notes, signboards, road signs, landmarks to complex texts required in the academe.

According to Goodman as cited by AD-heisat (2011), reading is a reception process of written communication. The brain converts signs and symbols like letters of the alphabet to understandable ideas an individual perceives. Reading begins with a linguistic surface expression encoded by a writer and ends with meaning in which the reader decoded. It is one of the ways for getting knowledge that cannot be separated from every learning process.

Furthermore, Richards J. and Richard R. (2010), reading means perceiving a written text in order to understand its contents. It is a particular way in which the readers understand texts, passages, paragraphs even books and an ability to understand and find out the information presented in the form of written text. Reading can be seen as an interactive process between a reader and a text which leads to automaticity. When automaticity works, the brain instantly provides automatic response pattern that does anymore require low-level details. To acquire knowledge and information, people can basically read books, magazines, newspapers, and other reading materials possible. Convincingly, reading is one of the essential vehicle to get necessary information needed to succeed in life.

Additionally, Samuels (2006) suggests that the reading process consists of four components: Phonological awareness and decoding skills are utilized to represent each word in a text; Comprehension which is influenced by prior knowledge to construct meaning from the text; Metacognition entails higher order thinking skills; and Attention which is the capacity of the readers to focus on during the process of reading. Samuels declared that readers will fail in their reading efforts, if more attention to the other tasks is required than is available.

Motivation as a Key Factor

The reading process is complex and the factors affecting it is innumerable. Reading requires the simultaneous activation of cognitive, motivational, and linguistic processes (Guthrie & Wigfield, 2000). High achievers in reading are those who have high reading activity, and those who perform low in reading can be associated with low reading activity (Cunningham &Stanovich, 2003). Reading activity influences reading achievement as it is propelled by motivation motivational factors (Wigfield& Guthrie, 1997). Motivation is what drives people to do a task or to proceed with the accomplishment of a goal. Therefore, motivation can drive people to attain high reading performance.

One of the theories of motivation that has been fundamental in lesson planning, activity plan, work plan, and the like is the Goal-setting Theory of Motivation by Edwin Locke. This theory claims that goal-setting is essentially linked to task performance. According to managementstudy.com, Goal-setting theory has certain eventualities such as: Self-efficiency and goal commitment.

Self-efficiency is the individual's self-confidence that he has the capacity to perform certain tasks. The higher the level of self-efficiency, the greater will be the efforts put in by the individual when they face challenging tasks. While, the lower the level of self-efficiency, the lesser will be the efforts exerted by the individual until such time that the eagerness diminished and does not even complete the task at all.

Goal commitment assumes that an individual is committed to the goal and will not leave the goal. The goal commitment is dependent on the following factors: Goals are open and clarified to all; goals should be set-self by individual rather than designated; and individual's set goals should be consistent with the goals set by the higher office or persona.

Goals affect performance through four distinct mechanisms (Locke & Latham, 2002, 2006). First, goals have a directive effect on cognition and behavior. Goals align an individual's concentration and focus toward the tasks on hand and leaving away those which are not related to the goals set. Second, goals serve an energizing function. High set goals require greater efforts from individuals while low set goals require lesser efforts. Goals boost individuals urge to complete tasks; however, it is imperative to set goals appropriate to the demands of the task (Schunk, 2001). Third, goals affect persistence. Goals motivate individuals to persist over time, but there is often a trade-off between intensity of effort and time. It is possible to exert intense effort for a short period of time or to exert less intense effort for a longer period of time (Locke & Latham, 2002). Finally, "goals affect action indirectly by leading to the arousal, discovery, and/or use of task relevant knowledge and strategies" (p. 707). Indeed, whether goals are set by individuals, by peers, or by someone in a position higher, the goals direct individuals toward the completion of a task and may directly be linked with high performance.

Four Macro Skills and their Implications to Reading

For many years, there have been researches about the four macro skills—listening, reading, writing, and speaking—in language. It should be noted that theses macro skills fall under two categories, namely: reception and expressive skills (Jolly, 1980). It has long been argued that these skills are interrelated. Though researches have arrived at mixed results, they do seem connected in some ways in which a development of one skill may trigger the development of another. Thus, reading skill may be enhanced by enhancing listening or speaking skill, and vice versa.

Haugh (1979) reported a study of sixty-four first grade children in which the relationship between listening comprehension and reading comprehension was examined. A correlation of only .317 between reading and listening comprehension was found. This mixed finding does not allow the researcher or interested teacher to say with great confidence that developing listening skills develops reading.

Other than the study by Haugh, Tinzmann and Thompson (1977) compared listening and reading cloze procedures. They found that among the 136 third through sixth graders in their study, fourteen of the sixteen correlations between all variables were significant, suggesting that both reading and listening abilities increase with age and that scores on student oral language ability tests can be predictive of reading ability.

Blankenship and Stelzner (1979) also suggested that speaking as an expressive skill may also enhance writing skill as well as the receptive skills. They include a number of speech activities that can usefully be included in writing class like sink-or-swim interviews, introductory paragraphs, and scrambled T puzzle. Some listening activities include a communication session, listening and perceptual screens, and an "I hear you saying. ..." session. Other activities include a description game, a market basket game, writing about a personal experience in receiving incorrect information, writing an interpretive report, conducting a debate, and participating in a role-playing session.

Capitalizing on Reading Interest

Many of the students nowadays lack the enjoyment and interest in reading which may have been brought by some factors that are influenced by extrinsic and intrinsic motivation, socioeconomic status and some psychological factors which contribute to their continued disinterest in reading. In schools, there are possibilities that the texts or other reading materials do not fit their levels or these materials may not be present at all. At home, it is possible that parents do not reinforce and inculcate the love for reading due to lack of resources to fund books as they see reading as unimportant activity. This notion has been a global pandemic that slowly diminishes the love for reading among individuals.

To cure this pandemic, there are a lot of ways to increase motivation of the students most especially the struggling readers to read. According to Mariotti (2009) there are three basics to increase student reading motivation: 1. Give students a time to read. 2. Give students access to a wide choice of reading material and allow them to choose what they want to read. 3. Read aloud to your students daily.

Low-achieving students read less than those who are performing. It is undeniable that the relationship between reading activity and reading achievement is unquestionable whereas the "amount of reading and excellence in reading is often viewed as a truism" (Guthrie, 2004, p. 4). A number of researches have been conducted that supports the claim that reading activity is the key contributor to reading comprehension (Anderson et al., 1985; Anderson et al., 1988; Cunningham &Stanovich, 2003; Guthrie, 2004; Guthrie et al., 2001; Guthrie &Wigfield, 1999, 2000; Guthrie et al., 1999; Stanovich, 1986).

Learners tend to learn more if they are given enough opportunities to discover, find connections, and make use of their differences. Other than that, the more that the students are engaged and motivated to learn, the more the teaching-learning process becomes effective and efficient. However, there are many factors to consider as to why the students tend to fail or struggle in different learning facets like reading such as: environment and personal characteristics of learners, relationship between gender and the academic achievement of students; economic stability of parents and home environment.

There were assumptions that support the possibility of enhancing one macro skill to enhance another. Hence, capitalizing on this assumption would help the traditional reading remedial program be more effective and engaging.

This study is guided with the Self-Determination Theory (SDT) which suggests that human beings tend to be motivated if the three psychological needs are satisfied: (1) Competence, (2) Connectedness, and (3) Autonomy (Deci, E. & Ryan, R. 2002). These three are briefly discussed as: Competence deals with the need of an individual for mastery of tasks and development of skills; Connectedness deals with the need to experience a sense of relatedness between and among the individual, resources, and actions; and Autonomy which deals with the need to feel in control of one's behaviors and goals.

The psychological needs are fundamental in understanding another perspective on motivation. Indeed, many empirical studies conducted have used the principles of SDT which conclusively supported it (Ryan, R., Geoffrey, W. Patrick, H., &Deci, E., 2009).

Deci and Ryan (2002) further assert that:

> Social environments can, according to this perspective, either enable the growth and integration propensities with which the human psyche is endowed, or they can disrupt, forestall, and fragment these processes resulting in behaviors and inner experiences that represent the darker side of humanity (p.6).

For this reason, the vacuum in the reading process and the interest of the readers to read may be given light through provisions for necessary measures to fill the gap. Furthermore, the reader has to establish a sense of connectedness between the activity and the prior knowledge as they find meaning to it.

The theory clarifies that psychological growth does not happen at an instant. This requires constant and gradual sustenance from the social sphere. Additionally, Deci (2002) argues that extrinsic rewards to be given to motivated individual can affect autonomy.

Positive encouragement which is unexpected may generate more intrinsic motivation that can enhance one's performance.

The purpose of this study was to analyze the performance of selected Grade 11 students in reading under Technical, Vocational, and Livelihood and Academic Tracks during the Third Quarter of the selected school in the Division of Imus City as basis for developing a Remedial Program.

Specifically, the study sought to answer the following questions:

1. What is the profile of the respondents in terms of:
    1.1. age;
    1.2. gender; and
    1.3. economic status?
2. What are the reading habits of the respondents?
3. What is the performance of the respondents in reading in terms of:
    3.1. comprehension;
    3.2. vocabulary;
    3.3. strategies;
    3.4. challenge; and
    3.5. fluency?
4. Is there a significant relationship between the profile and the performance of the respondents?

Hypothesis

Ho: There is no significant relationship between the profile and the performance of the respondents.

Method

Research Design

This study was undertaken to determine the significant relationship between the profile and the performance of the respondents in Gov. Juanito Reyes Remulla Senior High School (SHS). The study is basically a descriptive research. Specifically, it is a correlational research as it determined whether, and to what extent, a relationship exists between two or more quantifiable variables. Interview was conducted for triangulation of data obtained in the questionnaire.

Respondents of the study

The respondents were forty (40) senior high school students from Technical, Vocational, and Livelihood and Academic Tracks in the Gov. Juanito Reyes Remulla SHS in Imus City, Cavite. There were ten (10) students from General Academic Strand, ten (10) from Accountancy Business Mathematics, ten (10) from SMAW, and ten (10) from HE COMBO.

Research Instruments and Techniques

The researcher made readings from books, periodicals, journals, and other references which have bearing to the study to gather enough data which helped in the designing of the survey questionnaire. It was submitted to two experts who are reading specialists for more than 15 years for content validity. Their comments and suggestions were considered to improve the questionnaire.

The questionnaire has three parts which contained items that draw the desired data on the following:

Part I. Profile of the Respondents. This part dealt with the age, gender, and economic status.

Part II. Reading Habits Inventory. The questions in this part focused on the habits of the respondents in reading books, journals, and other possible reading materials.

Part III. Reading Performance. The indicators were categorized into five (5) areas: Comprehension, Vocabulary, Strategies, Motivation, and Reading Fluency. Each area was answered by the participants using a five-point Likert scale: Never (1), Rarely (2), Sometimes (3), Often (4), and Always (5).

Below are the descriptions:

Assigned Point	Verbal Description	Mean Range	Interpretation
5	Always	4.51 – 5.00	Excellent
4	Often	3.51 – 4.50	Above Average
3	Sometimes	2.51 – 3.50	Average
2	Rarely	1.51 – 2.50	Below Average
1	Never	1.00 – 1.50	Poor

Validation of Instrument

The questionnaire was validated by two experts who are reading specialists for 15 years. Each section of the questionnaire was thoroughly reviewed and checked against the questions in the Statement of the Problem.

Data Gathering Procedure

Permission from the head of the participating school was sought. Then, the researcher personally distributed the survey questionnaires. At the same time, interviews of the students were conducted. Confidentiality of any information was assured to encourage the participants to answer the questions as honestly as possible. The researcher personally retrieved the survey questionnaires from the participants.

Statistical Treatment of the Data

The data gathered from the questionnaires were analyzed and subjected to statistical treatment for quantitative basis.

To answer question nos. 1, 2, and 3 on the profile, reading habits, and performance of the respondents, the mean and percent were used.

On the other hand, to answer question no. 4 on the relationship between the profile and the performance of the respondents, the Pearson r Correlation Coefficient was used. It was computed through the use of SPSS—a predictive analytics software.

Results and Discussion

Profile of the Respondents in Terms of Age, Gender, and Economic Status

Table 1. Profile of the Respondents

Age		
	f	%
15	0	0
16	10	25
17	13	32.5
18 and above	17	42.5
Total	40	100
Gender		
Male	18	45
Female	22	55
Total	40	100
Economic Status		
Less than PHP 2,500.00	8	20
PHP 2,501.00 - PHP 5,000.00	9	22.5
PHP 5,001.00 - PHP 7,500.00	7	17.5
PHP 7,501.00 - PHP 10,000.00	2	5
PHP 10,001.00 - PHP 12,500.00	2	5
PHP 12,501.00 - PHP 15,500.00	5	12.5
PHP 15,501.00 - PHP 17,500.00	7	17.5
Total	50	100

Age. It may be gleaned on Table 1 that most of the respondents are relatively mature as opposed to the projected age of a grade 11 student which is 16-17 years old (DepEd, 2015). There are ten (10) respondents who are 16 years of age which constitute the 10% of the total percentage of the respondents.

Gender. Table 1 also shows that most of the student respondents are female which constitute the 55% of the student respondents while 45% is male.

Economic Status. The same table also shows that the majority of the respondents have families who earn PHP 2,501. to PHP 5,000. and PHP 5,001. to PHP 7,500. as their monthly income. Moreover, 20% of the respondents have families who earn less than PHP 2,500. monthly. Hence, it could be assumed that most of the respondents are relatively underprivileged.

The Reading Habits of the Respondents

Table 2. Reading Habits Inventory

How many times do you spend reading?	**F**	**Percent**	**Rank**
I read every day of the week.	9	23	2
I read at least 4 times per week.	7	18	3
I read at least 2 times per week.	23	58	1
I do not read at all.	1	3	4
Total	40	100	
How much time do you spend reading?	**F**	**Percent**	**Rank**
15 minute	12	30	1.5
½ hour	8	20	3.5
1 hour	8	20	3.5
More than an hour	12	30	1.5
Total	40	100	
Where do you mostly read?	**F**	**Percent**	**Rank**
in bed	18	45	1
at the table	5	13	3
in front of the TV or computer	1	3	5.5
at the school or library	1	3	5.5
in the living room	2	5	4
anywhere possible	14	35	2
Total	40	100	
Do you think that being able to read is important?	**F**	**Percent**	**Rank**
I strongly agree	24	60	1
I agree	15	38	2
Undecided	0	0	0
I disagree	1	3	3
I strongly disagree	0	0	0
Total	40	100	
If you were to give yourself a grade today based on how well you read, which would you choose?	**F**	**Percent**	**Rank**
Very High	0	0	0
Above Average	11	28	2
Average	25	63	1
Below Average	4	10	3
Poor	0	0	0
Total	40	100	

Table 2 shows that most of the respondents spend reading at least two (2) times per week which is 58%. On the other hand, there is 3% of the respondents who do not read at all. With regard to the duration of reading activity, majority of the respondents said that they read for 15 minutes only and another group who said they read more than an hour. In terms of the common location the respondents tend to read, a majority of 45% preferred to read in their bed probably because of its comfortability. Likewise, there is 35% of the respondents who preferred to read anywhere possible. On the motivation aspect which triggers their habit to read, most of them which is 60% said that they strongly agree on the importance of reading. Only 3% believed that reading is not important. There is also 63% of the respondents who believed that they belong to the average group of readers. However, there is 10% who believed that they are below average in reading.

The interview conducted generated responses that support the assumptions posited in this study. Common to all the responses is that they preferred to read in a quiet environment such as the response: (1) *"Mas gusto ko magbasa ng tahimik para mas maintindihan ko at mas maenjoy ko ang pagbabasa."* Likewise, there were some who expressed that they cannot focus on reading both in the school and in their house such as the responses: (2) *"When I read a book at home I cannot focus on it because my mother is always telling me to do stuff" and* (3) *"When I read in school I cannot focus because there are distractions."* Nevertheless, there were responses that exposed their enthusiasm in reading; thus, drove them to habitually read books. These responses support the claim: (4) *"My experiences reading at home is (sometimes) so happy because I can express myself mostly at home because I am most preferred reading at home"* (5) *"It's so enjoyable. It makes me feel that I am in the new world because when I am reading a book I imagine it in my mind. I imagine everything in the story and it makes me more interesting"* and (6) *"As I read at home, I lose track of the time when it is so interesting and my mother always tell me to do my choirs before reading because I always forgot to do things when reading. I've got a favorite book that memorize it because I read it every day."*

It was also revealed that there were students who preferred reading online sites like Watt pad from one of the responses: (7) *"Reading is one of my hobbies especially watt pad stories. I like reading because sometimes I'm so bored at home so I keep on reading."* Contreras et.al (2015) further supported this phenomenon in their study:

> On a survey about the top ten things students do on their tablets conducted by Pe Benito (2013), it was found out that aside from browsing through Social Networking Sites (SNS) such as Facebook and Twitter, students also use their tablets for the purpose of reading, which landed on the sixth spot of the survey. The results made mention of Kindle and Watt pad, e-book reader and site, where over a million books were published and can be accessed for free.

Performance of the Respondents in Reading in Terms of Comprehension, Vocabulary, Strategies, Challenge, and Fluency

Table 3.1. Reading Performance on Comprehension

Indicators	Mean	Interpretation	Rank
1. I predict the main idea of the whole passage from its title or subtitles.	3.63	Excellent	1
2. I pay attention to the implied meaning of the reading material.	3.35	Average	2
3. I try to guess the main ideas of the text on the basis of pictures, charts or figures.	3.33	Average	3
4. I pause and analyze the structure of sentences when reading in English.	3.3	Average	4
5. I grasp the main idea of the material while reading English.	3.28	Average	5
6. I ask myself questions about what I'm reading before, during, and after.	3.15	Average	6
7. I try to interpret the writer's intention while reading in English.	3.13	Average	7
8. I grasp the gist of the reading material through quickly reading the first and the last paragraphs.	2.83	Average	8
Overall Mean	**3.25**	**Average**	

Table 3.1 exhibits the reading performance of the respondents on comprehension. The highest mean was obtained by item 1: *I predict the main idea of the whole passage from its title or subtitles,* with an average of 3.63 which was marked Excellent. On the other hand, the lowest mean was obtained by item 8*: I grasp the gist of the reading material through quickly reading the first and the last paragraphs*, with an average of 2.83 which was marked Average. There is a possibility that the respondents have developed effectively the skill on predicting which is essential in the pre-reading. Though, the respondents have difficulty in getting the gist of the text through the first and last paragraph.

Table 3.2. Reading Performance on Strategies

Indicators	Mean	Interpretation	Rank
1. I search a variety of sources in order to select appropriate information to answer questions, define words and terms, clarify misunderstandings, solve problems, or gather information.	3.45	Average	1
2. I engage in learning dialogues with text (authors), peers, and teachers through self-questioning, question generation, and question answering	3.43	Average	2
3. I recall relevant prior knowledge from long-term memory in order to extract and construct meaning from text.	3.28	Average	3
4. I construct a mental image or graphic organizer for the purpose of extracting and constructing meaning from the text.	3.2	Average	4
5. I think about how and what one is reading, both during and after the act of reading, for purposes of determining if one is comprehending the text combined with the ability to clarify and fix up any mix-ups.	3.15	Average	5
6. I bring together what is spoken (written) in the text, what is unspoken (unwritten) in the text, and what is already known by the reader in order to extract and construct meaning from the text	3.08	Average	6
7. I can restate the meaning of text in one's own words.	2.95	Average	7
Overall Mean	**3.22**	**Average**	

Shown on Table 3.2 is the performance of the respondents in terms of strategy. The highest mark was received by the item: *I search a variety of sources in order to select appropriate information to answer questions, define words and terms, clarify misunderstandings, solve problems, or gather information*¸ with an average of 3.45. This is in cognizance with a study conducted by Justice, Meier, and Walpole (2005) that investigated the effectiveness of rereading text to enhance word learning also provided evidence of the positive impact of exposure to targeted words through repeated readings. It can also be linked with Eskey (2002) who stated that by reading, "one learns to read and one becomes better at reading". The least was received by item: *I can restate the meaning of text in one's own words*, with an average of 2.95. It is evident that the respondents found difficulty in organizing their thoughts to be reconstructed in their own words. On the contrary, they have at least managed to utilize their critical thinking through gathering information for verification, justification, and clarification.

Table 3.3. Reading Performance on Vocabulary

Indicators	Mean	Interpretation	Rank
1. I turn to dictionaries when coming across new words in the English reading.	3.75	Above Average	1
2. I use simple words to replace difficult ones in sentence understanding.	3.35	Average	2
3. I get the meaning of new words in context when reading in English.	3.28	Average	3
4. I guess the meaning of new words by analyzing their roots or prefixes or suffixes.	3.2	Average	4
5. When I read English articles, I skip the words that are new to me.	2.5	Below Average	5
Overall Mean	**3.41**	**Average**	

Aside from the performance on comprehension and utilization of strategies, one essential component of reading is vocabulary. Stahl (2005) stated, "Vocabulary knowledge is knowledge; the knowledge of a word not only implies a definition, but also implies how that word fits into the world." The table above shows that the highest average was obtained by the item: *I turn to dictionaries when coming across new words in the English reading*, with an average of 3.75. On the contrary, the least was obtained by item: *When I read English articles, I skip the words that are new to me*, with an average of 2.5. It is possible to conclude that the respondents have limited vocabulary knowledge.

Table 3.4. Reading Performance on Challenge

Indicators	Mean	Interpretation	Rank
1. I read to learn new information about topics that interest me.	3.88	Above Average	1
2. I like to read about new things.	3.8	Above Average	2
3. If a book is interesting, I don't care how hard it is to read.	3.68	Above Average	3.5
4. If the teacher discusses something interesting, I might read more about it.	3.68	Above Average	3.5
5. I read about my hobbies to learn more about them.	3.6	Above Average	5
6. I usually learn difficult things by reading.	3.58	Above Average	6
7. I like it when the questions in books make me think.	3.55	Above Average	7
8. If I am reading about an interesting topic, I sometimes lose track of time.	3.4	Average	8
9. If the project is interesting, I can read difficult material.	3.23	Above Average	9
10. I like hard, challenging books.	3.03	Average	10
Overall Mean	**3.50**	**Average**	

This part entails an assumption that through motivation and curiosity, the readers are challenged in reading. Hence, it triggers enthusiasm that results to high performance level in reading. Table 3.4 reveals that majority of the respondents read to learn because it interests them as evident in item: *I read to learn new information about topics that interest me*. The lowest mean was received by item: *I like hard, challenging books*, with an average of 3.03, marked Average. It could be inferred that if the reader has established a connection between the text and his prior knowledge, interest on reading it increases. Nevertheless, if they feel the book is hard and challenging, they tend not to read it (Mariotti, n.d.); thus, may result to poor reading performance.

Table 3.5. Reading Performance on Fluency

Indicators	Mean	Interpretation	Rank
1. I pronounce every word in the selection I read correctly.	3.3	Average	1
2. I read passages with expressions.	3.2	Average	2
3. I do well on phrased reading other than word per word reading.	3.03	Average	3
4. I engage myself to reading aloud even at home.	2.98	Average	4
5. I enjoy being part of a reader's theater or a speech choir.	2.4	Below Average	5
Overall Mean	**2.98**	**Average**	

Table 3.5 shows the performance of the respondents in fluency where the item: *I pronounce every word in the selection I read correctly*, got the highest mean which is 3.3. It could be assumed that most of the respondents felt confident in pronouncing the words in a selection following the standard IPA notation of the words. However, the item: *I enjoy being part of a reader's theater or a speech choir*, received the lowest mark with an average of 2.4. Though the results presented a contradiction, it is possible that the respondents found pronouncing words easier than engaging into a more complex theatrical activity where pronunciation becomes functional. This may be associated with an article from edweek.org which stated that readers who are still in the sounding-out phase "use up cognitive energy doing that, and they don't have much left for reading automaticity."

Correlation between the Demographic Profile and the Performance on Reading of the Respondents

Table 4. Correlation of Reading Performance and Demographic Profile

Demographic Profile	Pearson Correlation	Remarks
Age	.027	Very weak correlation
Gender	.231	Weak correlation
Economic Status	.015	Very weak correlation

Shown on Table 4 is the correlation between the profile and the reading performance of the respondents in reading with remarks based on the guide made by Evans as cited in www.statstutor.ac.uk.The weak correlation could mean that regardless of their age, gender, and economic status, it is still possible that the performance of the students in reading may increase or decrease depending on certain circumstances. This shall not ignore the fact that the respondents are given opportunities in the school to maximize their reading potentials. Moreover, the results may provide another insight on positive correlations between profile and performance which oppose other studies like Coles and Hal which revealed that 10 to 14 years old male students read less frequently than female students (2002). Another study showed that more female students reported that they enjoy reading and rate themselves as confident and independent readers other than the male (Gambell & Hunter, 2000). The female students in this study also described that they read for pleasure for 15 minutes or more every day. This can provide opportunities for future studies.

Conclusions and Recommendations

The study revealed that the respondents are relatively mature and that their age was a step higher than the expected age of a student in Grade 11 under the K to 12 program. Majority of the sample size was female. Also, most of the respondents' families were receiving below minimum wage per month. In terms of the reading habit of the respondents, the results showed that it is relatively poor; though, they still found reading as an essential part of their lives. The respondents better read in places that are presumably comfortable. Lesser of them found interest in reading in libraries. Looking at the results for the categories: comprehension, vocabulary, strategies, challenge, and fluency, the respondents performed averagely. This is in contrary to the expected reading performance of senior high students. The study affirmed that there is weak correlation between the demographic profile and the performance of the respondents which provides an avenue for initiating more reading programs to increase their performance level in reading.

In light of the analyses and interpretations of the data in this study, the following recommendations are offered that the Department of Education may institute measures to increase capacity building of teachers in reading, and those who are in-charge of the reading programs to plan, design, and facilitate reading programs which should be horizontally and vertically articulated in the different disciplines taught. Also, the school administrators and reading specialists work together to improve the frequency of library use of the students.

Though this study may provide insights as regards the vacuum between the reader and reading success, it is still highly recommended that a bigger sample size shall be used to come up with a more generalized result. Additionally, a study that involves looking into the effectivity of a computer-aided reading program and the performance of the students be made and other research may be undertaken in other regions to determine comparability of results.

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MULTIPLE INTELLIGENCES IN GRADE 12 HUMSS SECTION OF GOVERNOR JUANITO REYES REMULLA SENIOR HIGH SCHOOL

by Feliz A. Tayao, Governor Juanito Reyes Remulla Senior High School

Abstract

This action research aimed to determine the existing multiple intelligences (MI) in Governor Juanito Reyes Remulla Senior High School (GJRRSHS) Grade 12 Humanities and Social Sciences (HUMSS) students to help teachers plan and design classroom activities and formative assessments to suit the types of intelligence present. Using purposive sampling and administering the modified MI Test-based on Gardner's MI Model by www.businessballs.com, naturalist and existential intelligences not included, to 41 students, the researcher was able to make an inventory of the exiting MIs. There is no student with logical-mathematical inclination; however, 17 have musical intelligence, 12 intrapersonal, 11 interpersonal, 3 spatial-visual, 2 bodily-kinesthetic, and 1 linguistic. There were participants who got the same highest score in more than one intelligence. Recommendations included administering the test, modified with items for naturalist and existential intelligences to all students in the school, inclusion of MI in the students' profile, conveying the results to the parents, designing differentiated formative assessments, creating an activity bank with a list of activities suited for each type of intelligence, and an evaluation study on the effectiveness of the recommendations given, if implemented. Effectiveness and efficiency would be observed in planning, designing, and providing the right activities and formative assessments, with appropriate and sufficient materials that are suited to the types of intelligence present through this first research of its kind conducted in the school.

Keywords: multiple intelligences, differentiated assessment, student achievement

Introduction

Governor Juanito Reyes Remulla Senior High School is one of the four public senior high schools in the Schools Division of Imus City. It is on its second year of operation this School Year 2017-2018. Currently, it has 552 students and 41 of them are in Grade 12 HUMSS (Humanities and Social Sciences) Section. The school, being new wants to prove itself to be effective in providing worthwhile learning experiences to students. One way to do this is by using the multiple intelligences approach in the performance tasks and classroom assessment.

Exciting as it may sound, it was observed by the researcher that some teachers plan for and design strategies and assessment activities without determining the intelligences present in the classroom. The results were sometimes frustrating to the learners for they felt that they were not good enough to produce the required output. It was also frustrating on the part of the teachers for they felt that all the efforts in instilling knowledge, skills, and attitude were in vain because the students could not perform as expected.

This study aimed to determine the types of intelligences based on Howard Gardner's Multiple Intelligences Theory available in the Grade 12 HUMSS Section as one of the sections being handled by the researcher for the first semester of S.Y. 2017-2018. Result of this study can be a basis for planning and designing classroom activities and formative assessments for the said section.

Literature Review

Multiple Intelligences Theory

Edutopia (2016) explained that the theory of *multiple intelligences* challenges the idea of a single IQ, where human beings have one central "computer" where intelligence is housed. Howard Gardner, the Harvard professor who originally proposed the theory, says that there are multiple types of human intelligence, each representing different ways of processing information: (1)Verbal-linguistic intelligence refers to an individual's ability to analyze information and produce work that involves oral and written language, such as speeches, books, and emails; (2) Logical-mathematical intelligence describes the ability to develop equations and proofs, make calculations, and solve abstract problems; (3) Visual-spatial intelligence allows people to comprehend maps and other types of graphical information; (4) Musical intelligence enables individuals to produce and make meaning of different types of sound; (5) Naturalistic intelligence refers to the ability to identify and distinguish among different types of plants, animals, and weather formations found in the natural world; (6) Bodily-kinesthetic intelligence entails using one's own body to create products or solve problems; (7) Interpersonal intelligence reflects an ability to recognize and understand other people's moods, desires, motivations, and intentions; and (8) Intrapersonal intelligence refers to people's ability to recognize and assess those same characteristics within themselves.

Differentiated Assessment

Stefanakis (2011) maintained that education for the 21st century requires classrooms that can personalize how we assess and teach all learners. Furthermore, the same author believed that we need educators who are equipped with classroom practices that include both the differentiated assessment and instruction to know more about each leaner's abilities and capitalize on his or her strengths as a catalyst to leaning.

In her book, Stefanakis (2011) concluded that in order to provide children with programs that serve their needs effectively, educators must first differentiate assessment. The learning differences of children are obvious to most adults, but we still do not use differentiated assessment system to help us understand their needs and achievement.

Studies on Multiple Intelligences in Schools

In the study conducted by Medina in 2011, it was revealed that teachers have positive attitude towards multiple intelligence approach and that the least frequency used strategies are for naturalistic intelligence. The researcher therefore recommended that teachers provide students with opportunities to demonstrate mastery of the subject while

expressing themselves through their most highly developed intelligence. Another recommendation is to make the students aware of their own talents, learning processes, and potentials. Teachers therefore are enjoined to encourage offering an exciting range of activities to students.

Another study was conducted by Alvaran, Belamide, and Eguia (2007) wherein the researchers recommended that students take the multiple intelligence inventory test for them to determine where they excel and where they do not. This, according to the researchers, may help them improve their weakness, develop what they do not have, and enhance more what they already have.

Synthesis

The aforementioned related literatures and studies strengthened the claim of this present study that classroom activities and formative assessments must de differentiated to the extent of the available intelligences available in the classroom.

The article found in Edutopia website, provided a good description of all the types of intelligence which were touched on this study. Stefanakis' book as well as the studies conducted by Medina, et. al. respectively show similar recommendations and serve as a sturdy support to the recommendation of the current researcher to provide students with differentiated classroom and assessment activities and to make the students aware of their own intelligences and to make them confident in exhibiting their mastery of the lessons.

Innovation, Intervention, and Strategy

The diagram below shows the path that this study wished to take in order to come up with worthwhile innovations, interventions, and strategy.

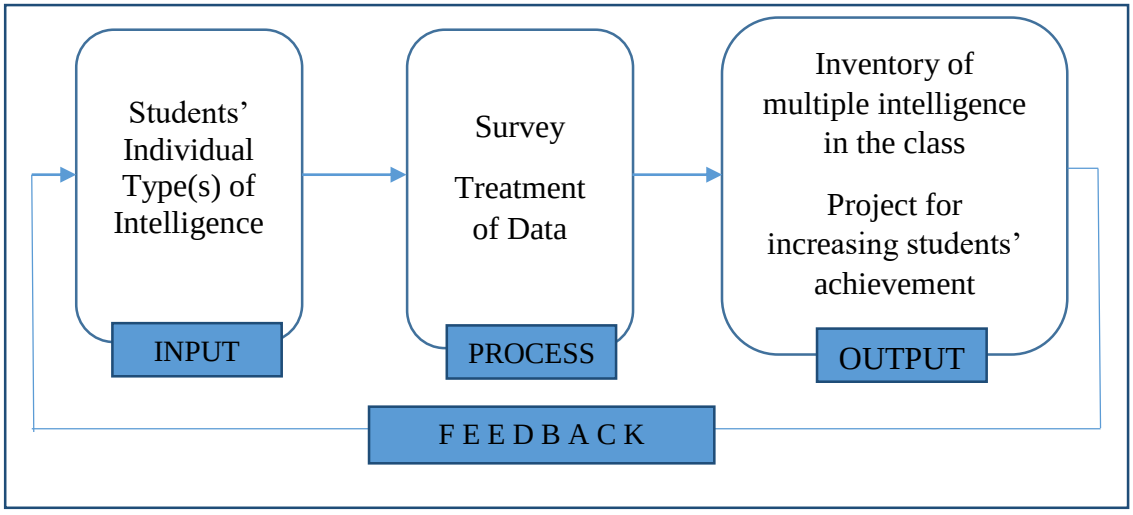

Figure 1: Research Paradigm

This study paved the way for the school to have a partial inventory of MI which would help teachers save time, materials, and efforts in planning and designing formative

assessment activities and strategies. The inventory provided by this study was considered partial because the inputs came from only one section. If and when the instruments would be administered to all the students, then there would be an inventory of MI for the entire student populace in the school.

Although not directly covered in this study, an activity bank to suit the various types on intelligence can be devised. The instructions, mechanics, materials needed, and rating mechanisms for each activity should be specified in the activity bank. This will minimize, if not totally avoid the time wasted in planning for classroom and formative assessment strategies. Effectiveness and efficiency would be observed in providing the right number of materials for the activities within the intelligences of the students that are aligned to the objectives.

Innovation in the students' information sheets by including a part/space for multiple intelligences would facilitate fast information dissemination. The results of the MI test should be conveyed to the parents so proper support and encouragement could be provided at home. Parents should also be made aware of the various types of intelligence so that their definition of intelligence would not be limited to "book-knowledge" intelligence.

Finally, increased students' achievement can be expected by practicing differentiated formative assessment activities in the classroom. However, MI activities should not hinder the students to explore on their potentials. As students watch and learn how they and their fellow students exhibit their understanding of the lessons, they might be encouraged to try out new ways to exhibit theirs. Teachers should be ready to help students recognize their current inclinations and discover new ones. With this kind of learning environment, there would be less frustrations on the part of the teachers and on the part of the students.

Action Research Questions

The primary purpose of this study was to derive the inventory of each type of multiple intelligence in the Grade 12 HUMSS Section of Gov. Juanito Reyes Remulla Senior High School.

Specifically, the following questions were answered:

1. What types of intelligence are present in the section?
2. How many students belong to each type of intelligence?
3. Based on the findings, what actions can be recommended to improve students' achievement?

Methods

Participants and/or Other Sources of Data and Information

Participants to this study were Grade 12-HUMSS students of Governor Juanito Reyes Remulla Senior High School in the First Semester of S.Y. 2017-2018. Purposive sampling technique was employed where out of the 552 students who are currently enrolled in the school, 41 students who belong to the mentioned section were chosen to participate in the survey. Secondary data were gathered from the Aklatang Emilio Aguinaldo, De La Salle University-Dasmariñas and from various websites.

Data Gathering Methods

This study utilized the descriptive research design with quantitative research method. Descriptive design is used to describe the status of an identified variable such as events, people, or subjects as they exist and quantitative method is an objective, systematic, empirical investigation of observable phenomena through the use of computational techniques (Faltado, Bombita, Boholano, & Pogoy, 2016).

The research instrument entitled, "Multiple Intelligence Test-based on Howard Gardner's MI Model" was adapted from the businessballs.com website. The same instrument is being used in at least one of the prestigious private schools in Cavite. The researcher made a communication through an email to the organization, asking permission to use their instrument. A reply granting permission came a few hours after. Some items in the instrument were modified to suit the level of the participants. Modifications were mostly vocabulary. The modified instrument then was validated by a Teacher of English. There were 70 items, randomly arranged, describing each of the multiple intelligences. A letter seeking consent from the parents or guardians of the participants were distributed and retrieved prior to subjecting the students to the instrument.

Upon submitting the consent, participants were asked to accomplish the instrument in the school's Computer Laboratory, taking turns to use six computer units at a time. It took four days to have all 41 students to answer the instrument. The instrument in excel format was self-generating. Participants scored each item from 1 to 4, based on the Likert Scale provided by the website:

4 = Mostly Agree
3 = Slightly Agree
2 = Slightly Disagree
1 = Mostly Disagree

After answering all the items, a table showing the scores with a corresponding graph was shown to the students. The researcher considered the highest scored intelligence by each participant. The answers were tabulated in a frequency distribution table. After tabulating, an inventory of the section's multiple intelligences was completed. A chart has been made to illustrate the tabulate results.

Results

The study revealed the following:

1. The types of intelligence present in the section are linguistic, musical, bodily-kinesthetic, spatial-visual, interpersonal, and intrapersonal. No student scored highest in the logical-mathematical intelligence; therefore, there is none in the section that has inclinations towards logic and mathematics.

2. The number of students who belong in each type of intelligence is shown in Figure

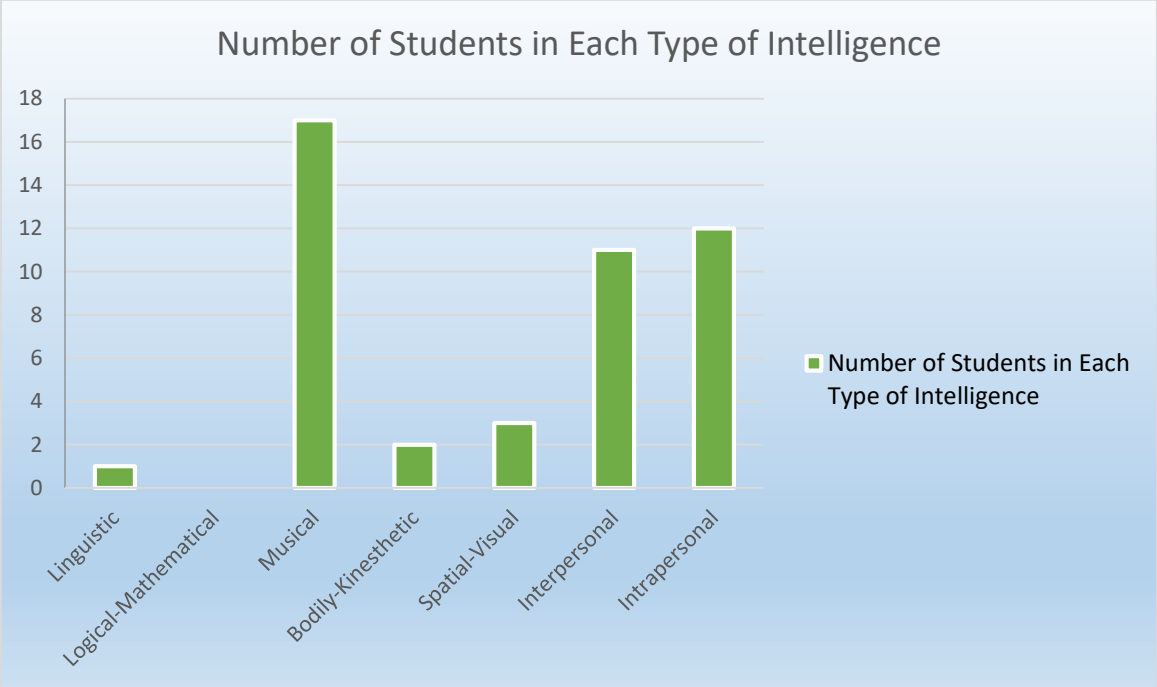

Figure 2: Number of students in each type of intelligence.

It can be gleaned from the figure above that 17 students in the section have musical intelligence, 12 have intrapersonal, 11 have interpersonal, 3 have spatial-visual, 2 have bodily-kinesthetic, 1 has linguistic, and none has a developed logical-mathematical intelligence. The total number of intelligences present is more than the number of students because some students have scored highest in more than one intelligence.

1. Teachers of the participants can now plan effectively and prepare efficiently for the classroom and formative assessment activities without wasted materials and misaligned strategies. Recommended actions to improve students' mastery and achievement are discussed in the next section of this paper.

Discussion

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

1. Subject all students to multiple intelligence test to determine their types of intelligence. The instrument used in this study may be adapted by the school to determine the entire student populace's types of intelligence. Inclusion of questions to cover naturalistic, and existential intelligences is further recommended.

2. In the students' profile form, allot a space where advisers or guidance counselors can write the students' type(s) of intelligence. This is for easier establishment of MI inventory in the future.

3. Convey the results of the test to the parents so proper support and encouragement could be provided at home. Also, parents would understand why their children are always making drawings, or writing/practicing a song, doing interviews, etc. Parents should also be made aware of the various type of intelligences so that their definition of intelligence would not be limited to "book-knowledge" intelligence.

4. Moreover, it is recommended that teachers use a range of non-traditional formative assessments for the different types of learners present in the class. In giving grades, applicable rubrics should be used. However, MI activities should not be employed to limit the growth students but to help them explore on their potentials by recognizing their current inclinations and discovering new ones. Frustrations on both the part of the teachers and the students for not getting or giving enough. Students would perform better if they would be given chances to exhibit their knowledge through media that they are good at.

5. Create an activity bank that would contain the list of activities suited for each type of intelligence. Include in the activity bank the instructions, mechanics, materials needed, and rating mechanisms. This will minimize, if not totally avoid the time wasted in planning for classroom and formative assessment strategies. Effectiveness and efficiency would be observed in providing the right number of materials for the activities within the intelligences of the students that are aligned to the objectives.

6. Make an evaluation study on the effectiveness of the recommendations mentioned above after implementation/application. Modifications to meet the changing needs over time should be met by the academe. Whatever gaps this current study failed to bridge, another may fill.

Conclusion

This study concludes that the Grade 12 HUMMS Students of Governor Juanito Reyes Remulla Senior High School possess varied types of intelligence. Their teachers, therefore should help develop those intelligences by providing various and differentiated activities. Students must be given opportunities to express their mastery in ways that they

are most comfortable that would communicate their thoughts and understanding. This approach, however, should not limit the potentials of the students to their existing intelligence. This could help them further discover their hidden or silent intelligence as they watch their classmates perform in different ways. They may be encouraged to try expressing their ideas in different ways.

Recommendations to Address the Findings of Action Research Entitled
"Multiple Intelligences in Grade 12 HUMSS Section of
Governor Juanito Reyes Remulla Senior High School"

Action Plan

PROGRAMS/ PROJECTS	OBJECTIVES	ACTIVITIES/ STRATEGIES	PERSONS INVOLVED	TARGET PARTICIPANTS	TIME FRAME	SOURCE(S) OF FUND	EXPEC-TED OUTPUT/ OUTCOME
A. Dissemination of Research Results							
Research Generation/submission Research Presentation	Disseminate the results of the research for possible adaption/implementation	Submission of full paper to school head Endorsement to SDO and other offices Presentation in research conference	Researcher School Head Researcher	Educators	Sept 2017 Sept 2017	Researcher 's own	Full paper Dissemina-ted/presen-ted research
B. Multiple Intelligence Test							
MI Inventory	Devise an inventory of the intelligences present in each section in the school.	Securing parental consent Administering test Counseling	Guidance Counselors Class Advisers	Students	Dec 2017	School	Inventory of MI in the school level
C. Students Forms							
School-Home Partnership	Inform parents of the results of the MI test	Orientation Parent-Teacher Conference Correspondence	School Head Guidance Counselors Teachers	Parents Teachers	Dec 2017	School Funds	Well-informed parents Support to the students
D. Differentiated Assessments							

PROGRAMS/ PROJECTS	OBJECTIVES	ACTIVITIES/ STRATEGIES	PERSONS INVOLVED	TARGET PARTICIPANTS	TIME FRAME	SOURCE(S) OF FUND	EXPEC-TED OUTPUT/ OUTCOME
Everybody's intelligence	Provide opportunities to students to demonstrate their mastery of the lesson using their MI	Differentiated activities/assessment	Teachers	Teachers Students	Dec 2017 to Mar2018	Teachers' own	Improved achievement
E. Activity Bank							
MI Activity Bank	Have a reference when planning for activities and assessment	Research on appropriate activities for each type of intelligence Compile the activities with instructions, materials needed, and mechanics	Researcher Teachers	Teachers	Dec 2017 to Mar 2018	Researcher's and Teachers' own	Printed MI activity bank

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THE DEVELOPMENT OF WORK IMMERSION PREFERENCE TEST

by Jocelyn C. Miñano, Governor Juanito Reyes Remulla Senior High School

Abstract

Personal adaptivity, career adaptability and career indecisions are but some few challenges that Grade 11 students of Gov. Juanito Reyes Remulla Senior High School under General Academic Strands face today. Thus, the development of Work Immersion Preference Test would address this current issue. The prime purpose of the test development is for the Grade 11 students enrolled in General Academic strand to distinguish and align themselves to what is befitting for them to take as elective subjects as basis for their Work Immersion program and exposure. The developed test would direct the students to perform certain work tasks either on Accounting Business and Management (ABM), Humanities and Social Sciences (HUMSS) or Science Technology Engineering and Math strands. The researcher employed exploratory design and development research to find out if the identified constructs of the test, Work Immersion Preference Test is successfully determined. There are fifty (50) respondents who were stratified and randomly selected for the study. The formulated test was used and validated accordingly. Seemingly, the results of the study indicated an over-all Cronbach alpha of .844 which significantly indicated a high internal consistency. Notably, the test constructs area first phase of development and for the meantime it will be used for school-based application for more validation on the reliability of the test constructs. Nonetheless, this is the very recent study to address such dilemma of Grade 11 students on locale.

Keywords: *Work Immersion, test development, General Academic Strand*

It is a dilemma among Grade 11 students of Gov. Juanito Reyes Remulla Senior High School under General Academic Strands what to pursue or concentrate on learning areas, they need for personal adaptivity on their chosen career. However, there are standardized career assessment tests available to address this issue on career indecisions and adaptability. More so, most of these were not culture-based and all directed for those college students and not for Filipino Grade 11 students. Thus, the development of Work Immersion Preference Test (WIPT) is formulated to address the dilemma. Primarily, the WIPS is designed to help the students of Gov. Juanito Reyes Remulla Senior High School decide on what elective they will take and direct them to what field they will proceed for their Work Immersion. The aim of the study is to address the work immersion competencies among the students that may eventually lead to job mismatch.

The author of the study apparently submits to the following studies: a study by Tolentino et. al (2013), which validated the Career Adapt-Abilities Scale (CAAS) and tried to examine of a model of career adaptation in the Philippine context. The CAAS consists of four subscales, with six items each measuring self-regulative psychosocial resources for coping with occupational tasks and transitions. The internal consistency estimates for the full scale and subscales ranged from .87 to .97. Confirmatory factor analyses also supported

the multidimensional and hierarchical model of career adaptability which is like that obtained from the CAAS international validation. From their study, results suggested that career adaptability was positively associated with adaptivity in the form of tenacious goal pursuit and flexible goal adjustment; adaptation outcomes of career satisfaction and 'promotability'. Also, the findings confirm the utility of CAAS in the Philippine context and the support model that states higher levels of personal adaptivity (willingness) and career adaptability (competence) which relate to better adaptation outcomes in terms of career success.

Another study by Osipow (1999) titled "Assessing Career Indecision" discussed the prominent Holland's work toward the understanding and measurement of career indecision. It was concluded that the clear methods to assess various aspects of career indecision can be led to counseling applications which is a hallmark of Holland's approach to career issues.

The study of Reardon and Lenz (1999) explored how the career assessment activities in the Self-Directed Search and constructs in Holland's theory can be used to increase understanding of an individual's Personal Career Theory. It was concluded that the Holland's RIASEC provides a simple heuristic in explaining the matching process of the person and the environment. The constructs in the theory can be of help in understanding clients' readiness for applying their PCT to the process of career decision making. Such developments were also recorded as future trends. First, there is a need for expanded research on the secondary constructs in the theory and their relationship to decision making skills, personality characteristics and mental health status. Second, a need for improved training in the use of Holland's theory and the SDS. Third, practitioners using the SDS could benefit from the development of more complex service delivery models. Fourth, a computer-based guidance systems and other self-help career interventions may find higher rates of success in assessment activities.

Similarly, from the study of Kelly and Lee (2002), they explored the domain of career decision problems. They conducted a factor analysis of the Career Decision Scale, Career Factors Inventory, and Career Decision Difficulties Questionnaire to those undecided college students. Significantly, results of the study seemingly suggest that there are six reliable factors: lack of information, need for information, trait indecision, disagreement with others identity diffusion and choice anxiety. From these six, they made a cluster analysis to explore the structure of the indecision domain and gained three clusters: information deficit/identity diffusion, decision process inhibitors and choice inhibitors.

Particularly, the development of Work Immersion Preference System adapted the theoretical and conceptual framework of practice theory. It opens the task-based performance for the informational potential outside verbally expressed, documented or oral information, to information that is embodied, tacit and socially legitimized. (Bystrom and Lloyd, 2012) Work task performance which may be used to understand the wider context of work task as a concept and as a unit of analysis. The relationships of constructs work tasks and DepEd K-12 strands (Humanities and Social Sciences, Accounting, Business and Mathematics, Science and Technology, Engineering and Math) drive the performance of students by focusing attention on the different practices that enable and constrain the

performance of work tasks, and to influence the student what strand he or she will perform the work tasks best. Thus, Work Immersion Preference Test places work task performance into a context of activities that constitute and evaluate which the student would best perform in the work immersion program.

Basically, the WIPT particularly wants to prove whether the construct work tasks lead to identify the students' career concentration suitable to his or her strand which he or she will take for his/her work immersion program that the Department of Education requires them to take as an additional subject of the students. The following diagram shows the schema of the study;

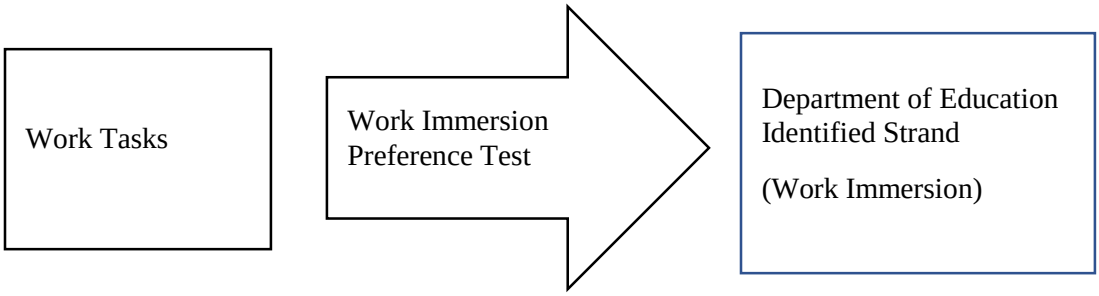

Figure 1. Conceptual Framework of the Study

Accordingly, the WIPT will systematically categorize the GAS students whether they qualify to: Accountancy, Business and Management (ABM) Strand. The ABM Track is for those who plan to take up Economics, Business Administration, Accountancy and Marketing in college. Human Resource Management is also possible on this. Another is Humanities and Social Sciences Strand (HUMSS) - This is for students who love Writing (particularly, novelists), prefer Political Science, Sociology, Psychology, Education (Teaching), Priesthood, Criminology, Law and Community Studies. Last is Science, Technology, Engineering and Mathematics (STEM) Strand - STEM is to study Pure and Applied Sciences, Engineering and Mathematics in college. Biology, Chemistry, Physics, and Calculus is also in this strand. The construct will be measured through possible work tasks in every strand which is classified as Test H for HUMSS in items number 1-26, Test A for ABM assigned to items number 27-52 and Test S for STEM from items number 53-80, respectively. Correspondingly, the items (work tasks) will be indicated as; 1 = strongly dislike, 2 = dislike, 3 = like and 4 = strongly like. The strand that gets the highest total score will direct the students to what elective subject he or she will take from the three identified strands HUMSS, STEM, or ABM. This will categorize the learner to the preferred work immersion program he or she will undertake.

Research Questions

More so, the research study investigates the constructs of the test and aims to realize and understand the assumption that Work Immersion Preference System can be a basis of identification of Grade 11 students under General Academic Strand to what Work Immersion Program is suitable to them.

Specifically, the researcher aims to answer the following questions;

1. What are the average scores of the first and second run of the test?

2. What is the reliability of the obtained test scores?
3. What is the percentile rank of the scores?
4. Is there a significant internal consistency among the test constructs?

The study has the following hypotheses there is an internal consistency among the test constructs.

Scope and Limitation

This development of Work Immersion Preference Test is aiming to assess what is the most possible career for students not sensible on what career to pursue. This is designed for those Filipino Grade 11 students of Gov. Juanito Reyes Remulla Senior High School under General Academic Strand what work immersion they must undertake during senior high school. This pilot study however, is intended for Grade 11 students of Gov Juanito Reyes Remulla Senior High School and only simple statistical measurements has been used to identify the Cronbach alpha of the test.

Methods

The study used the design and development research to find out if the identified constructs of the test which is work tasks is successfully determined for Work Immersion Preference Test.

Respondents were selected in a stratified sampling then they are randomly selected. In this test development, 50 (25 Females and 25 Males) Grade 11 students of Gen. Juan Castaneda Senior High School were determined.

First, the test developer thought of possible test constructs that can be measurable which is identified as work tasks from different competencies of the learning areas under ABM, HUMSS and STEM. Second, read related journals and theories that can best support the test constructs. Third, is the directive to make a pre-draft of the test for validation. Thus, the test was validated by two professors of the university and one subject matter expert (SME). After validation, the test, retest was done. First run of test was done on March 31, 2017 then followed by second run of test last April 7, 2017. It was directed also that scoring of the test limits by adding all scores either be indicated as 1, 2, 3 or 4 of per system. Table 1 & 2 are the table of scores for the first and second run, respectively.

Results

The gathered scores were analyzed and accordingly provide answers to the statement of the problem and evidence that proves the relationship. The total average of scores in the first run of the test is 222.52 and the second run of the test is 219.94. Accordingly, there is a difference of 2.58. The highest possible score per tests are as follows; Test H (HUMSS) and Test A (ABM) are 104 and Test S (STEM) is 112. Data analysis of scores were run through SPSS 23. Mean scores of Test 1 and Test 2 are; 222.52 (SD 34.571) and 219.94 (SD 33.991), respectively. A percentile rank has been used to

facilitate the norming of the test. With these, based from the obtained scores in the used of Scale Statistics by getting the Cronbach alpha. Test H has scored .873, Test A is .838 and Test S is .720 which indicate a high internal consistency level per system of the test. Moreover, the over-all Cronbach alpha of the test is .844 which also indicates high internal consistency.

The exploration and analysis of scores significantly shows that the test has garnered a total high score. Also, the items per constructs of the test indicated a high internal consistency. Seemingly, these paved the acceptance of the concept that work tasks in the context of different performance activities with the use of the developed test would strongly suggest what strand do the student performs best. It submits to the postulate in which in the study of Reardon and Lenz (1999) explored how career assessment activities in the Self-Directed Search and constructs in Holland's theory used to increased understanding of an individual's Personal Career Theory. It explains the matching process of persons and environments, likewise that the constructs in the theory can be of help in understanding clients' readiness for applying their PCT to the process of career decision making. It also adheres to the significant findings of the Practice Theory which unlocks the idea that performance of the work tasks can be a unit of analysis to a more socially organized work immersion adaptability (Bystrom and Lloyd, 2012)

From the gathered results, it is significant therefore to accept the hypotheses of the study, that there is a high internal consistency among the test constructs. This means that the test development of Work Immersion Preference Test acquired to be reliable and valid test to attain its set objective. The test could further address issues on the Work Immersion Program of students under General Academic Strands. Likely, the test development of Work Immersion Preference System (WIPS) will serve as a resolution to what is the applicable elective subjects should be given to those enrolled in General Academic Strand.

In conclusion, the Work Immersion Preference Test that is developed through this research apparently proves that the three set of Test (H-HUMSS, S-STEM & A-ABM) has a significant impact that can be materialized to be utilized by the school.

Recommendations

The Work Immersion Preference Test is one of the few to address issues specifically on career adaptability and career indecisions with the contextualities of work tasks that students should undertake. However, it is important to note that this prerogative is a pioneer in addressing issues specifically with Work Immersion program of the K-12 curriculum.

Thus, the following recommendation could be applied for the possible improvement of the study, a wider scope of WIPT application on the division, region or national for a larger number of respondents is required, and application of exploratory factor analysis could be employed to compare scores and to establish in-depth validity and reliability of the test.

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Tables

Table 1. Evaluation of Scores First Run of Test (March 31, 2017)

R	total = H	total = A	total = S	OVER-ALL TOTAL
1	42	41	28	111
2	67	57	55	179
3	72	95	63	230
4	66	103	74	243
5	77	99	88	264
6	81	91	68	240
7	78	87	60	225
8	63	104	90	257
9	75	97	94	266
10	74	89	72	235
11	73	104	66	243
12	70	78	105	253
13	86	86	75	247
14	67	76	45	188
15	69	85	63	217
16	62	89	59	210
17	71	93	74	238
18	65	84	56	205
19	83	95	96	274
20	77	91	80	248
21	70	69	78	217
22	75	80	89	244
23	68	63	73	204
24	72	53	57	182
25	72	68	69	209
26	74	52	48	174
27	59	88	64	211
28	71	64	93	228
29	81	64	62	207
30	60	78	52	190
31	61	52	85	198
32	87	80	102	269
33	85	79	98	262
34	86	80	99	265
35	70	81	74	225
36	76	80	95	251
37	79	78	84	241
38	78	78	84	240
39	90	56	64	210
40	76	98	72	246
41	80	94	70	244
42	79	52	85	216
43	92	80	76	248
44	74	86	52	212
45	75	86	52	213
46	72	95	63	230
47	41	38	28	107
48	54	70	91	215
49	89	60	64	213
50	82	40	60	182

Table 2. Evaluation of Scores Second Run of Test (April 7, 2017)

R	total = H	total = A	total = S	OVER ALL TOTAL
1	41	37	28	106
2	64	61	65	190
3	67	95	56	218
4	66	103	70	239
5	77	99	85	261
6	81	91	66	238
7	78	87	60	225
8	63	104	90	257
9	75	97	84	256
10	74	89	70	233
11	73	104	66	243
12	70	78	105	253
13	78	86	75	239
14	67	76	45	188
15	69	85	63	217
16	62	89	59	210
17	71	93	74	238
18	65	84	56	205
19	81	96	96	273
20	77	91	90	258
21	70	63	79	212
22	75	80	89	244
23	68	63	73	204
24	72	53	57	182
25	72	68	69	209
26	74	52	48	174
27	59	88	64	211
28	71	64	93	228
29	81	80	76	237
30	60	86	52	198
31	61	86	52	199
32	87	95	63	245
33	85	38	28	151
34	86	70	91	247
35	70	60	64	194
36	76	40	60	176
37	79	78	84	241
38	78	78	84	240
39	90	64	62	216
40	81	78	52	211
41	60	52	85	197
42	61	80	102	243
43	87	79	98	264
44	85	80	99	264
45	86	81	74	241
46	70	80	95	245
47	76	38	28	142
48	79	70	91	240
49	89	60	64	213
50	82	40	60	182

Table 3. Average of Test Scores

Total Average of Scores	1st Run of Test	2nd Run of Test
	222.52	219.94

Table 4. Descriptive Statistics of the Obtained Scores

Overall Item Statistics

	Mean	Std. Deviation	N
Test 1	222.52	34.571	50
Test 2	219.94	33.991	50

Scale Statistics for System H

Mean	Variance	Std. Deviation	N of Items
72.92	111.626	10.565	26

Scale Statistics for System A

Mean	Variance	Std. Deviation	N of Items
77.72	301.471	17.363	26

Scale Statistics for System S

Mean	Variance	Std. Deviation	N of Items
71.88	318.802	17.855	28

Table 4. Norming of the Test

Participants	**Average of Scores**	*Point*	*Scores*	*Rank*	*Percent*
1	108.5	19	273.5	1	100.00%
2	184.5	5	262.5	2	97.90%
3	224	9	261	3	95.90%
4	241	8	257	4	91.80%
5	262.5	32	257	4	91.80%
6	239	34	256	6	87.70%
7	225	43	256	6	87.70%
8	257	12	253	8	83.60%
9	261	20	253	8	83.60%
10	234	22	244	10	81.60%
11	243	11	243	11	77.50%
12	253	13	243	11	77.50%
13	243	4	241	13	73.40%
14	188	37	241	13	73.40%
15	217	38	240	15	71.40%
16	210	6	239	16	69.30%
17	238	17	238	17	65.30%
18	205	44	238	17	65.30%
19	273.5	46	237.5	19	63.20%
20	253	10	234	20	61.20%
21	214.5	42	229.5	21	59.10%
22	244	40	228.5	22	57.10%
23	204	28	228	23	55.10%
24	182	48	227.5	24	53.00%
25	209	45	227	25	51.00%
26	174	7	225	26	48.90%
27	211	3	224	27	46.90%
28	228	29	222	28	44.80%
29	222	41	220.5	29	42.80%
30	194	15	217	30	40.80%
31	198.5	21	214.5	31	38.70%
32	257	36	213.5	32	36.70%
33	206.5	39	213	33	32.60%
34	256	49	213	33	32.60%
35	209.5	27	211	35	30.60%
36	213.5	16	210	36	28.50%
37	241	35	209.5	37	26.50%
38	240	25	209	38	24.40%
39	213	33	206.5	39	22.40%
40	228.5	18	205	40	20.40%
41	220.5	23	204	41	18.30%
42	229.5	31	198.5	42	16.30%
43	256	30	194	43	14.20%
44	238	14	188	44	12.20%
45	227	2	184.5	45	10.20%
46	237.5	24	182	46	6.10%
47	124.5	50	182	46	6.10%
48	227.5	26	174	48	4.00%
49	213	47	124.5	49	2.00%
50	182	1	108.5	50	0.00%

Table 5. Relationship of the Test Constructs and Obtained Scores

Reliability Statistics System H

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.873	.873	26

Reliability Statistics System A

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.838	.839	26

Reliability Statistics System S

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.720	.721	28

Overall Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.844	.844	2

IDENTIFYING THE RESEARCH CAPABILITY AND PRODUCTIVITY OF PUBLIC SENIOR HIGH SCHOOL TEACHERS USING THE 6P PARADIGM

by Mary Ann R. Aquino, General Juan Castañeda Senior High School

Abstract

The objective of this study is to provide an inventory of the research productivity using a new 6P paradigm, research capability and the reasons for doing research of the public Senior High School teachers of the City School's Division of Imus City. Specifically, this study aims to answer the following research questions: (1) What is the profile of the respondents in terms of sex, position and educational attainment (2) What are their reasons for doing research, (3) What is the research productivity of the Senior High School teachers of the City School's Division of Imus, (4) What is the level of research capability of the senior high school teachers of the City School's Division of Imus, (5) What is the level of competency of the research related skills of the respondents (6) What significant difference exists in the research capability of the Senior High School teachers of the City School's Division of Imus when grouped according to sex, position and educational attainment, (7) What significant difference exists in the research productivity of the Senior High School teachers of the City School's Division of Imus when grouped according to sex, position and educational attainment? Quantitative descriptive method was employed to study the variables with the use of sets of questionnaires on the research capability and research productivity of the individual teacher researcher using the 6P Paradigm. Findings of the study have shown that among the senior high school teacher, the top rank reason for conducting research is that it is required for professional qualification followed by the reason that it is for professional requirement, for personal interest, it is required for academic and non-academic award and it is a part of their job description in decreasing order. Among the stages of the 6P paradigm of research, the initial stage which is to produce a research proposal has the highest percentage. It is noted that as the production of research progresses from the first stage to the fourth P, the percentage of productivity decreases. Among the 22 teachers who were able to produce a research proposal only 15 progresses to writing the full research. Further, only 10 out of the 15 who completed their research progresses to presenting their research result in a conference or seminar. From those who have presented their research in a conference or seminar, only an average of 8 teachers were able to have their research published in local journals. An average of 20 progresses to using result of research in formulating decisions and improving teaching- learning situation. Further 23 said that they were able to teach research and have provided assistance and supervision in research. The respondents assessed their competency in writing the different parts of a research as moderately competent as well as with other research related skills. It was noted that research productivity and capability among the senior high school teachers differ significantly across sex, position and educational attainment.

Keywords: Research Productivity, Research Capability, 6P Paradigm

Introduction

The improvement of the research landscape is not only a demand in the Higher Education institution but also in the basic education.

The Governance of Basic Education Act of 2001 (RA 9155) mandates that the Department of Education enact policies and mechanism through which the delivery of quality basic education maybe continuously improved. Chapter 1, Section 7(5) includes among the responsibilities of DepEd across all governance levels the undertaking of "educational research" that will serve as one of the bases for necessary reforms and policy development.

Likewise, one of the characteristic of the 21st century teachers is research oriented. Teaching is a research–based profession, it encourages research to be undertaken by the teachers themselves for the purpose of helping them to understand and refine their own practice (Navarro, 2014).

At this juncture it is very important to awaken research awareness and consciousness among teachers. Research consciousness is recognized as an essential factor in effecting innovations. Any changes in the structure of education, school programs, projects and activities, and in approaches and technique shall be first subjected to research because only research can provide factual bases of their effectiveness or ineffectiveness. In other words, all educational activities for total development are based on research (De la Cruz, 2016). Acknowledging therefore the important place which teachers deserve in the effectiveness and improvement of their respective schools, educators agree that the natural consequence is to empower them with research skill. Navarro (2014) stressed that teachers equipped with research skill, in partnership with their research colleagues may make a real contribution to the effectiveness and improvement of their practices and educational setting. Teacher as a researcher is a synonym for professionalism.

To empower the public school teachers with research skills, particularly the senior high school teachers, it is imperative that a study of their research capability and productivity be studied. This will serve as a guide in identifying the necessary areas in their research capability which need enhancement.

The objective of this study was to provide an inventory of the research productivity using a new 6P paradigm of research capability and the reasons for doing research of the public Senior High School teachers of the City School's Division of Imus City.

The 6P paradigm was an enhancement of the 5P research productivity paradigm of research model created by Inductivo (2015). It was enhanced by the researcher of this present study. From the 5 stages of the 5P paradigm created by Inductivo, an addition of another P was introduced in this study to create the 6P paradigm of research productivity.

The 6P paradigm measures the research productivity of the teacher respondents in six levels or stages. First P is the proposal stage, which is characterized by the ability of the teacher researcher to propose any kind of research containing the first three chapters and duly acknowledge by the research focal person of the school or division and or the school head.

The second P is the production stage. In this stage, the research papers have been completed containing the essential parts from chapters 1 to 5. Data gathered has been presented, interpreted and analyzed. Conclusions have been drawn and recommendations have been made. Further, if such research specifically intends to produce an output such as action plan, module or guide, all of these should also be completed.

In the 6P paradigm, completion of the research paper does not stop. Results must be presented. This is the third P which is the Presentation Stage. The researcher must be able to present the result of his findings to an audience. Presentation maybe in a form of oral or poster presentation in a research forum or conferences.

Publish, is the fourth P of the 6P Paradigm. The publication of a research increases the number of audience. Publication of the study maybe in a local journal such as the school's or division's journals as well as national or international journals.

Practice is the fifth P. It is the application of research findings in making decision or in improving the teaching-learning process as well as in the formulation of policies.

And lastly, providing professional or technical assistance is the sixth P of the 6P research productivity paradigm. This is characterized by one's ability to critically appraise a research article, have taught research or research related topics, have provided mentorship to other researchers and have provided formal supervision for other researchers.

Statement of the Problem

This study was undertaken to provide an inventory of the research productivity using a new 6P paradigm of research capability and the reasons for doing research of the public Senior High School teachers of the City School's Division of Imus.

Specifically, it sought to answer the following research questions:

1. What is the profile of the respondents in terms of sex, position and educational attainment?
2. What are the reasons of Senior High School teachers for doing research?
3. What is the research productivity of the of the senior high school teachers of the City School's Division of Imus?
4. What is the level of research capability of the senior high school teachers of the City School's Division of Imus?
5. What is the level of competency of the of the teacher respondents in terms of research related skills?
6. What significant difference exists in the research capability of the Senior High School teachers of the City School's Division of Imus when grouped according to:
    a. Sex
    b. Position
    c. Educational attainment

7. What significant difference exists in the research productivity of the Senior High School teachers of the City School's Division of Imus when grouped according to:

    d. Sex
    e. Position
    f. Educational attainment

Hypothesis

Pertaining to the questions of this study, the following hypotheses were put into test:

1. There is no significant difference in the research capability of the public Senior High School teachers when grouped according to their demographic profile.
2. There is no significant difference in the research productivity of the public Senior High School teachers when grouped according to their demographic profile

Methodology

A quantitative descriptive method was employed to study the reasons for doing research, the research productivity and level of research capability of the public Senior High School teachers with the use of sets of questionnaires.

The questionnaire was adapted from the study of Salom (2013) and was modified to suit the objective of the study. The modified questionnaire underwent an expert validation. Revisions were incorporated for the improvement of the instrument. After the validation of the instrument, test-retest method was conducted to 15 teachers who were not participants of the study. Further, factor analysis was performed to determine the underlying factorial structure of the scale. The internal consistencies of the scale were assessed through computing Cronbach's alpha. The computed reliability value was between 0.813-0.930 which implied that all of the items used for each component of the questionnaire have a high and consistent reliability value.

A total of 54 randomly selected public Senior High School teachers from the four standalone senior high school of the City School's Division of Imus were included in this study

Prior to the distribution of the questionnaires, a written communication was sent to the School's Division Superintendent for approval.

The questionnaires were distributed to the different School Heads and Teachers of the four standalone Senior High School of the Schools Division of Imus City, namely General Juan Castañeda Senior High School, General Flaviano Yengko SHS, General Pantaleon Garcia SHS, and Gov. Juanito Reyes Remulla SHS.

The questionnaires were retrieved; data were tabulated, analyzed and presented in tabular form.

The following descriptive measures were used using the Excel Analysis Tool Pack application:

1. Frequency count. This simple tool was used in tallying the items related to the profile of the respondents such a sex, position and educational attainment. This set of data provided the answer to problem 1 and 2.
2. Percentage. This was applied to establish a comparative value of an item in relation to the profile and research productivity of the respondents.
3. Weighted Mean. This was used to determine the level of research capability and competency of research related skills of the respondents which answered problems 4 and 5
4. T-test and ANOVA. These were utilized to answer Problem 6 and 7.
5. Ranking. This was utilized to determine the highest and the lowest frequency and percentage of the reasons of the respondents in conducting a research.

A five point Likert scale was used to recognize the degree of responses with the statistical limits corresponding to the descriptive equivalent on the different parts of the questionnaire.

On the reasons in conducting research, the following scale was used:

Weight Value	Statistical Limits	Descriptive Equivalent
5	4.5 - 5.0	Agree Much
4	3.5 - 4.49	Agree
3	2.5 - 3.49	Slightly Agree
2	1.5 - 2.49	Slightly Disagree
1	1 - 1.49	Disagree

On the level of competency in producing the different parts of research as well as research related skill, the following scale was used.

Weight Value	Statistical Limits	Descriptive Equivalent
5	4.5 - 5.0	Highly competent
4	3.5 - 4.49	Competent
3	2.5 - 3.49	Moderately Competent
2	1.5 - 2.49	Less Competent
1	1 - 1.49	Not Competent

Focus group discussion was employed to contextualize the analysis and interpretation of the data.

Results and Discussion

The Profile of the Respondents

The respondents were grouped according to gender, position and educational attainment. Below is table 1 that shows the distribution of respondents in term of sex, position and to educational attainment.

Table 1. Distribution of Respondents According to Sex, Position and Educational Attainment

Respondent's Profile	Count	Percentage (%)
1. Sex		
Male	25	46
Female	29	54
2. Position		
Teacher 1	9	17
Teacher 2	25	45
Teacher 3	10	19
Master Teacher 1	10	19
3. Educational Attainment		
Bachelor's Degree	6	11
With MA Units	29	54
MA Graduates	6	11
With Ph.D Units	4	7
Ph.D. Graduates	2	4
With Ed.D. Units	4	7
Ed.D. Graduate	3	6

As shown from table 1, the sample population composed of 29 or 54 % of female while the remaining 25 or 46% composed of male. The female teacher respondents is greater in number by 4 or 7%.

In terms of teaching position 25 or 45% of the respondents holds a Teacher 2 position, 10 or 19% were Master Teachers 1, same with Teacher 3 and the remaining 9 or 17% is composed of Teacher 1. Majority of the respondents have a Teacher 2 position while the position with the least count of population is Teacher 1.

When the respondents were grouped according to their educational attainment, the greatest population count of 29 or 54% is composed of teachers with Master's units, followed by 6 or 11% of teachers with Master's Degree and another 6 or 11% of those with no post graduate units. A population count of 4 or 8% of the teachers has Ph.D. units and another 4 or 8% with Ed. D units. Teachers with the highest educational attainment were Ed.D. graduates and Ph.D. graduates composed the 4 or 6% and 2 or 4% respectively.

Reasons of Senior High School Teachers in Conducting Research.

This part presents the reasons why the public senior high school teachers conduct research.

Table 2. Reasons of senior high school teachers in conducting a research

Reasons for conducting a research	Mean	Descriptive Level	Rank
1. Personal Interest	3.67	Agree	3
2. Professional requirement	4.15	Agree	2
3. Part of job description	3.62	Agree	5
4. Required for professional qualification	4.27	Agree	1
5. Required for academic /non-academic award or recognition	3.63	Agree	4
Average Mean	**3.87**	**Agree**	

As can be deduced from table 2, the top rank reason for conducting research is that it is required for professional qualification as proven by a computed mean of 4.27, followed by the reason that it is for professional requirement, for personal interest, it is required for academic and non-academic award and it is a part of their job description.

In an interview with some of the respondents, they mentioned that the ability to do research is a measure of one's educational as well as professional growth which supports the finding of the study.

The findings of the present study are different from the study conducted by Moghaddan, Hazanzadeh, & Ghayoori (2012) which states that the reasons for conducting research include the following: Getting promoted in scientific rank, feeling of being useful in society', and getting promoted in job.

The Research Productivity

Table.3 Research productivity of Senior High School teachers in terms of 6P paradigm

	No		Yes	
	Number	Percentage (%)	Number	Percentage (%)
1st P (Propose)	22	41	32	59
2nd P (Produce)	15	28	39	72
3rd P (Present)	10	19	44	81
4th P (Publish)	8	15	46	85
5th P (Practice)	10	19	44	81
6Th P (Professional Assistance)	23	43	31	57

Table 3 shows the productivity of the Senior High School teachers which was measured in terms of the 6P Paradigm.

The first stage of research productivity is the ability to propose a research. This is the first P in the 6P paradigm. Among the public Senior High School teacher respondents, 22 were able to propose a research or have a research in progress compared to the 32 who did not propose any research yet.

In a focused group discussion, it was noted that several reasons or factors hinders the teachers to conduct research, some of which are lack of time, it was quite difficult for them to focus on research; the bulk of their work load was more on instruction and on supervisory functions among the Master Teachers.

The second P of the 6P paradigm is characterized by being able to complete a research project, have been a principal investigator of a major research project and have collaborated on a research project with others. As can be deduced from table 1, out of 54 teacher respondents a number of 15 were able to complete their research compared to a number of 39 who were not able to complete their research or did not conduct any research.

Research presentation is the third P of the 6P paradigm in research production. This is the stage where the findings of a completed research are presented in a conference or seminar. Only 10 were able to present the research findings in a seminar or conference from the 15 who were able to complete a research.

Publish is the fourth P of the 5P paradigm of research production. It is characterized by being able to write a research report and have it published in a research journal or any other form of publication. Out of the 10 teacher researchers who have presented their research in conferences and seminar, only 8 were able to have their research published.

Using research findings in improving teaching learning, use of research findings in formulating decisions as well as its incorporation in policy making is the fifth P of the 6P. Ten (10) said that they have used the research findings in improving the teaching-learning scenario but said that their use of the research result in improving their teaching does not necessarily mean that such is a result of their own research. They may have used research result produced by other researchers.

The sixth P is the ability to provide professional assistance to other researchers. 23 of the 54 teacher respondents said that they can critically appraise a research article, taught research, provided mentorship to other researchers, and provided formal supervision for other researchers.

Among the stages of the 6P paradigm of research, the initial stage which is to produce a research proposal, has the highest percentage of production. It is noted that as the production of research progresses from the first P to the fourth P, the percentage of productivity decreases. Among the teacher respondents a number of 22 were able to produce a research proposal. Only 15 progressed to writing the full research. Further, only 10 progressed to presenting their research result in a conference or seminar. From those who have presented their research in a conference or seminar, only 8 were able to have their research published in a local journal. A number of 10 progressed to using result of research in formulating decisions and improving teaching- learning situation. This stage of the 6P paradigm of research production increased because it is inferred that other teacher respondent interpreted it as being able to use research findings of other researchers. Further

23 said that they were able to teach research and have provided assistance and supervision in research.

Research Capability.

This part presents the research capability of the Senior High School teachers in terms of writing the different parts of research and other research related skills.

Table 4. The level of research capability of public Senior High School teacher in terms of the different parts of research

Parts of Research	Mean	Descriptive Level
A. Introduction		
1. Writing an introduction	3.52	Competent
2. Creating Research Problem	3.54	Competent
3. Formulating Theoretical/conceptual paradigm	3.48	Moderately Competent
4. reviewing related literature	3.67	Competent
5. formulating hypothesis	3.5	Competent
6. Conceptualizing research literature	3.58	Competent
Mean Average	**3.55**	**Competent**
B. Methods		
1. Developing research design	3.29	Moderately Competent
2. Collecting data	3.75	Competent
3. Determining sample population	3.81	Competent
4. Coding and cleaning data entry	3.44	Moderately Competent
5. constructing questionnaire	3.37	Moderately Competent
6. Wording and ordering of questions	3.35	Moderately Competent
7. Treating data with statistical tool	3.4	Moderately Competent
Mean Average	**3.49**	**Moderately Competent**
C. Results and Discussion		
1. Presenting data gathered	3.77	Competent
2. Interpreting and analyzing results	3.73	Competent
3. Correlating literature to affirm results	3.63	Competent
Mean Average	**3.71**	**Competent**
D. Other Parts of Research		
1. Synthesizing results	3.63	Competent
2. Expressing additional value or importance to the existing facts	3.62	Competent
3. formulating to address the research problems and concerns	3.60	Competent
Mean Average	**3.61**	**Competent**
E. References		
1. Format of references/citation	3.48	Moderately Competent
Mean Average	**3.48**	**Moderately Competent**

The teacher respondents were competent in writing an introduction, creating research problem**,** formulating theoretical/conceptual paradigm**,** reviewing related literature**,** formulating hypothesis and **conceptualizing** research literature as proven by a computed mean average of 3.55.

The teacher respondents are moderately competent in developing research design, collecting data, determining sample population, coding and cleaning data entry, constructing questionnaire, wording and ordering of questions, and treating data with statistical tool, as proven by a computed mean average of 3.49.

In terms of presenting data gathered, interpreting and analyzing results, correlating literature to affirm results, an average mean of 3.71 was computed, which implies that the teacher respondents are competent in this area of producing a research.

Further, a mean average of 3.61 was computed in terms of the respondents' competency in synthesizing results, expressing additional value or importance to the existing facts and formulating to address the research problems and concerns. This implies that the teacher respondents are competent in synthesizing results, expressing additional value or importance to the existing facts and formulating to address the research problems and concerns.

The teacher respondents were moderately competent with the different format of referencing or citation as proven by a computed average mean of 3.48.

As a whole, the respondents assessed their competency in writing the different parts of a research as moderately competent with a computed mean rating of 3.48. This implies that the teachers shall pursue or undergo trainings and seminars that will enhance their capability in writing and producing the different parts of the research.

In a study conducted among the public Secondary School Teachers in the Division of Antipolis by Abarro and Mariño (2016) found out that the teachers are moderately capable of writing the different parts of a research proposal which is the same as the result of the present study.

Research Related Skills

Table 5. Level of competency in terms of research related skill of public Senior High School Teachers

Research Related Skills	Mean	Descriptive Level
Quantitative research design	3.54	Competent
Qualitative research design	3.38	Moderately Competent
Questionnaire design	3.46	Moderately Competent
Research management	3.35	Moderately Competent
Interview techniques	3.65	Competent
Focus group work	3.73	Competent
Literature searching	3.67	Competent
Understanding ethical implications of research	3.48	Moderately Competent
User Involvement in research	3.48	Moderately Competent
Qualitative data analysis	3.42	Moderately Competent
Quantitative data analysis	3.48	Moderately Competent
Writing for publication	3.42	Moderately Competent
Research presentations-poster	3.15	Moderately Competent
Research presentations- oral	3.33	Moderately Competent
Writing grant applications	3.1	Moderately Competent
Peer review skills	3.35	Moderately Competent
Critical appraisal skills	3.42	Moderately Competent
IT-Databases	3.29	Moderately Competent
IT-Word processing	3.58	Competent
IT-Spreadsheet	3.52	Competent
IT-Presentation software	3.52	Competent
IT Bibliographic software	3.15	Moderately Competent
IT-Statistical software	3.08	Moderately Competent
IT-Qualitative analysis	3.08	Moderately Competent
Mean Average	**3.40**	**Moderately Competent**

Table 5 presents the Level of competency in terms of research related skill of public senior high school teachers.

The teacher respondents assessed themselves as competent in Quantitative research design, Interview techniques, Focus group work, Literature searching, use of IT-Word processing, IT-Spread sheet, and IT-Presentation software.

On the other hand, they are moderately competent in the use of qualitative research design, designing the research questionnaire, managing the research, understanding ethical implications of research, user involvement in research, analyzing qualitatively and quantitatively the data, writing for publication, presenting research orally or through poster, writing grant applications, peer review skills, critically appraise other's work, and using IT-Databases.

Among the skills where the respondents are competent are IT-Statistical software and IT-Qualitative analysis as proven by a computed average mean of 3.08. A very similar

result is evident in a study conducted by De la Cruz (2016). It can be noted that the teachers are moderately competent in the use of statistical packages or software to analyze data i.e. SPSS.

As can be deduced from the results of the findings, majority of the respondents assessed their research related skills as moderately competent with a computed average mean of 3.40 which is the same result as the study conducted by Formaleza and Pateña (2013) in their study of Maritime faculty members in Lyceum International Maritime Academy which yielded a result of moderately competent in terms of technical aspect, doing major parts of research paper as well as other part of it.

This implies that the teacher respondents of the present study shall pursue or undergo trainings and seminars that will enhance their capability in research related skills.

Significant Difference in Research Productivity.

Table 6. T-test result of significant difference in terms of research productivity of public Senior High School Teachers when grouped according to sex

T-Value Computed Value	Critical Value	P-Value Computed Value	Level of Significance	Decision
5.704	2.015048	0.001156	0.05	Reject Null Hypothesis

T computed value of 5.704 is higher than the T critical value of 2.015048 at 0.05 level of significance. (see table 5). This means that the null hypothesis which states that, there is no significant difference in the research productivity of the public Senior High School teachers when grouped according to sex is rejected. This implies that the research productivity of female teachers is higher than the male teachers.

The result of the present study contradicts the study of Bailey (1992) as cited by Kotrlik, Bartlett, Higgins, & Williams (2012) which reported a higher level of research productivity by male faculty members. Other researchers have noted that female faculty members are lagging behind experienced male faculty members in research productivity.

Table 7. ANOVA result of significant difference in terms of research productivity of public Senior High School Teachers when grouped according to position

F-Value Computed Value	Critical Value	P-Value Computed Value	Level of Significance	Decision
5.579594	3.098391	0.006006	0.05	Reject Null Hypothesis

A computed F-test value of 5.579594 is higher than the critical value of 3.098391 at 0.05 level of significance. This means that the null hypothesis that, there is no significant difference in the research productivity of senior high school public teachers when grouped according to position is rejected. This implies that the research productivity of teachers across different positions significantly differs.

The result of the present study agrees with the findings of Dundar and Lewis (1998) as cited by Kotrlik, Bartlett, Higgins, & Williams (2012) that departments with higher ranked faculty had higher research productivity. Vasil (1992). As cited by Kotrlik, Bartlett, Higgins, & Williams (2012) reported that rank is a significant predictor of research productivity.

Table 8. ANOVA result of significant difference in terms of research productivity of senior high school public school teachers when grouped according to educational attainment

F-Value Computed Value	Critical Value	P-Value Computed Value	Level of Significance	Decision
16.12314	2.487366	1.08289×10^{-9}	0.05	Reject Null Hypothesis

A computed F-test value of 16.12314 is higher than the critical value of 1.08289E-09 at 0.05 level of significance. This means that the null hypothesis that, there is no significant difference in the research productivity of senior high school public teachers when grouped according to position is rejected. This implies that research productivity across teachers of different education attainment significantly differs.

Significant Difference in Research Capability.

The T-test was used to identify the significant difference of the research capability of the senior high school teachers when grouped according to sex while ANOVA was used to determine the significant difference in their research capability when grouped according to position and educational attainment.

Table 9. T-test result of significant difference in terms of research capability of senior high school public school teachers when grouped according to sex

T-Value Computed Value	Critical Value	P-Value Computed Value	Level of Significance	Decision
7.4919226	1.713871517	6.48706×10^{-8}	0.05	Reject Null Hypothesis

A computed T value of 7.491922619 is higher than the t-critical value of 1.713871517 @ 0.05 level of significance. This means that the null hypothesis which states that, there is no significant difference in the research capability of the teachers when grouped according to sex is rejected. This implies that the female teachers are more competent than the male teachers in doing research. The findings of the present study yielded a different result from that of Abarro and Mariño (2016) which concluded that there is no significant difference in the research capability of secondary public school teachers when grouped according to sex.

Table 10. ANOVA result of significant difference in terms of research capability of senior high school public school teachers when grouped according to position

F-Value Computed Value	Critical Value	P-Value Computed Value	Level of Significance	Decision
5.357004	2.703594	0.001912	0.05	Reject Null Hypothesis

On the other hand, a computed f-test value of 5.357004 is higher than the t-critical value of 2.703594 at 0.05 level of significance. This means that the null hypothesis which states that, there is no significant difference in the research capability of teachers when grouped according to position is rejected. This implies that research capability of teachers across different position significantly differs. The same result was found out by Abarro and Mariño (2016).

Table 11. ANOVA result of significant difference in terms of research capability of public Senior High School Teachers when grouped according to educational attainment

F-Value Computed Value	Critical Value	P-Value Computed Value	Level of Significance	Decision
93.767297	2.4674936	4×10^{-32}	0.05	Reject Null Hypothesis

Likewise, a computed f-test value of 93.767297 is higher than the t-critical value of 2.4674936 at 0.05 level of significance. This means that the null hypothesis which states that, there is no significant difference in the research capability of teachers when grouped according to educational attainment is rejected. This implies that research capability of teachers across different educational attainment significantly differs. The result of this study corroborates the findings of Salom (2013), in his study on the Research Capability of the Faculty Members of DMMSU that their academic rank, highest educational attainment, and teaching load affect their research capability. The same result was found out by Abarro and Mariño (2016).

Conclusions

After a careful analysis of the findings of the study, the following conclusions were drawn:

1. The top rank reason for conducting research is that it is required for professional qualification followed by the reason that it is for professional requirement, for personal interest, it is required for academic and non-academic award and it is a part of their job description, in decreasing order.
2. The production of research decreases from the **first P** (Proposal stage) to the **fourth P** (Publish), and increases from the **fifth P** (Practice) to **sixth P** (Professional Assistance).

3. The respondents assessed their competency in writing the different parts of a research as moderately competent as well as with other research related skills.

4. The research productivity and capability among the public Senior High School Teachers differ significantly across sex, position and educational attainment.

Recommendations

In line with the findings of the study, the following are recommended: Mechanisms or programs that will sustain teachers' motivation to engage in research must also be set in place. Incentivisation and recognition of excellent and high-impact research are among the possible options. Participatory and collaborative research may be adopted as a mechanism whereby other stakeholders also participate, or mentoring opportunities are created for novice teachers. In this way research can facilitate sharing or collaboration among teachers the fulfilling experience of doing research, (Morales, 2016). Chosen approaches or mechanisms may be formalized and initiated at the school level, extending to the national level, to pursue and develop Filipinos who are engaged citizens, and to achieve global standards.

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TRAINING NEEDS ANALYSIS OF TEACHERS IN GOV. JUANITO REYES REMULLA SENIOR HIGH SCHOOL

by Jocelyn C. Miñano, Feliz A. Tayao, Rafael R. Santos

Abstract

This action research was designed to determine the training needs of the teachers in Gov. Juanito Reyes Remulla Senior High School (GJRRSHS). A research instrument entitled Professional Development Needs Assessment was adapted from SoGoSurvey.comand was administered to 14 purposively chosen teachers of the said school. It was revealed that the participants felt that need for and preferred a practical training on conducting action research the most. They would want to have the training conducted outside the school at any date within the school year and with credible resource speakers who are experts in the field of action researches or trainers outside the school. Based on the findings, the researchers recommended that the school should provide an in-service training (INSET) on conducting action research to the teachers during the semestral break. Furthermore, it is recommended that the school should look for a training venue that would be conducive to hands-on training-workshop with invited credible speakers from outside the school. Gaps between the training needs and actual provision of training would be addressed by this study for it methodically analyzed the actual training preferences of the participants.

Keywords: training needs analysis, action research, training program

Context and Rationale

DepEd Order 32, s. 2011 - Policies and Guidelines on Training and Development (T&D) Programs and Activities states that; Training and Development (T&D) is the process by which an organization or institution provides professional development activities to enhance individuals with knowledge, skills, and attitudes to enable them to perform their functions effectively. Activities under this are trainings, seminars, workshops, conferences, scholarships, and job-embedded learning. Conduct of these activities shall involve a systematic process of competence/needs assessment, planning, designing, resource development and the actual delivery of the programs. More so, professional T&D activities shall be integrated in the existing education development plans prepared at various levels. For the school, the School Heads shall integrate the Schools Improvement Plan (SIP) in the School Plan for Professional Development (SPPD). Thus, the conduct of T&D activities in relation to ensuring organizational effectiveness, efficiency and maintaining systems or enabling environment shall be shared by the various levels.

Senior High School is still in the process of trying out new possibilities, since it is in its second-year of nationwide implementation. Hence, it is a challenge among school heads and subject group heads to know what necessary additional training topics should be

given to teachers throughout the school year. As such there should be organized learning topics to increase school card productivity, in the same manner this would give a professional development among teachers and do their best in their teaching and other related task assigned to them (Yakovleva & Yakovlev, 2014).

With this, the objective of this study is to address the said problem – understanding the training needs of teachers of Governor Juanito Reyes Remulla Senior High School (GJRRSHS) and making a quality program that will increase their performance and that of the school in general.

Literature Review

Armstrong (2012) clearly defined what a training need is; an on-going management process for generating and analyzing information about performance in an organization to make better and informed decisions about where and when to use training. It exists where there was a gap between an individual's knowledge and skills for task execution and satisfactory task performance. In general, the identifying training needs step is recognized as one of the most important steps in training. This first step in training process is primarily conducted to determine where training is needed, what needs to be taught, and who needs to be trained. Thus, without this step, there can be no solid prognosis to diagnose if the whole training process was correctly designed (Anderson, 1994, Bowman and Wilson, 2008, Goldstein 1993).

In general, training needs analysis models can be grouped into two major categories: the organization-task-person analysis framework (referred to as the McGehee and Thayer's three-level `O-T-P' model in this research) and Mager and Pipe's "Performance Analysis Model". The former is more popular among academicians, and many models developed by them are based on this foundation. The latter is popular among practitioners, and gaps between expected and current performance are considered as needs for training. Furthermore, these two theoretical models of TNA have dominated the training literature for over three decades. According to Ghufli (2012), within the O-T-P model, decisions being determined as result of integrating macro through to micro analyses, arising from an investigation of training needs to meet organizational needs, task or job needs, through to the needs of the individual or person. On this study, the former has been adapted considerably.

Hence, these literatures in training needs shows how important it is to have an analysis for the better application of management strategies and increase productivity in the organization. In the same manner, this would escalate the culture of shared decision making among the administration and the teachers.

Innovation, Intervention, and Strategy

The use of school-based training need analysis would help the authors determine what training needs do the teachers still want to take for them to have increase productivity at the same time to increase their chances to professional development. The diagram below shows the framework of this study.

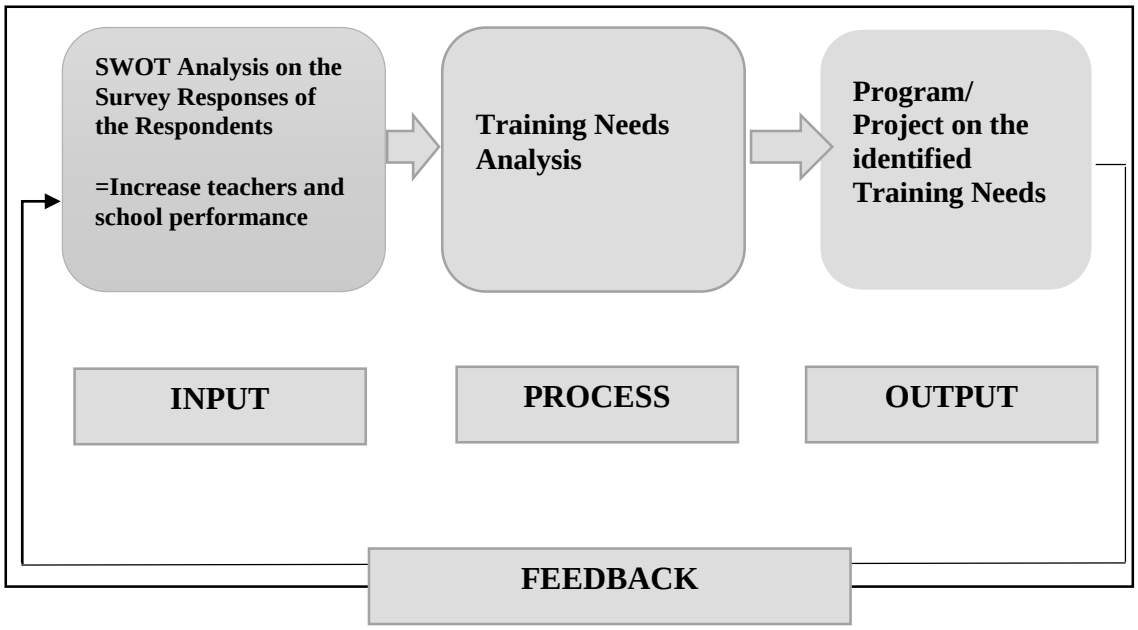

Figure1. Research Paradigm

Through this study, the school can design a training program that will satisfy the teachers' preferences in terms of the topics and activities to be given, the mode or strategies, the venue, and resource speakers for the training.

Research Questions

This study attempted to design programs and projects to address the defined training needs of teachers that could be added up to school improvement plan.

Specifically, the authors sought to answer the following questions:

1. What are the training topics most preferred by the selected teachers?

2. What is their preferred mode of delivery, location, and schedule?

3. Who is their preferred training provider?

4. Based on the findings, what project/program could be developed to address the training need?

Scope and Limitation

This study focused on the preference of the participants for training in terms of the topics, mode of delivery, venue, schedule, and trainers. The participants were limited to the teachers of GJRRSHS during the Second Semester of S.Y. 2016-2017, excluding the researchers. No other research instrument was used aside from the Professional Development Needs Assessment was adapted from SoGoSurvey.com.

Methodology

The study was an action research with the use of quantitative design in the interpretation of the data. Categorically, it is used to determine the training needs of teachers of Gov. Juanito Reyes Remulla Senior High School and address them correspondingly with appropriate program or project.

Participants

The participants of this study were selected accordingly through a purposive sampling. The determination of their involvement was achieved through their immediate response to the survey. There was a total of 26 teaching personnel who were possible respondents to answer the online survey questionnaire but only 14 responded on time.

Data Gathering

To gather data for the study, the researchers made use of online platform – the SoGoSurvey.com. Survey forms were distributed to the respondents electronically and had scheduled date to accomplish it. Accordingly, the survey questionnaire was made up of 5 questions with sub-categories wherein the respondents would facilitate the answer to 5 as the most preferred and 1 as the least preferred. The training needs analysis question included; first, training topics that were of interest/benefit their current teaching assignment, categorized as Content - Subject Specific, Effective Teaching Practices, Discipline Management, Assessment, Infusion of Technology into Teaching, Personal Professional Development (Time Management, Stress Reduction), Parent Communication/Conferencing, Differentiated Instruction, Using Data to Drive Instruction, Thinking Maps, Conduct of Action Research, Classroom Management, Group Dynamics-Working on Teams, Leadership Development , Curriculum Integration, and Conflict Resolution. Second, preference in delivery format of presentations whether Instructor Led, Active Hands-on Participation, Book Study Groups, Independent Action Research or Job Embedded (LAC Session). Third, preference in location of professional development presentations whether at GEANHS Hall/ Imus Pilot Hall, School Classroom or Off-site but within Cavite Area. Fourth, preference in offering of professional development presentations whether during School Calendar Days before first day for student, scheduled during the school year, or scheduled LAC Session of the department. Fifth, preference in who should deliver/provide professional development presentations whether it would be by Teachers/Co-Workers, Administrators/Supervisors, Training Specialists or by Outside Department of Education (DepEd) Teachers/Consultants. Results on this platform were

presented through weighted score. Accordingly, the highest weighted score determined the training needs of the selected teachers.

To attain the main objective of the study, proper procedural steps were also undertaken. The first step was the delivery of online correspondence of informed consent among the teachers of GJRRSHS. The second step was the arrangement of Training Needs Analysis (TNA) survey questionnaire to the online platform SoGoSurvey.com. The third step was the electronic distribution of survey questionnaire to the respondents and collection of report from the said online platform. Lastly, the fourth step was the data analysis for proper interpretation of results. Descriptive statistics such as weighted mean scores were used for the interpretation of results.

Discussion of Results and Reflection

The gathered data and interpretations provide answers to the statement of the problems. Accordingly, the researchers analyzed the results and reflected on the following:

Table1. The Training Needs/Topics of the Selected Teachers

TRAINING TOPICS	WEIGHTED MEAN SCORE	INTERPRETATION
1.Content-Subject Specific	3.69	Preferred
2.Effective Teaching Practices	4.21	Preferred
3.Discipline Management	3.92	Preferred
4.Assessment	3.79	Preferred
5.Infusion of Technology into Teaching	3.71	Preferred
6.Personal Professional Development (Time Management, Stress Reduction)	3.93	Preferred
7.Parent Communication/ Conferencing	3.54	Preferred
8. Differentiated Instruction	3.71	Preferred
9.Using Data to Drive Instruction	3.62	Preferred
10.Thinking Maps	3.71	Preferred
11. Conduct of Action Research	4.46	**Most Preferred**
12.Classroom Management	3.92	Preferred
13.Group Dynamics (Working in Teams)	4.00	Preferred
14.Leadership Development	4.07	Preferred
15.Curriculum Integration	4.29	Preferred
16.Conflict Resolution	4.08	Preferred

There were 16 major training topics that have been presented to the participants. Correspondingly, the top training topic as their most preferred to have is the Conduct of Action Research which has a weighted mean of 4.46, followed by Curriculum Integration with 4.29 and Effective Teaching Practices with 4.21.

Table 2. a. Preferred Mode of Delivery

DELIVERY OF PRESENTATION	WEIGHTED MEAN SCORE	INTERPREATION
1.Instructor Led	3.71	Preferred
2.Active Hands-on Participation	4.50	**Most Preferred**
3. Book Study Groups	3.62	Preferred
4.Independent Action Research	3.75	Preferred
5.Job Embedded (LAC Session)	4.00	Preferred

For the mode of delivery of the training topics their most preferred is on Active Hand-on Participation with weighted mean of 4.50.

Table 2. b. Preferred Location of the Training (if ever)

LOCATION	WEIGHTED MEAN SCORE	INTERPRETATION
1.GEANHS Hall/Imus Pilot Hall	2.92	Moderately Preferred
2.Faculty Room	3.77	Preferred
3.Off-site (within Cavite Area)	4.21	Preferred

As of the location where to conduct the training the teachers considered an off-site location but within Cavite area.

Table 2. c. Preferred Schedule

SCHEDULE	WEIGHTED MEAN SCORE	INTERPREATION
1. Before 1st day of students	3.69	Preferred
2. Scheduled within the school year	3.92	Preferred
3. Job-Embedded / Department LAC Session Schedule	3.75	Preferred

For the execution of the training teachers seemed to agree on any of the given scheduled date within the school year.

Table 3. Preferred Training Provider

WHO SHOULD PROVIDE/DELIVER	WEIGHTED MEAN SCORE	INTERPRETATION
1.Teachers/Co-workers	3.54	Preferred
2.Administrators/Supervisors	4.15	Preferred
3.Training Specialists	4.64	Most Preferred
4. Outside Consultants/Outside Teachers	4.50	Most Preferred

Hence, the teachers most preferred training provider would be training specialists (4.64) or outside consultants or teachers from other schools (4.50).

Based on the results of the training needs analysis it can be categorically concluded that teachers of Gov. Juanito Reyes Remulla Senior High School should be given a program or project directed towards the attainment of their defined training need- the Conduct of Action Research.

The effective and the right TNA approaches adopted by the researchers are expected to improve the performance of their teachers which will ultimately lead to improve their teaching skills performance. The results of the study also may assist organization in preparing a more comprehensive and focus Annual Training Plan (ATP) which can be included in the School Improvement Plan (SIP) and in the School Plan for Professional Development (SPPD).

Moreover, it is noted that teachers most preferred to have an active hands-on participation on the training topic and agreed an off-site location but within Cavite area or to have it in their faculty room. Consequently, for the conduct of the training the teachers would want any scheduled date within the school year. This is so because it justifies their chosen topic that can be embedded during the school year. More so, as for the training provider, it would be best for them to be given by training specialists or from an outside consultant or a teacher from a different district or higher level. This may be so because their chosen training topic is complex and the fact that most of the teachers are new in the department.

Therefore, these findings of the training needs analysis of the teachers of Gov. Juanito Reyes Remulla can seemingly suggest the following:

1. The chosen topic of the teachers may suggest that they have queries on the system or curriculum and that they are encouraged to solve such problems through action research.

2. The teachers value their time in teaching. They seem to be critical to scheduling of trainings.

3. Most likely teachers acknowledged more the value of their training given by qualified person-in-charge and not just their colleague. This would simply suggest that they value credibility and the impact that the training session would give them.

4. Among the limitations was respondents' knowledge in TNA concepts play a major influence in determining the reliability of the findings. The survey instruments utilized in this assessment were based on self-report measures, which mean information presented by respondents was relying upon their subjective perceptions. Another limitation was finding previous research conducted in Cavite as a reference. Most of the previous research in TNA was conducted in the foreign countries.

Action Plan

It is significant therefore that the following action plan should be promulgate accordingly within the school year to achieve the purpose of the study

PROGRAMS/ PROJECTS	OBJECTIVES	ACTIVITIES/ STRATEGIES	PERSONS INVOLVED	TARGET PARTICI-PANTS	TIME FRAME	SOURCE(S) OF FUND	EXPECTED OUTPUT/ OUTCOME
A. Dissemination of Research Results							
Research Generation/ submission Research Presentation	Disseminate the results of the research for possible adaption/ implementation	Submission of full paper to school head Endorsement to SDO and other offices Presentation in research conference	Researchers School Head Researchers	Educators	Sept 2017 Dec 2017	Researcher's own	Full paper Dissemina-ted/ presen-ted research
B. In-Service Training							
Planning for INSET	Devise a training proposal for an INSET on Conducting Action Research	Form TWG for the INSET Assign Committee Chairs and Members Invite Trainers/ Speakers Identify training venues	Researchers SGH Researchers SGH	GJRRSHS Teachers	Sept 2017	MOOE Canteen	Training Proposal Confirmation from invited resource speakers and

PROGRAMS/ PROJECTS	OBJECTIVES	ACTIVITIES/ STRATEGIES	PERSONS INVOLVED	TARGET PARTICI-PANTS	TIME FRAME	SOURCE(S) OF FUND	EXPECTED OUTPUT/ OUTCOME
Conduct of INSET	Capacitate teachers in action research writing	Hand-on Training-Workshop	TWG/Commit-tee chairs and members TWG/Commit-tees Resource Speakers	GJRRSHS Teachers	Oct 2017	MOOE Canteen	identified venue Documen-tation of the INSET Research Proposals
C. Technical Assistance on Conducting Action Research							
Mentoring Teacher-Researchers	Create a culture of research among teachers	Giving of technical assistance to teachers who are currently writing action research Providing feedbacks on the research submitted by the teachers Collaboration between research mentors and newbies	Experienced Researchers	GJRRSHS Teachers	October 2017 to March 2018	None required	Full research papers Teachers that are motivated and skilled to conduct more research

PROGRAMS/ PROJECTS	OBJECTIVES	ACTIVITIES/ STRATEGIES	PERSONS INVOLVED	TARGET PARTICI-PANTS	TIME FRAME	SOURCE(S) OF FUND	EXPECTED OUTPUT/ OUTCOME
D. School-Based Research Conference							
GJRRSHS Research Conference "Every Teacher A Researcher"	Provide an avenue for the researchers to disseminate the results of their research Prepare teachers for higher level research presentations	Research conference where all teachers who had finished their research will have opportunities to orally present them.	TWG/ Committees SGH School Head	GJRRSHS Teachers	March or April 2018	MOOE Canteen Fund	Documen-tation of the activity Dissemina-ted research results through oral presenta-tions
E. Evaluation of the Program							
Program Evaluation	Determine if the program met the objectives and expectations outputs	Training Evaluation from the participants Checklist	Researchers	GJRRSHS Teachers	April 2018	Researcher' Own	Accomplish ment Report

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SCHOOL PRINCIPALS' PROFILE AND PUBLIC ELEMENTARY SCHOOLS PERFORMANCE IN THE SCHOOLS DIVISION OFFICE OF IMUS CITY

by Gregorio A. Co Jr., Matea-Alvyn H. Trinidad and Jenielyn A. Sadang, SDO Imus City

Abstract

The widely quoted biblical verse "*By their fruits, ye shall know them*" aptly relates to school leadership. The quality of education delivered to students is dependent on how learning process is managed in the schools. A systematic review conducted by Osborne-Lampkin, Folsom, and Herrington (2015) that examined 52 empirical studies published between 2001 and 2012 on the relationships between principal characteristics and student achievement in the United States showed some interesting results. One of which was in general, principal precursors (such as principals' experience and educational attainment) and student achievement had positive relationship. They claimed, however, that principal preparation programs, also a precursor, provided mixed results.

This study sought to establish if the school principals' demographic profile has a relationship on schools' performance in the Schools Division Office of Imus City.

Results revealed that majority of the school principals are female (78.57%), had bachelor degree with units in MA (71.43%) and had been promoted as principal prior to the administration of the National Qualifying Examination for School Heads (NQESH) (50.00%). Twelve (85.71%) schools recorded a decrease of dropout rate from SY 2013 – 2014 and SY 2014 – 2015 and all of the fourteen (14) schools studied were way below the national standard of 75% Mean Percentage Score (MPS) in the National Achievement Test (NAT).

The school principals' demographic profile namely sex, educational attainment and qualification, were not related to school performance in terms of dropout rate and result of the NAT.

Keywords: School Principal, Demographic Profile, Performance, Dropout, Achievement

Introduction

The widely quoted biblical verse "*By their fruits, ye shall know them*" aptly relates to school leadership. The quality of education delivered to students is dependent on how learning process is managed in the schools. Although there were tons of other factors that could be associated to quality of education delivered, the role of school principals, who hold the scepter of leadership and management in the school, is seen to have the greatest impact. This fact is accentuated by Arne Duncan, U.S Secretary of Education, when he said, *"There are no good schools without good school principals." (NAESP, 2010)*

The crucial role of principal as school leader and manager was also given emphasis in the Philippines. In Republic Act 9155, otherwise known as Governance of Basic Education Act of 2001, clearly stipulated that school heads have the accountability and responsibility *"…for higher learning outcomes."*

Muring (2014), an elementary school principal, also believed that the key leaders in the education system are the school principals. He made clear that every aspect of school operation, school principals are involved. To him, development and implementation of programs and projects that pertains to education are responsibilities of the principal.

The reiteration of the crucial roles held by school principals were viewed to have great impact on the overall performance of the school. As implementers of various programs and projects of the Department of Education at the grass roots, school principals were enjoined, as stated in DepEd's mandate, to provide *"for the establishment and maintenance of a complete, adequate, and integrated system of basic education relevant to the goals of national developments."* The emphasis given on how school principals affect the overall outcome of education merited the conduct of this study. Hence, it is noteworthy to study the school principals' demographic profile and its relationship on school performance.

Brief Review of Related Literature

The succeeding paragraphs presented and discussed related literatures to the study. These are taken from books, journals, dissertations, and electronic journals and/or books. Behbahani (2011) pointed out that the start of change in the field of education should start from education management. To prove his claim, he conducted literature review of the works of various education authors and researchers. The results of his study showed that if knowledge, attitude and job conduct of school principals of schools and managers of educational units is not rooted from their specialized and professional knowledge needed to take the position, they could turn into a barrier in the improvement and renovation of educational system.

Like the claim above, Cruz et al. (2016) also believed that schools, like any other organizations, could perform and deliver its functions when there is strong leadership and management. They emphasized that to keep a school going, school heads being the leader and manager must set the direction. School heads, they said, are responsible for the overall operation of the school.

Horng and Loeb (2010) also had a firm belief that schools demonstrating growth in student achievement are more likely to have school principals who are strong organizational managers. They added that strong instructional leadership is essential for a school to be successful. On the studies they conducted, they found that growth in valued school outcomes come more from organizational management for instructional improvement than from school principals' time observing classrooms or directly coaching teachers. They concluded that school leaders influence classroom teaching, and consequently student learning, by staffing schools with highly effective teachers and

supporting those teachers with effective teaching and learning environments, rather than by focusing too narrowly on their own contributions to classroom instruction.

A systematic review conducted by Osborne-Lampkin, Folsom, and Herrington (2015) that examined 52 empirical studies published between 2001 and 2012 on the relationships between principal characteristics and student achievement in the United States showed some interesting results. One of which was in general, principal precursors (such as school principals' experience and educational attainment) and student achievement had positive relationship. They claimed, however, that principal preparation programs, also a precursor, provided mixed results. However, they cited the work of Knoeppel and Rinehart (2007) which also found that experience in education, when analyzed with other variables, was not associated with student achievement.

Furthermore, Osborne-Lampkin, Folsom, and Herrington (2015) cited results of the other studies they reviewed on the effect of a principal's years of experience as a teacher on improving student achievement (Clark, et al., 2009 and Vanderhaar, et al., 2006) was found that the number of years of teaching experience was not associated with student achievement but in contrast, achievement was higher among students whose school principals were in the middle of their careers.

The studies they reviewed showed that students whose principal had nine (9) to seventeen (17) years of teaching experience had higher achievement than students whose principal had less than nine (9) years or more than seventeen (17) years of experience. They concluded that this finding suggested a relationship between a specific range of teaching experience (9–17 years) and student achievement.

In a correlational study on leadership effectiveness and student achievement conducted by Feyisa, Ferede and Amsale (2016) showed that there was no significant correlation between a school principal's leadership effectiveness and students' academic achievement. They claimed that this implied that there was no direct relationship between school leadership and students' academic achievement. They also added that the findings suggest that the relationship between school principals' level of education, service year, and leadership effectiveness was not direct.

The reviewed literatures clearly illustrated that school principals' leadership, management, competence and skills had to some extent influence students' achievement. But unlike these reviewed literatures, this study focused on some demographic profiles of school principals and its relationship to school performance as measured by dropout rate and the result of National Achievement Test (NAT).

Research Questions

This study sought to establish if the school principals' demographic profile has a relationship with the public elementary schools' performance in the Schools Division Office of Imus City. Specifically, the study attempted to answer the following questions:

1. What are the demographic characteristics of the respondents in terms of the following:
    1.1. sex;
    1.2. educational attainment;

1.3. school principalship training/ qualification; and
1.4. length of service

2. What is the school population for the last two (2) school years, 2013-2014 and 2014-2015?

3. What is the NAT-national passing percentage?

4. What is the national dropout rate for the last school year 2016-2017?Is there a significant relationship between the school principals' demographic profile and the performance of the public elementary schools in terms of:

5.1 school population
5.2 result of the National Achievement Test
5.3 Dropout rate?

Hypotheses of the Study

1. There is no significant relationship between the sex of the school principals and the performance of the public elementary schools in terms of population.

2. There is no significant relationship between the educational attainment of the school principals and the performance of the public elementary schools in terms of population.

3. There is no significant relationship between the school principalship training/qualification of the school principals and the performance of the public elementary schools in terms of population.

4. There is no significant relationship between the demographic profile of the school principals and the performance of the public elementary schools.

5. There is no significant relationship between the sex of the school principals and the performance of the public elementary schools in terms of the result of National Achievement Test.

6. There is no significant relationship between the educational attainment of the school principals and the performance of the public elementary schools in terms of the result of National Achievement Test.

7. There is no significant relationship between the school principalship training/qualification of the school principals and the performance of the public elementary schools in terms of the result of National Achievement Test

8. There is no significant relationship between the demographic profile of the school principal and the result of the National Achievement Test.

9. There is no significant relationship between the sex of the school principals and the performance of the public elementary schools in terms of dropout rate.

10. There is no significant relationship between the educational attainment of the school principals and the performance of the schools in terms of dropout rate.

11. There is no significant relationship between the qualification of the school principals and the performance of the schools in terms of dropout rate.

12. There is no significant relationship between the length of service of the school principals and the performance of the public elementary schools in terms of dropout rate.

Scope and Limitations

The study is limited to school principals who served for two consecutive school years, 2013 to 2014 and 2014 to 2015 respectively. Of the total 26 public elementary schools only 14 or 53.85% were interpreted and considered as the participants of the study.

Methodology

This study is a descriptive study. Descriptive study is used to obtain information concerning the status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation.

The study employed documentary analysis and interview as method of gathering data. Relevant records filed at the Office of the Planning and Research Section of the Schools Division Office of Imus City were requested and analyzed. Permission was obtained from the Schools Division Superintendent to access these records.

The records that were requested for analysis belong to the twenty-six (26) public elementary schools of the Schools Division Office of Imus City. The data that were obtained include demographic profiles of the school principals and performance indicators of public elementary schools such as enrolment, number of drop outs and result of NAT. The data covered two (2) school years from 2013 to 2014 and 2014 to 2015

The proponents sent letter of request to school principals for a possible meeting and scheduled the interview to obtain updates of their other demographic profiles not captured by the available data.

The interview conducted in a relax and informal manner, wherein the participants were asked to confirm or supply information regarding their educational attainment, school principalship training/ qualification and length of service.

The answers given by the participants were tabulated, consolidated and were used as data of participants.

From the records of the twenty-six (26) public elementary schools that were analyzed, only the data of schools whose principal served for two consecutive school years from 2013 to 2014 and 2014 to 2015 were interpreted. This left the researchers with 14 or 53.85% of the total twenty-six (26) public elementary schools. The 14 school principals who served in these schools were the participants of the study.

The data were interpreted using descriptive measures such as frequency count, relative frequency in percent and mean. The hypotheses were tested using the non-parametric test analogous to ANOVA, the Kruskal-Wallis H Test.

Results and Discussion

The succeeding tables and paragraphs present the results of the study. Each table is accompanied by its corresponding analysis.

1. Demographic Profile of the School principals

1.1. Sex

Table 1. Sex of the Participants

Sex	Frequency	Percentage
Male	3	21.43
Female	11	78.57
Total	**14**	**100.00%**

Table 1 reveals that 3 or 21.43% are male and 11 or 78.57% are female. This is a clear indication that school leadership in the Schools Division Office of Imus City was dominated by female school principals.

Hausmann et al. (2012) reported that the Philippines remained the highest-ranking country from Asia in the Global Gender Gap Index 2012. They reported that Philippines ranked first on both education and health and is also among the top 20 on economic participation and political empowerment. They added that the Philippines was the only country in Asia, on the date the report was released in 2012, to have closed the gender gap in both education and health.

1.2. Educational Attainment

Table 2 shows the distribution of the participants in terms of their educational attainment.

Table 2. Educational Attainment of the Participants

Educational Attainment	Frequency	Percentage
Bachelor Degree with Units in MA	10	71.43
Graduate of MA	2	14.29
MA with Units in PhD/EdD	1	7.14
Graduate of PhD/EdD	1	7.14
Total	**14**	**100.00%**

It is shown in Table 2 that majority of the participants had educational attainment of a bachelor degree with units in MA, 10 or 71.43%. Two or 14.29% of the participants are graduates of MA and only one or 7.14% had attained MA with units in PhD/EdD or graduate of PhD/EdD.

Unlike the result of the current study, the findings that were obtained by Guiab and Ganal (2014) on their study of the demographic profile of public school heads and school related problems found that majority or 55% of public elementary school principals in Alicia, Isabela were MA graduates.

1.3. Qualification

Table 3 shows the distribution of the participants in terms of their qualification. The qualification mentioned here refers to the school principals' test administered by DepEd, the National Qualifying Examination for School Heads (NQESH).

Table 3. Qualification of the Participants

Qualification	Frequency	Percent
Promoted as Principal prior to NQESH	7	50.00
NQESH Passer	6	42.86
Not NQESH Passer	1	7.14
Total	**14**	**100.00%**

Revealed in Table 3 is that 7 or 50.00% of the participants were promoted as principal prior to the administration of NQESH, 6 or 42.86% of the participants were passer of NQESH while one or 7.14% was not passer of the said examination but was acting as principal.

As stipulated in DepEd Memorandum No. 143, s. 2011, this examination shall serve as mechanism for selecting competent school heads in the public basic education sector.

2. Performance of Schools

2.1 Dropout Rate

Table 4 shows the performance of the schools in terms of dropout rate.

Table 4. Dropout Rate

School	Dropout Rate		Difference
	SY 2013 – 2014	SY 2014 – 2015	
1	3.83%	2.78%	-1.05%
2	6.37%	3.89%	-2.48%
3	5.45%	3.16%	-2.29%
4	5.69%	3.02%	-2.67%
5	6.50%	3.39%	-3.11%
6	3.98%	2.58%	-1.40%
7	4.16%	4.60%	0.44%
8	5.43%	2.93%	-2.50%
9	2.87%	2.30%	-0.57%
10	3.83%	3.10%	-0.73%
11	3.33%	2.29%	-1.04%
12	9.22%	8.57%	-0.64%
13	7.50%	3.49%	-4.01%
14	6.13%	6.51%	0.38%

Shown in Table 4 is the performance of the 14 public elementary schools in the Schools Division Office of Imus City. It can be seen from the table that 12 of the 14 schools or 85.71% recorded a decrease in dropout rate from SY 2013 – 2014 to SY 2014 – 2015.School Number 13 registered the greatest decrease in dropout rate with 4.01% while school I with 0.57% had the least. School Numbers 7and14 were the only schools with increased dropout rates with 0.44% and 0.38% increase, respectively.

Using DepEd data, Amoroso and Bajo (2014) reported that the elementary dropout rate never got past the 6% level since 2008. They added that from 5.99% in school year 2007 – 2008, the dropout rate went up gradually until it reached 6.81% in school year 2012 – 2013. On the average, this reported figure was way above the case of public elementary schools in Imus City.

2.2.National Achievement Test

Table 5 below shows the performance of the schools in terms of the result of the National Achievement Test (NAT).

Table 5. National Achievement Test

School	School MPS in NAT for SY 2014 – 2015	Difference from the National Standard (75.00)
1	66.44	8.56
2	49.94	25.06
3	44.42	30.58
4	57.00	18.00
5	48.29	26.71
6	41.78	33.22
7	46.13	28.87
8	50.41	24.59
9	49.45	25.55
10	52.52	22.48
11	46.92	28.08
12	46.99	28.01
13	48.69	26.31
14	52.62	22.38

As reflected in Table 5, fourteen (14) out of the 26 public elementary schools in the Schools Division Office of Imus City were all below the national standard of 75.00% Mean Percentage Score (MPS). School Number 1 had the closest MPS difference to the national standard with 8.56 and followed by school number 4 with 18.00. On the other hand, school numbers 3 and 6 had the greatest difference from the national standard at 30.58 and 33.22, respectively.

3. Relationship between the School Principals' Demographic Profile and the Performance of the Schools

3.1. Sex and Dropout Rate

Table 6. Result of Kruskal-Wallis H Test for Sex and Dropout Rate

Sex	N	Mean Rank	df	Kruskal-Wallis H	*p* Value
Male	3	6.67	1	0.152	0.697
Female	11	7.73			

The null hypothesis which states that "***There is no significant relationship between the sex of the school principals and the performance of the schools in terms of dropout rate***" was tested using Kruskal-Wallis H Test at 0.05 level of significance. In Table 6, the test showed that that there was no significant relationship between the sex of the school principals and the performance of the schools in terms of dropout rate, H (1) = 0.152, p = 0.697, with a mean rank dropout rate of 6.67 for male and 7.73 for female. This result showed that sex of school principals and performance of schools in terms of dropout rate were not related. This indicates that efforts of the schools in reducing dropouts are not directly affected by the school principals' sex.

3.2. Educational Attainment and Dropout Rate

Table 7. Result of Kruskal-Wallis H Test for Educational Attainment and Dropout Rate

Educational Attainment	N	Mean Rank	df	Kruskal-Wallis H	*p* Value
Bachelor Degree with Units in MA	10	6.10	3	4.006	0.261
Graduate of MA	2	11.50			
MA with Units in PhD/EdD	1	11.00			
Graduate of PhD/EdD	1	10.00			

The null hypothesis which states that "***There is no significant relationship between the educational attainment of the school principals and the performance of the schools in terms of dropout rate***" was tested using Kruskal-Wallis H Test at 0.05 level of significance. In Table 7, the test revealed that there was no significant relationship between the educational attainment of the school principals and the performance of the schools in terms of dropout rate, H (3) = 4.006, p = 0.261, with a mean rank dropout rate of 6.10 for the school principals whose educational attainment is bachelor degree with units in MA, 11.50 for graduates of MA, 11.00 for MA with units in PhD/EdD and 10.00 for graduates of PhD/EdD. This showed that educational attainment of school principals and performance of schools in terms of dropout rate were not related. This indicates that efforts of the schools in reducing dropouts are not directly affected by the school principals' educational attainment.

3.3. Qualification and Dropout Rate

Table 8. Result of Kruskal-Wallis H Test for Educational Attainment and Dropout Rate

Qualification	N	Mean Rank	df	Kruskal-Wallis H	*p* Value
Promoted as Principal prior to NQESH	7	7.86	2	1.094	0.579
NQESH Passer	6	6.50			
Not NQESH Passer	1	11.00			

The null hypothesis which states that ***"There is no significant relationship between the qualification of the school principals and the performance of the schools in terms of dropout rate"*** was tested using Kruskal-Wallis H Test at 0.05 level of significance. In Table 8, the test revealed that there was no significant relationship between the qualification of the school principals and the performance of the schools in terms of dropout rate, H (2) = 1.094, p = 0.579, with a mean rank dropout rate of 7.86 for the school principals who were promoted as principal prior to NQESH, 6.50 for the school principals

who were passers of NQESH and 11.00 for school principals who were not passer of NQESH but acting as principal. This showed that qualification of school principals and performance of schools in terms of dropout rate were not related. This indicates that efforts of the schools in reducing dropouts are not directly affected by the school principals' qualification.

3.4. Sex and Result of National Achievement Test

Table 9. Result of Kruskal-Wallis H Test for Sex and Result of National Achievement Test

Sex	N	Mean Rank	df	Kruskal-Wallis H	*p* Value
Male	3	7.33	1	0.006	0.938
Female	11	7.55			

The null hypothesis which states that "***There is no significant relationship between the sex of the school principals and the performance of the schools in terms of the result of National Achievement Test***" was tested using Kruskal-Wallis H Test at 0.05 level of significance. In Table 9, the test showed that there was no significant relationship between the sex of the school principals and the performance of the schools in terms of result of National Achievement Test, H (1) = 0.006, p = 0.938, with a mean rank MPS in NAT of 7.33 for male and 7.55 for female. This result showed that sex of school principals and performance of schools in terms of result of National Achievement Test were not related. This shows that activities of the schools in achieving the national standard of NAT MPS are not directly affected by the school principals' sex.

3.5. Educational Attainment and Result of National Achievement Test

Table 10. Result of Kruskal-Wallis H Test for Educational Attainment and Result of National Achievement Test

Educational Attainment	N	Mean Rank	df	Kruskal-Wallis H	*p* Value
Bachelor Degree with Units in MA	10	8.20	3	3.166	0.367
Graduate of MA	2	3.50			
MA with Units in PhD/EdD	1	5.00			
Graduate of PhD/EdD	1	11.00			

The null hypothesis which states that "***There is no significant relationship between the educational attainment of the school principals and the performance of the schools in terms of result of National Achievement Test***" was tested using Kruskal-Wallis H Test at 0.05 level of significance. In Table 10, the test showed that that there was no significant

relationship between the educational attainment of the school principals and the performance of the schools in terms of result of National Achievement Test, H (3) = 3.166, p = 0.367, with a mean rank MPS in NAT of 8.20 for the school principals whose educational attainment is bachelor degree with units in MA, 3.50 for graduates of MA, 5.00 for MA with units in PhD/EdD and 11.00 for graduate of PhD/EdD. This showed that educational attainment of school principals and performance of schools in terms of result of National Achievement Test were not related. This shows that activities of the schools in achieving the national standard of NAT MPS are not directly affected by the school principals' educational attainment.

3.6. Qualification and Result of National Achievement Test

Table 11. Result of Kruskal-Wallis H Test for Qualification and Result of National Achievement Test

Qualification	N	Mean Rank	df	Kruskal-Wallis H	*p* Value
Promoted as Principal prior to NQESH	7	7.57	2	0.397	0.820
NQESH Passer	6	7.83			
Not NQESH Passer	1	5.00			

The null hypothesis which states that "***There is no significant relationship between the qualification of the school principals and the performance of the schools in terms of result of National Achievement Test***" was tested using Kruskal-Wallis H Test at 0.05 level of significance. In Table 11, the test showed that there was no significant relationship between the qualification of the school principals and the performance of the schools in terms of the result of National Achievement Test, H (2) = 0.397, p = 0.820, with a mean rank MPS in NAT of 7.57 for the school principals who were promoted as principal prior to NQESH, 7.83 for the school principals who were passers of NQESH and 5.00 for school principals who were not passer of NQESH but acting as principal. This showed that qualification of school principals and performance of schools in terms of result of National Achievement Test were not related. This shows that activities of the schools in achieving the national standard of NAT MPS are not directly affected by the school principals' qualification.

Conclusions

In the light of the foregoing discussion of results, the researchers had the following conclusions.

1. School principals in the public elementary schools of the Schools Division of Imus City who had served for two consecutive years in school years 2013 – 2014 and 2014 –

2015, majority were female (78.57%), had bachelor degree with units in MA (71.43%) and had been promoted as principal prior to the administration of NQESH (50.00%).

2. A total of fourteen (14) out of the 26 (53.85%) public elementary schools in the Schools Division of Imus City that were studied, 12 (85.71%) recorded a decrease of dropout rate from SY 2013 – 2014 and SY 2014 – 2015 which indicates that efforts were being done to reduce dropouts.

3. The performance of the schools in the National Achievement Test remained a challenge. All studied schools were way below the national standard of 75% MPS.

4. The school principals' demographic profile namely: sex, educational attainment and qualification, were not related to school performance in terms of dropout rate. This indicates that efforts of the schools in reducing dropouts are not directly affected by the school principals' sex, educational attainment and qualification.

5. The school principals' demographic profile namely: sex, educational attainment and qualification, were not related to school performance in terms of the result of National Achievement Test. This shows that activities of the schools in achieving the national standard of NAT MPS are not directly affected by the school principals' sex, educational attainment and qualification.

Recommendations

In relation to the findings and conclusions of the study, the following are recommended.

1. Reclassification for new school principals may not be determined solely by passing of the NQESH. Other forms of assessing competence may be instituted on top of this examination.

2. Promotion of school principals to the next rank may also include achievement of set standards as criteria. Lesser weight may be given to criterion such as educational attainment.

3. Future studies may be conducted such as principal's organizational management for instructional improvement that can influence schools' performance.

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