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PINTOK

PERIOD.STRAIGHTFORWARD.

The Official Research Journal of Tagum City Division

PINTOK

PERIOD.STRAIGHTFORWARD.

/pin.tuk./ - pin-tok

(adjective) in a direct and unequivocal manner

A word in Hiligaynon characterized by directness in manner or speech, without subtlety or evasion just as how RESEARCH is straightforward as an invaluable tool for building on crucial knowledge, placing trust into logical thinking as the most reliable means to begin to understand the complexities of various issues; to maintain integrity in disproving lies and upholding important truths; to serve as the seed for analyzing convoluted sets of data; as well as to serve as 'nourishment,' or exercise for the mind.

Foreword

All progress is born of inquiry. – Hudson Maxim

The Department of Education – Schools Division of Tagum City has strengthened its research culture by revolutionizing disruptions amidst the pandemic. It has delivered its goal to project several teacher-researchers and research entries in both division and regional levels while overcoming hurdles and maintaining excellence.

The Schools Division Research Committee of DepEd Tagum City comprises research enthusiasts, teacher-researchers, and technical editors who pro-create its dynamo in revamping the current practices in teaching-learning, child protection, human resource development, and governance based on empirical data. To better understand how different research areas contribute to policymaking, this published work contains studies that have been rigorously approved, conducted, and evaluated by the Schools Division Research Committee to expand our understanding of theories, practices, and policymaking.

The division leaped further to reach the public through all possible accessibilities, producing this academic journal where scholars can view and refer to studies aligned in their conceived proposals, thereby giving way to *Pintok.*

Pintok, defined as 'straightforward,' serves as the repository of the works of DepEd Tagum City's research scholars. The diverse topics of this journal explore the complex nature of supporting teachers, students, administrators, and stakeholders in their respective fields. Some of the practices and interventions described in this issue include literacy development, inclusive education, learning assessment, program evaluation, professional development, and governance. This journal also showcases the multiple methods to examine complex issues, paving the way for the department's goal: *improve the quality of education for our country's life-long learners*.

May *Pintok* serve as a source of knowledge and guide you as you begin to seek the realms of academic research with full dedication for the benefit of our communities and, most significantly – the Filipino learners.

Pintok

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Message

My warmest felicitation to the Division Research prime movers for this successful creation and maiden launch of PINTOK – the official Division Research and Academic Journal, which will serve as the periodical publication in which scholarly works written by our experts relating to a particular academic discipline shall be published from now on, as well as to serve as a permanent and transparent forum for the presentation, scrutiny and discussion of research outputs after having been peer-reviewed and refereed. PINTOK will now comprise wide variety of research articles that will serve the purpose of communication and/or conversation and to provide valuable information of the scholarly outputs of the academic community for the transformation of this Division. This research and academic journal will now become a source of academic information that offers more current view than do textbooks, as well as offer a wide collection of scholarly articles that can be used for understanding the progress of knowledge in a research field and for developing innovative ideas for further research works on top of its credibility after having been scrutinized against strict criteria and standards by a panel of researchers and scholars.

I have personally seen the enormous efforts done in the development of this journal yet this not yet a completely charted stuff and just like the old cliché, this is a work in progress and we are open and actively seeking ideas, support and feedback from the academic community partners for its improvement in terms of structure and content.

Once again, it is with great pride and honor that I present to you the committed and diverse talents of our Division researchers collated in the inaugural issue of PINTOK and though it's a tall order, it is my earnest prayed that this will make a difference in the lives of our teachers and learners.

DR. JOSEPHINE L. FADUL
Schools Division Superintendent

Message

It is my utmost privilege and honor to present the DepEd Tagum City Schools Division Research Committee's annual journal – PINTOK, the first released issue that committed teacher-researchers, school heads, supervisors, and education specialists who worked together to contribute to the body of knowledge, policymaking and shape the research culture in the division.

One of our aims in writing research papers is to influence certain adjustments and innovation so that DepEd Tagum scholars may develop a more wide and more inclusive research culture. Our committee is made up of academics and teacher educators who represent various ideas, backgrounds, and points of view. We are honored to be stewards of the publication, especially in light of our distinguished editorial predecessors.

My sincerest appreciation to all the contributors to make this project possible. Your work would be now accessible to all the readers and researchers who are looking for new ideas and practical insights. I know how you painstakingly write articles that are well-theorized, research-based, original and useful. Your works are indeed worthy of commendation. We are looking forward to seeing more of your work.

We anticipate that the articles in this journal will encourage readers and researchers to create more knowledge and innovate processes to improve the delivery of quality education.

DR. MELANIE P. ESTACIO, CESO VI
Assistant Schools Division Superintendent
Chairperson, Schools Division Research Committee

Message

Congratulations! It is with pride that I greet all the new breed of researchers of the Division of Tagum City for coming up with a compilation of the approved research works from the first batch of teachers trained on Advancing Research through 6D Scheme.

PINTOK Research Journal is the humble product of a year-long hard work documentation of the systematic investigations and careful study of materials and situations encountered in the classroom, school, or workplace to establish facts and reach new conclusions answering the problems and issues encountered.

This Journal symbolizes the new perspective of Tagum City Division in handling research. The experience that every writer has gone through is immersing enough to capacitate a mentee into becoming another mentor of other teachers in school.

These outputs herein are replicable, reproducible, and transparent. These qualities allow other researchers to test the study findings and recommendations arrived at.

This output is a proof that research is easy when done systematically. Anyone can learn writing and coming up with one. May PINTOK serves as an inspiration for all teachers to view research with enthusiasm from now on.

CHRISTINE C. BAGACAY, ED.D.
Chief, Curriculum Implementation Division
Vice Chairperson, Schools Division
Research Committee

Message

My salute and congratulations to the Division Research Team for ensuing a compendium of approved researches as an offshoot of the administered training to our teacher-researchers relevant to the Basis Education Research Agenda.

PINTOK Research journal is the identity of DepEd Tagum City Division for the corroboration of critical analysis and scientific processes of an evidence-based inquiry to create new concepts and approaches to prevailing issues in our classroom and workplace settings.

The writings herein are not just a compilation of studies but also a collection of occurrences streamed through the analytical thinking of the writers.

This publication is an embodiment of excellence in the research field in Tagum City Division where every accomplished research presents an output with a critical edge in the interest of education and inspires educators to carry out their study in the future.

DR. JOSEFINA B. PALACA
Chief, School Governance and Operations Division
Vice Chairperson, Schools Division Research Committee

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TEACHING *and* LEARNING

H5P: Interactive Intervention in Teaching Grade7 Mathematics Through the Learning Management System

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ABSTRACT

There are numerous techniques to make online learning a realistic alternative in the current educational environment. The effectiveness of the H5P interactive intervention in teaching mathematics was investigated using a quasi-experimental design employing a purposive sampling in Grade 7 students. The experimental group used the intervention while the control group used the digital modules in the learning management system. The data were collected using an online synchronous timed pretest and posttest. The data were tabulated, presented, evaluated, and interpreted. The findings revealed that students had an average mastery level in the pretest, which leveled up to moving towards mastery in the posttest. When the mean difference of the pretest and posttest of the experimental group was tested, it was found out that the computed p-value of 0.0065 was lower than the 0.05 level of significance; thus, the intervention was successful. From the findings, it is suggested that utilization of H5P interactive learning material through learning management systems in teaching mathematics be continued by the learners, intensified through additional training of teachers, and maximized through adoption by online class teachers.

Keywords: H5P intervention, teaching mathematics, learning management system, experimental

INTRODUCTION

It is difficult to teach math online, which most teachers experience to some degree. Teachers had to adapt all their usual techniques (Loewus, 2020). In England, recent policy changes have focused on encouraging "interactive" teaching in classrooms with the firm intention of improving learning (Beauchamp et al., 2008). Math educators nationwide were alarmed by the result posted by the Program for International Student Assessment in December 2019. The Philippines ranked 77th for math and science among the 79 participating countries (Ciriaco, 2019). In Tagum City Division, school proficiency reports showed that the mean percentage of learners in mathematics for the fourth quarter of the school year 2020 are as follows: three junior high schools reported 47.70, 44.95, and 47.60, two senior high schools reported 64.81 and 53.13. Only 68.94% of Grade7 students achieved at least 75% proficiency level in School A.

The main thrust of this quasi-experimental study was to find out the effectiveness of utilizing H5P interactive intervention through the learning management system in teaching Grade 7 Mathematics. Specifically, the study was designed to determine the level of pretest and posttest scores, the significant difference in test results, and the success of the intervention. The null hypotheses asserted that there is no significant change between the pretest and posttest scores and the effect of the intervention.

METHODS

This section presents the design used in the conduct of the study, research participants, data gathering methods, statistical tools, and ethical considerations.

Research Design

This study used a quasi-experimental design administering the same pre-test and post-test to both groups. The experimental group used the H5P Interactive Intervention in Math 7 Quarter 1 through the school learning management

system (LMS), while the control group used the digital modules provided in the LMS without H5P.

Research Participants

The participants in the study were identified using a purposive sampling technique. These were the 60 Grade 7 students at School A enrolled in the School Year 2021-2022. Thirty learners were in the experimental group and thirty in the controlled group, as shown in table 1.

Table 1

Respondents of the Study

Section	Male	Female	Total
Section A (Experimental Group)	13	17	**30**
Section B (Control Group)	17	13	**30**
Total	**30**	**30**	**60**

Data Gathering Methods

The information was gathered through a pretest and posttest conducted in the learning management system while students were online using Google Meet. Validation, reliability, and pilot testing were all done during the development of the test. Exporting, encoding, analyzing, and interpreting scores were all done. Table 2 shows the mastery level descriptive equivalent:

Table 2

Mastery Level Descriptive Equivalent

Mean Per Score (MPS)	Descriptive Equivalent	Interpretation
96-100	Mastered	The learner has outstanding performance.
86-95	Closely Approximating Mastery	The learner has very satisfactory performance.
66-85	Moving Towards Mastery	The learner has satisfactory performance.
35-65	Average Mastery	The learner has fair performance.
16-34	Low Mastery	The learner has poor performance.
5-15	Very Low Mastery	The learner has very poor performance.
0-4	Absolutely No Mastery	The learner has no performance at all.

Data Analysis

For the quantitative analysis, the researcher employed mean, t-test for dependent sample means, and t-test for independent sample means as statistical methods.

Ethical Consideration

The three concepts stated in the Belmont Report (1979): respect for persons, beneficence, and justice, were followed with complete honesty throughout the study's duration. The Tagum City Schools Division Superintendent and School A Principal were sent letters asking for permission to conduct the study. The teacher involved in the implementation of the study was informed about her involvement in achieving its principal goal. The parents' agreement to have their child participate in the study was sought. Before deciding whether to provide their approval, the parents were given detailed information about the study in writing sent to them via messenger. The researcher made sure that the benefits to the research participants were maximized while the hazards were kept to a minimum. Right to privacy and freedom from damage and the fact that their involvement is entirely voluntary were treated with the utmost respect. Students were viewed regardless of their socioeconomic status or context.

RESULTS

This section presents analysis and interpretation of data organized in figural, tabular, and textual forms. Analysis and interpretation of data are carefully based on the main purpose to attain the study's research objectives.

Level of Pretest Mean Scores of Control and Experimental Groups

Shown in table 3 is the level of pretest scores of the control and experimental groups. The overall level of pretest scores of the respondents was 26.57. This has an equivalent mean percentage score of 53.14, which indicated that the respondents had an average mastery level before the intervention.

Table 3

Level of Pretest Mean Scores of Control and Experimental Groups

Groups	Mean	Mean Percentage Score	Descriptive Level
Section A (Control Group)	22.03	44.07	Average Mastery
Section B (Experimental Group)	31.10	62.20	Average Mastery
Over-all	26.57	53.14	Average Mastery

Level of Posttest Mean Scores of Control and Experimental Groups

Shown in table 4 is the level of posttest scores of the control and experimental groups. The overall level of posttest scores of the respondents is 33.45. This has an equivalent mean percentage score of 66.90, indicating that the respondents moved towards mastery level of mastery after the intervention was implemented.

Table 4

Level of Posttest Mean Scores of Control and Experimental Groups

Groups	Mean	Mean Percentage Score	Descriptive Level
Section A (Control Group)	28.70	57.40	Average Mastery
Section B (Experimental Group)	38.20	76.40	Moving Towards Mastery
Over-all	33.45	66.90	Moving Towards Mastery

Significance of the Difference Between Pretest Scores of Control and Experimental Groups

Table 5 shows the pretest scores of the control and experimental groups. The mean difference was tested, and the computed t-value was 4.89 with a p-value of 0.000034. Since the p-value of 0.000034 was lower than the 0.05 level of significance ($p<0.05$), the null hypothesis is rejected. This implies a statistically significant difference between the pretest scores of the control and experimental groups.

Table 5

Significance of the Difference Between Pretest Scores of Control and Experimental Groups

Groups	Mean	SD	t-value	p- value	Decision @0.05
Section A (Control Group)	22.03	7.48	4.89	0.000034	Ho is Rejected
Section B (Experimental Group)	31.10	9.64			

Significance of the Difference Between Posttest Mean Scores of Control and Experimental Groups

Table 6 shows the control and experimental groups' posttest data. The mean difference was tested, and the computed t-value was 3.14 with a p-value of 0.00385. Since the p-value of 0.00385 was lower than the 0.05 level of significance ($p<0.05$), the null hypothesis is rejected. This implies a statistically significant difference between the post-test scores of the control and experimental groups.

Table 6

Significance of the Difference Between Posttest Mean Scores of Control and Experimental Groups

Groups	Mean	SD	t- value	p- value	Decision @0.05
Section A (Control Group)	28.70	11.29	3.14	0.00385	Ho is Rejected
Section B (Experimental Group)	38.20	11.02			

Significance of the Difference Between Pretest and Posttest Scores of the Experimental Group

Results displayed in table 7 indicate mean scores of pretest and posttest of the experimental group. When the mean difference of the two tests was tested, it was found out that the computed p-value of 0.0065 was lower than the 0.05 level of significance. Thus, the null hypothesis was rejected in favor of the research

hypothesis, which claims that there is a significant difference between the pretest and posttest scores of the students in the control and experimental groups. This implies that overall, the H5P Interactive Learning Material effectively improves students' performance in mathematics 7.

Table 7

Significance of the Difference Between Pretest and Posttest Scores of the Experimental Group

Test	Mean	SD	t- value	p- value	Decision @ 0.05
Pretest	31.10	9.64			
			-2.9282	0.0065	Ho is Rejected
Posttest	38.20	11.02			

DISCUSSION

The discussions and conclusions gained from the study's findings are presented in this chapter. The suggestions for consideration are also included.

Level of Pretest Mean Scores of Control and Experimental Groups

The respondents have an average mastery level in the pretest. This can be attributed to the students' grade six math exposure considering the spiral context of the curriculum where learners, regardless of their groups, received the same learning experience. In terms of numerical comprehension, simple linguistic sentences, contextual information, mental visualization, number system knowledge, relevant information, number sense estimation, and procedural calculation, the grade six students' cognitive skills were below average, but their symbol comprehension skill was above average Culaste (2011).

Level of Posttest Mean Scores of Control and Experimental Groups

The students have a level of moving towards mastery in the posttest. Das (2019) claims that integrating ICT improves mathematics teaching and learning. Kosko and Ferdig (2016) emphasized in their finding that incorporating an app over a cycle was found to be a statistically significant and relevant indicator of math achievement, which further showed that a well-designed app might be used to promote math growth in general.

Significant Difference Between the Pretest Scores of Control and Experimental Groups

The pretest scores of the students were statistically significant. The grade7 learners of this school year are recipients of varied learning modalities in their previous school. Their prior learning modality contributed to their mathematics performance. The study results of Lin, Tseng, and Chiang (2016) have demonstrated that a blended learning environment can be beneficial. Students benefited from it since it had a good impact on their grades and behavior, not only on student learning achievements but also on their attitudes toward studying mathematics in a blended learning environment.

Significant Difference Between the Posttest Scores of Control and Experimental Groups

The post-test scores of the students were statistically significant. In a study by Llerena and Zamora (2021), which looked at the efficacy of H5P services used to build dynamic student assessments on a Moodle platform, it was discovered that using active learning techniques during assessment with H5P technology resulted in a 75 percent increase in retention of acquired information.

Significant Difference Between the Pretest & Posttest Scores of Experimental Group

The pretest and posttest scores of the students who utilized H5P as interactive learning material through learning management systems as an intervention in teaching mathematics were significant. This showed that the intervention was effective. The result of this study is supported by the study of Miller (2018), where a pre-test and post-test showed that children who used digital technology in the form of mathematics apps as part of a play-based learning

experience for mathematics made modest improvements in achievement.

Conclusion

The following are the conclusions of the study based on the findings: students have average mastery in the pretest and improved to moving towards mastery in the posttest. The effectiveness of the intervention in this study is supported by the findings of Llerena and Zamora (2021). Their study looked at the efficacy of H5P services used to build dynamic student assessments on a Moodle platform and discovered that using active learning techniques during assessment with H5P technology resulted in a 75 percent (75%) increase in retention of acquired information.

Reflection

Considering the research's findings and conclusions, the researcher has made the following suggestions for consideration: utilization of H5P interactive learning material through learning management system in teaching mathematics to be continued, intensified, and maximized, intensive training and workshops for math teachers, especially on utilization of added H5P features in the school learning management system, adoption of H5P interactive learning material in other subject areas/courses in the school learning management system, and use of H5P be introduced for adoption through series of training among online class teachers in the Division of Tagum City.

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Illustrated Hands-on Information Sheet: Intervention in Improving the Practical Skills Knowledge of Grade 8 Technology and Livelihood Education Students

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ABSTRACT

With the spread of the Covid-19 virus, new challenges are posed in delivering practical instructions in teaching students' hands-on skills in Technology and Livelihood Education. This study aims to determine the significance of an illustrated hands-on material composed of illustrations and actual pictures in improving students' practical skills and knowledge. Simple random sampling was utilized to choose 160 students to participate in the study that uses a descriptive research design. A pre-test and post-test were given to the participants that will be analyzed using a quantitative descriptive approach to find the difference of the test results and will be statistically treated using the mean, standard deviation, and t-test of significant difference. Based on the results, students manifested a low level of pre-test results before using the Illustrated Hands-on Information Sheet, which shows that they have a poor understanding of the practical concepts in Technology and Livelihood Education. After using the intervention material, students demonstrated a very high level of post-test results, which means that the participants have a clear understanding and mastery of the practical concepts in the subject. This shows that the participants better understood the processes and steps to consider in performing hands-on tasks. This implies that the intervention material has a significant effect in improving the practical skills knowledge of the students in remote learning.

Keywords: *hands-on, intervention, illustrated, information sheet, practical skills, action research*

INTRODUCTION

Education and its quality are among the most important facets of human resource development in a nation or community. Learners play a vital role in shaping society generation after generation. As the COVID-19 pandemic continues, the education field is producing a growing body of valuable resources to support student learning and well-being during the absence of face-to-face classes. With distance learning, schools and teachers face a whole new set of challenges as they aim to make learning equitable and seek alternative and additional resources to meet the needs of students. One of the unforeseen after-effects of modular distance learning in junior high school students in Technology Livelihood Education is the absence of actual hands-on learning and practical skills acquisition due to the prohibition of face-to-face classes as part of the health protocols during the health crisis. According to Hamilton et al. (2020), based on their study, there is a need to develop approaches to motivate and engage students in learning to counteract the loss of hands-on learning opportunities. Furthermore, Kasradze & Gulua (2021) concluded, based on the findings of their study, that the cessation of the students face to face classes in schools has compromised the development of the student's practical skills that will eventually be useful for them in further learning and employment.

It is essential that teachers need to be conversant, creative, and innovative with the type of instructional materials to use in a learning situation to give students a complete learning experience on distance learning. Hamilton et al. (2020) stated that teachers highlighted the need to develop approaches to motivate and engage students in hands-on learning to counteract the loss of learning opportunities. Educators need resources

and strategies to guide students in providing practical skills learning opportunities while learning remotely. Majumdar et al. (2020) even proposed several actions to respond to the pandemic in learning technical skills. That includes providing students with learner-centered self-autonomous tools to learn independently at home.

Intervention material is needed to help students improve practical skills in Technology and Livelihood Education. This will address the loss of their hands-on learning and give equal opportunity to students without connectivity and gadgets to learn practical skills on a strategically designed paper-based material. In designing and creating a print-based illustration as a strategy for teaching practical skills to learners, it is necessary to consider the suggestion of UNICEF (2020) that emphasizes the importance of carefully designing a paper-based learning material that is highly visual and must benefit those learners with little parental support and learners that are non-readers or readers with low literacy levels. Dangle & Sumaoang (2020) recommended that teachers consider making materials with the instructions in every exercise clear enough for the learners to understand while remotely learning at home. The printed pictures that support their understanding and comprehension should also be clear. This study sought to determine the practical skills knowledge of students through distance learning modality through the level of pre-test and post-test results before and after using the intervention materials. Furthermore, find out its significant effect in improving the students' basic practical skills and knowledge.

METHODS

Research Design

The action research used a descriptive research design that aims to describe a population, situation, or phenomenon of one or more variables accurately and systematically. According to Johnson (2012), this type of research design provides teachers with the technical skills and specialized knowledge required to effect positive change within classrooms, schools, and even in communities since its theory is based on knowledge in action and the emphasis is on change through action (McNiff, 2016). The design will help the researcher gather essential data to gain understanding and knowledge on the relevance of using an Illustrated Hands-On Information Sheet as an intervention to help Grade 8 students improve their ability on practical skills in Technology and Livelihood Education during the pandemic.

Participants of the Study

The participants of the study are 160 Grade 8 students of Tagum City Division who were randomly selected from a huge population through a simple random sampling method. According to Turner & Hao (2020), it is useful when researchers are interested in the associations that apply to the whole population. All elements could have an equal probability or chance of being selected. The sample size based on the population was computed using Slovin's Formula.

Data Gathering Methods

The researcher asked permission from the SDS and school head through a formal letter and, after the approval, proceeded to the conduct of the research by asking parent/guardian consent and the administration of the validated pre-test to the selected students who were participants of the study. Results were checked, and the least learned skills were identified as the basis of the topics to be included in crafting the intervention material. After developing and validating the material, it was distributed to the participants for their consumption, followed by the administration and checking of the post-test, after gathering all the information to determine if the material affects the sample population, analysis, and validation of the data using descriptive parameters for pre-test and post-test and statistical tools.

Statistical Tools

Data from the action research will be analyzed using a quantitative descriptive approach to find the difference of pre-test and post-test results, which will be statistically treated using the mean to

get the average of each test, standard deviation to measure the spread of the data and t-test. A parameter scale table below will be used to determine the descriptive level of the pre-test and post-test mean results.

Table 1
Descriptive Parameter Scale for Pre-test Mean and Post-test Mean

Mean Range	Description	Interpretation
16. 01 - 20.00	Very High	This means that the students' practical knowledge is outstanding.
12.01- 16.00	High	This means that the students' practical knowledge is high.
8.01 - 12.00	Moderate	This means that the students' practical knowledge is moderate.
4.01 - 8.00	Low	This means that the students' practical knowledge is low.
0.00 - 4.00	Very Low	This means that the students' practical knowledge is very low.

Ethical Considerations

The cornerstone of the research is based on the rethinking of the Belmont Report (1978) by Friesen et al. (2017). Its primary purpose is to protect the research participants based on the three fundamental principles: beneficence, justice, and respect for persons. The researcher ensures that research participants are treated with respect, courtesy, and dignity and that informed consent are valued.

RESULTS

Level of Pre-test Result of Students Before Using the Illustrated Hands-on Information Sheet

Table 1 presents the level of pre-test results of students before using the Illustrated Hands-on Information Sheet. The result shows that the level of pre-test results of students before using the Illustrated Hands-on Information Sheet has a mean average of 7.40 with a descriptive rating of Low.

Table 2
Level of Pre-test Result of Students Before Using the Illustrated Hands-on Information Sheet

Test	Mean	SD	Description
Pre-test	7.40	2.97	The students' practical knowledge is low.

Level of Post-test Result of Students After Using the Illustrated Hands-on Information Sheet

Table 2 presents the level of post-test results of students after using the Illustrated Hands-on Information Sheet. The results show that the level of post-test results of students after using the Illustrated Hands-on Information Sheet has a mean average of 18.55 with a descriptive rating of Outstanding based on the Descriptive Parameter Scale for Pre-test Mean and Post-test Mean.

Table 3
Level of Post-test Result of Students Before Using the Illustrated Hands-on Information Sheet

Test	Mean	SD	Description
Post-test	18.55	2.45	The students' practical knowledge is outstanding.

Significant Effect of Illustrated Hands-on Information Sheet on Students' Practical skills Knowledge in Technology and Livelihood Education

Table 3 presents the significant effect of the Illustrated Hands-on Information Sheet on students' Practical skills Knowledge in Technology and Livelihood Education. The results show that the value of t is 76.0905. It also shows that the p-value < α, so the H0 is rejected.

Table 4

Significant Effect of Illustrated Hands-on Information Sheet on Students' Practical skills Knowledge in Technology and Livelihood Education

Test	Mean	SD	T value	p-value	Decision @α= 0.05
Pre-test	7.40	2.97	76.090	0.000	Rejected
Post-test	18.55	2.45			

DISCUSSION

Level of Pre-test Result of Students Before Using the Illustrated Hands-on Information Sheet

Students manifested a low level of pre-test results before using the Illustrated Hands-on Information Sheet. This only means that the participants have a poor understanding of the hands-on or practical skills knowledge in technology and implies that students are not aware of the essentials and processes in performing a task. With the new normal in learning, facing remote learning problems in technology and livelihood education is already anticipated since Dangle &, Sumaoang (2020) concluded that the students/respondent in their study struggle with self-studying and parents' lack of knowledge to guide them on the conduct of distance modular learning academically.

Level of Post-test Result of Students After Using the Illustrated Hands-on Information Sheet

Students manifested a very high level of post-test results after using the Illustrated Hands-on Information Sheet as an intervention material in improving the practical skill and knowledge in Technology and Livelihood education. The participants have clearly understood the practical concepts in performing a hands-on task. According to Herrera & Soriano (2016), based on the results of their study, the utilization of an intervention material improved the students' competence. It made a significant difference to the result of their post-test. It only shows that using intervention material to bridge the gap in students' learning is important to improve the least learned competencies and practical concepts in TLE.

Significant Effect of Illustrated Hands-on Information Sheet on Students' Practical skills Knowledge in TLE

The result of the study showed that students' basic or practical skills and knowledge in Technology and Livelihood. Students manifested an evident hands-on knowledge of the processes and steps to perform a practical task in technology. It only means that the intervention material is crucial and relevant in the remote learning of the students at home. Simui et al. (2017) concluded in his study that adding illustrations in a printed-based material used in distance learning makes it user-friendly for the learners that help them understand the concepts with ease, and this may benefit students whose abilities to read and understand pure text have not yet been fully developed, students who have difficulties with the words to make them remember information for more extraordinary lengths of time than text-based information.

Conclusion

Learning practical skills in the new normal is quite challenging since it deprives the students of shadowing how a skill is performed during face-to-face classes. Students learning in the distance mode manifested a poor understanding of hands-on skills but improved and became evident

after using the Illustrated Hands-on Information sheet as an intervention material. This concludes that the material is significant in improving the practical knowledge and skills of the Grade 8 Technology and Livelihood Education students. Thus, there is a remarkable impact on using such intervention in the remote learning of the students at home.

Reflection

With the above knowledge generated, it is recommended that school heads are recommended to support and assist the teacher-developer in the development of the intervention materials that may vary based on the exploratory courses in TLE. Also, the school head is recommended to accommodate the needs on the duplication of the material for students' consumption. It is also suggested that all TLE teachers should be capacitated with the strategies in making such intervention material and develop the same on the exploratory courses they are teaching. Make and upload soft copies of such material for digitization and students' consumption who opt to use the material online.

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Improving Teachers' Technological Literacy through Five-Step Technology-Driven Instruction Strategy

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ABSTRACT

Technological literacy of teachers in the new normal is deemed necessary in adopting technology-driven instruction strategy to improve learning outcomes. This action research utilizing a purposive sampling aimed to determine teachers' technological literacy level through a five-step technology-driven instruction strategy. The level of teachers' technological literacy before and after implementing the five-step technology-driven instruction strategy is moderate and high. There is a significant difference in teachers' technological literacy before and after implementing a five-step technology-driven instruction strategy. This implies that the five-step technology-driven instruction strategy effectively improves teachers' technological literacy. On this basis, training on five-step technology-driven instruction of teachers may be utilized for teachers' effectiveness in the teaching-learning process using technology in the new normal set-up.

Keywords: teaching-learning, five-step technology-driven instruction, technological literacy, qualitative research, Philippines

INTRODUCTION

The world is challenged with difficulties adapting to new normal ways of education, and 90% of countries recorded teachers having trouble embracing digital learning programs from the natural way of teaching (UNESCO, 2020). The issues of teachers' lack of key skills and literacy in technology will possibly bring education quality into its lowest ebb (Nott, 2020). On the problems of teachers in the challenges of technology-driven instruction (Department of Education, 2020). Furthermore, in the local setting, the researcher has found out that the Electronic Self-Assessment Tool (e-SAT) result, 15 out of 28 or 54 % of teachers at School A-rated moderate under priority for development in promoting effective strategies in the positive use of ICT to facilitate teaching and learning process (Indicator 1.2). To bridge the gap of teachers from being moderate to proficient teachers of new normal modalities, the researcher conducted an intervention, Five-Step Technological process, to improve teachers' technological literacy in the learning delivery modalities.

In this context, the researcher wants to determine the improvement of the other hand, the most critical solution in improving teachers' technological literacy is to raise teachers' capacity in technology-driven instruction (Hasse, 2020).

As one of the ten significant contents for the learning continuity plan of the Department of Education is the readiness of teachers in continuing education amidst the pandemic, we need a concrete and comprehensive strategic plan to respond to teachers' technological literacy through a five-step technology-driven instruction strategy. This can be an effective tool in addressing problems of teachers in the new normal to improve and deliver quality education amidst the pandemic; thus, the researcher finds the urgency to conduct this study. The purpose of this study is to determine teachers' improvement on technological literacy through a five-step technology-driven instruction strategy.

This study sought to answer the questions namely:

1. What is the level of teachers' technological literacy before the implementation of the five-step technology-driven instruction strategy?
2. What is the level of teachers' technological literacy after the

implementation of the five-step technology-driven instruction strategy?

3. Is there a significant difference on the teachers' technological literacy before and after the implementation of five-step technology-driven instruction strategy?

METHODS

Research Design

In this study, the researcher utilized the action research quantitative method, administered pre-assessment and post-assessment. It employed a descriptive design to describe accurately, systematically, and answer the research questions of this study. The design helped the researcher gather significant data to gain understanding and knowledge on improving teachers' technological literacy before and after implementing a five-step technology-driven instruction strategy.

Participants of the Study

The participants of the study were 25 teachers using a purposive sampling method in identifying the appropriate respondents of the study (Dudovskiy, 2021). Only one group of participants underwent the five-step technology-driven instruction strategy. The respondents assessed teachers' technological literacy improvement before and after implementing a five-step technology-driven instruction strategy.

Data Gathering Methods

The researcher asked permission from the SDS and school head through a formal letter. After the approval proceeded to the conduct of the research by validation of the modified research instrument anchored from DepEd Order No. 35, s. 2016, after it reached the acceptable level of validation result, administration of pre-assessment to 25 teachers who were respondents of the study followed. The 25 respondents underwent the five-step technology-driven instruction strategy. Administration of post-assessment of teachers was done. After gathering all the information to determine the levels and significance difference of teachers' technological literacy before and after implementing a five-step technology-driven instruction strategy, analysis and validation of the data using descriptive parameters for pre-assessment and post-assessment and post-assessment, and statistical tools.

Statistical Tools

The data collected were statistically treated and analyzed using Mean, Standard deviation, and t-test of significant difference.

Table 1
Descriptive Parameter Scale for Pre-Assessment Mean and Post-Assessment Mean

Mean Range	Description	Interpretation
4.20 – 5.00	Very High	This means that teachers' technological literacy is very much improved
3.40 – 4.19	High	This means that teachers' technological literacy is much improved
2.60 – 3.39	Average	This means that teachers' technological literacy is moderately improve
1.80 – 2.59	Low	This means that teachers' technological literacy is very less improved
1.00 – 1.79	Very Low	This means that teachers' technological literacy is least improved

Ethical Considerations

There were considerable ethical issues and concerns for the quantitative inquest of this study. The rights, confidentiality, and anonymity were considered in this study (Bryman & Bell, 2007).

The researcher observed and followed full ethical standards such as respect for persons, beneficence, and justice which the participants' benefits, safety, confidentiality, and privacy were prioritized (Ashworth et al., 2015).

RESULTS

Level of Teachers' Technological Literacy before the implementation of Five-Step Technology-Driven Instruction Strategy

Table 2 presents teachers' technological literacy level before implementing a five-step technology-driven instruction strategy. The five teachers' technology literacy indicators generated a general overall mean rating of 3.22 or *average.* This means that teachers' technological literacy was moderately improved before implementing the five-step technology-driven instruction strategy.

Table 2

Level of Teachers' Technological Literacy before the implementation of Five-Step Technology-driven Instruction Strategy

Indicator	Mean	SD	Descriptive Level
Entry	3.08	0.55	Average
Adoption	3.10	0.52	Average
Infusion	3.11	0.49	Average
Adaptation	3.19	0.50	Average
Transformation	3.312	0.54	Average
Category Mean	**3.22**	**0.46**	**Average**

Level of Teachers' Technological Literacy after the implementation of Five-Step Technology-Driven Instruction Strategy

Table 3 shows teachers' technology literacy level after implementing a five-step technology-driven instruction strategy as measured in five indicators: *entry, adoption, adaptation, infusion,* and *transformation*. The five indicators have obtained an overall mean rating of 4.12, described as high. This means that the level of teachers' technological literacy after implementing the five-step technology-driven instruction strategy was much improved.

Table 3

Level of Teachers' Technological Literacy after the Implementation of Five-Step Technology-Driven Instruction Strategy

Indicator	Mean	SD	Descriptive Level
Infusion	3.98	0.44	High
Entry	4.07	0.43	High
Adoption	4.08	0.53	High
Adaptation	4.17	0.55	High
Transformation	4.28	0.45	Very High
Category Mean	**4.12**	**0.57**	**High**

Significant Difference on Teachers' Technological Literacy before and after the implementation of Five-Step Technology-Driven Instruction Strategy

Table 4 shows the significant difference in teachers' technological literacy before and after implementing the five-step technology-driven instruction strategy. The results indicate that the pre-assessment has a mean and standard deviation of 3.22 and 0.46, respectively, while the post-assessment has a mean and standard deviation of 4.12 and 0.57, respectively. Since the computed p-value, 0.00, is less than 0.05 level of significance, the null hypothesis is rejected. This means a significant difference in the teachers'

technological literacy before and after implementing a five-step technology-driven instruction strategy.

Table 4

Significant Difference on the Teachers' Technological Literacy before and after the implementation of Five-Step Technology-driven Instruction Strategy

Variable	Mean	SD	T value	p-value	Decision @ α = 0.05
Pre-assessment	3.22	.46	-13.10	0.000	Ho is Rejected
Post-assessment	4.12	0.57			

DISCUSSION

Level of Teachers' Technological Literacy before the Implementation of Five-Step Technology-Driven Instruction Strategy

Before implementing the five-step technology-driven instruction strategy, the teachers' technological literacy was moderately improved. This means that teachers have average technological knowledge and skills in integrating technology in the new normal learning modalities. The result agrees with UNESCO (2020) that despite the existing programs and resources given to all educators worldwide, teachers still have difficulties adopting technology-driven instructions and need confidence in handling and learning digital platforms. Over 68.8 million teachers globally and one million teachers in the Philippines extended personal time and resources to be competent and deserving in the new normal classroom setting.

Level of Teachers' Technological Literacy after the Implementation of Five-Step Technology-driven Instruction Strategy

After implementing the five-step technology-driven instruction strategy, the teachers' technological literacy improved. This means that teachers' technological knowledge and skills have increased after implementing a five-step technology-driven instruction strategy. The result is supported by Toledo (2019) that the Five-Step of learning technology-driven instruction, technological literacy of teachers is developed. Teachers undergo the five stages of training to move from lower to higher levels of computer technology use and integration (p. 2).

It is also supported by Saxena and Saxena's (2020) research on the five stages of development in computer integration, which serves as the development of a framework or model to address teachers' needs in technology-driven instruction during the pandemic and emphasizes the increase of teaching levels for effective learning.

Significant Difference in the Teachers' Technological Literacy before and after the implementation of Five-Step Technology-Driven Instruction Strategy

There is a significant difference in teachers' technological literacy before and after implementing the five-step technology-driven instruction strategy. This means that the strategy, five-step technology-driven instruction, effectively improves the teachers' technological literacy. The finding is supported by Tuscaco's (2020) study that out of 100 teachers, 87 teachers have completed the last stage of the intervention on technological literacy and have increased their rank in the post-assessment activity (p.10). In addition, the result aligns with the study of Shank (2020) that 68 pre-school teachers integrated the five steps during the in-service training; the results of the u-test are 0.00 probability which means that the intervention is effective (p.10). Hence, the five-step technology-driven instructions strategy has an enormous impact on the teachers' technological literacy that brings the effectiveness of the teaching and learning process in the new normal setting of education.

Conclusion

Teachers adapting to the new normal learning modalities is quite challenging. Teachers' technological

literacy was moderately improved before implementing the five-step technology-driven instruction strategy but greatly improved after implementing the five-step technology-driven instruction strategy. This means that a five-step technology-driven instruction strategy effectively improved teachers' technological literacy.

Reflection

The school and administration may investigate a long-term program or project like integrating technology in the curriculum and its pedagogies that will give opportunities for teachers to develop in making use of innovations and technological resources for improvement. The five-step technology-driven instruction strategy may serve as the intervention of teachers having difficulties in adapting to the new normal learning modalities. Further research may refer to this study as a reference in finding solutions to teachers' difficulties on technological literacy and serve as a basis to be competent in technology-driven instructional skills and improve learning outcomes. Thus, this will then serve as the basis for an intervention program for teachers.

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Investigating the Transition Stage of Basic Skills to Higher Mathematics of Grade 7 Learners: Perspective of Teachers

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ABSTRACT

This study aimed to discuss the teachers' perceptions of the transition stage of basic skills to higher mathematics of grade 7 learners. The participants of the study were the Grade 7 teachers taught in the face-to-face instructions. Purposive sampling was used in this study to select the participants from the secondary schools of Tagum City. The researchers employed a qualitative phenomenological case study design using in-depth interviews to gather information from the participants. Results showed that learners' lack of mastery in basic skills, learning in the new environment affects transition, learners' perception of mathematics is negative, curriculum implementation is challenging, and teaching strategies should be varied. Findings also suggested that remedial classes may be conducted, interactive instructions may be implemented, and hiring competent teachers to teach mathematics may be recommended. Furthermore, the Department of Education may continue to design programs that will support teachers in handling learners in the transition stage of their education career.

Keywords: transition stage, basic skills, higher mathematics, phenomenological case study

INTRODUCTION

Transitioning from elementary to secondary education is one of the most challenging issues that young people experience in their formal education worldwide. This transition, which usually occurs between the ages of eleven and thirteen, is thought to be crucial to an individual's academic success, well-being, and mental health (Prendergast et al., 2019). The transfer to secondary school has always been a two-headed beast: student anxiety about starting secondary school and student learning loss over the summer. The combination of weeks of classes, learning loss, and adjustment anxiety can stymie grade seven mathematics developments and will likely change how secondary math teachers prepare for the first semester (Hegarty, 2020).

School professionals play an essential role in improving students' transition experiences, but there is a need for further research into their perspectives on this transition in international literature. Primary and secondary teachers complained that there is a lack of consistency in the curricula. Secondary teachers described the lack of basic knowledge of incoming students as the most significant obstacle (Prendergast, 2019). This statement was supported by the study of Galabo et al. (2018), who said that the grade seven learners are only prepared for grade 5 level in mathematics. This problem could result from the findings in the study of Couch (2016), who said that teachers did not feel qualified to teach elementary math when they entered the classroom.

Learners can successfully progress to higher mathematics achievement levels when confident in their middle school mathematics skills. Teachers believe that basic mathematics skills are building blocks of mathematics that students can apply and remember for future instruction (Darkis, 2020). Furthermore, the researcher wants to investigate the grade seven mathematics teachers' experiences, coping mechanisms, and insights on how they handle the transition stage of basic skills to higher mathematics of the grade seven learners through having an in-depth interview.

METHODS

Research Design

This qualitative study utilized a phenomenological approach. Qualitative researchers approach the world from a very different perspective (Dodgson, 2017). All the qualitative methods view the world as subjective rather than objective (Creswell & Poth, 2017).

Teherani et al. (2015) explained that phenomenology's purpose is to define the meaning of this experience, both in terms of what happened and how it happened. It allowed the researcher to dive into the views, understandings, and sentiments of persons who had witnessed or lived through the phenomena or circumstances in question. Therefore, a qualitative phenomenology research design was used in this study to investigate the experiences, coping mechanisms, and insights of grade seven teachers in handling the transition stage of basic skills to higher mathematics of grade seven learners.

Research Participants

The research participants of this study were the seven grade seven mathematics teachers from the mega secondary schools of the Department of Education Tagum City Division. Purposive sampling was used in this analysis to classify the teachers who would be the study's participants. In qualitative research, purposeful sampling is commonly used to identify and select information-rich cases relevant to the event of interest (Palinkas et al., 2015).

Data Gathering Procedure

The researcher asked permission first from the office of the Schools Division Superintendent (SDS) and then to the school heads of the four mega public secondary schools of the Division of Tagum City. Second, the researcher listed the names of possible participants in the study and approached them if they were willing to participate. Those who voluntarily participated were given informed consent and underwent orientation before conducting an in-depth interview (IDI). An in-depth interview is one in which the goal is to learn more about the interviewee's experience and viewpoint on a particular topic.

Third, the researcher conducted an IDI to the seven grade seven mathematics teachers using the research questionnaire guide and voice recorder to record the interview.

Fourth, the researcher transcribed the data in verbatim and translated it. After that, thematic analysis was conducted. Lastly, with the support of related literature, the researcher wrote the results of the study and its implication.

Data Analysis

This study used thematic analysis. Thematic analysis, according to Braun and Clarke (2013), entails seven steps: transcribing, reading and familiarization, coding, searching for themes, reviewing themes, defining, and labeling themes, and concluding the study.

The researcher transcribed the recorded interviews and translated them into written documents. Before the coding and identifying themes, the researcher familiarized the data that happened during transcribing. This helped the researcher to gain an understanding of the data's patterns and linkages.

The researcher started coding the transcripts with the latent codes, and in coding, semantic codes were identified. After the coding, the researcher looked for patterns occurring within the data. Next, the researcher identified themes and sub-themes through the data patterns.

Last, the researcher presented the themes and other related data collected through codes about the research questions after data analysis. The researcher integrated the findings into the theories and literature of the study. Implications were written based on the findings.

Ethical Considerations

The participants' involvement was entirely voluntary. They had the option to withdraw their participation at any time during the research if they felt

uncomfortable. The confidentiality of research participants' information was maintained, as was the anonymity of participants.

The participants were given informed consent and fully informed about the objectives, methods, and benefits of the research as comprehensively as possible within the framework of the study. The researcher ensured that the participants would be physically, emotionally, and socially ready and wouldn't feel any discomfort or awkwardness in answering the research questions.

The researcher correctly cited the literature used in this study. There was no evidence or hint in the research of deliberate misreading of what had been done, no making up of data and outcomes, or purposely putting forward false conclusions.

RESULTS

Experiences of the Teachers Handling the Transition Stage of Basic Skills to Higher Mathematics of Grade 7 Learners

The in-depth interview gathered the teachers' experiences handling the transition stage of basic skills to higher mathematics of grade 7 learners. The major themes are evaluating learning, employing strategies, conducting the intervention, promoting collaboration, lacking mastery, having learning gaps, attitudes towards mathematics, taking responsibility for learning, implementing competencies, and learning diversity.

The results showed in the IDI that one of the major themes is evaluating learning. IDI 2 shared that the readiness of the grade seven learners into higher mathematics are measured by assessing their prior knowledge in their basic skills. The second theme which was revealed during the interview is employing strategies. IDI 5 shared that she used varied teaching strategies that will make learners enjoy learning in the classroom, like interactive games and other strategies that will suit their learning style in learning skills in mathematics. Since learners are still playful, IDI 7 shares that teachers should catch their learning attention. The third theme is conducting an intervention. IDI 2 shared that he builds up and enhances learners' basic skills mastery by giving additional math exercises and activities.

The fourth theme which transpires during the IDI is promoting collaboration. IDI 4 said that peer teaching is introduced in the class to help the learners who were not able to master the basic skills, and it helps learners fully understand the topic. Learners are arranged so that their friend is seated beside them to help them learn math. The fifth theme is lacking mastery. IDI 2, IDI 5, and IDI 7 share the same problem that their grade 7 learners struggle in performing fundamental operations in whole numbers, decimals, and fractions. The sixth theme is learning gaps. IDI 4 observed that some concepts in mathematics in the lower grade were not able to be taught. The seventh theme is attitudes towards mathematics. IDI 2 shared that learner are having culture shock as they enter grade 7, leading to mathematics anxiety.

The eighth theme which emerges during the IDI is taking responsibility for learning. IDI 1 shared that learners are still young and do not have responsibility. The ninth theme is implementing competencies. IDI 4 shared that unpacking the competencies helps teachers adjust the required time frame and cope. The last theme is learning diversity. IDI 6 and IDI 7 shared the same experience that the new learning environment affects learners' participation and only learners who are good in math are the most likely to participate.

Coping Mechanisms of the Teachers Handling the Transition Stage of Basic Skills to Higher Mathematics of Grade 7 Learners

With the challenges that the participants experience handling the transition stage of basic skills to higher mathematics of grade 7 learners, the following major themes have surfaced like using creative instructional material, devising interactive teaching strategies, conducting remedial class, creating a conducive classroom atmosphere, and

understanding learners' ability reveal during the collection of information through in-depth interview.

It is evident to the participants that they are using creative instructional material in handling grade 7 learners. IDI 7 shared that this multimedia grabs the attention of the learners. The second theme is that teachers are devising interactive teaching strategies. IDI 5 shared that she used interactive games since it covers the multiple intelligence of the learners. She also added that group activities help learners build their interpersonal skills and help them adjust to their new environment.

The third theme that transpires during the IDI with the participants is that teachers conduct remedial classes. IDI 7 said that she conducted remediation to enhance and master the learners' basic skills in mathematics. The fourth theme is creating a conducive classroom environment. IDI 1 shared that she wants to become approachable to the learners so they will not be afraid to ask questions and participate. The last theme is understanding learners' abilities. According to IDI 3, understanding the learners' ability as they enter grade 7 helps her teach strategies and skills that need improvement.

Insights of the Teachers Handling the Transition Stage of Basic Skills to Higher Mathematics of Grade 7 Learners

Through an in-depth interview, the teachers shared their insights in handling the transition stage of basic skills to higher mathematics of grade 7 learners. The major themes are designing remediation programs, developing mastery, conducting the assessments, assigning appropriate teachers, and planning the curriculum.

It transpires during the interview that teachers suggest designing a remediation program. IDI 2 shared that schools should allot time for remedial classes. The second theme is developing mastery. IDI 4 urged the learners to master these skills before entering grade seven. The third theme is conducting an assessment. IDI 5 suggested making activities that test the skills of the students and identify the least learned competencies

The fourth theme is assigning an appropriate teacher. IDI 1 and IDI 3 have the same suggestions that elementary teachers should major in mathematics. The last theme is planning the curriculum. IDI 6 shared that these kinds of learners are still playful. Interactive school activities motivate learners to adjust to their new environment.

DISCUSSION

The Cognitive Conflict and Conceptual Change of Clark and Lovric's (2009) align shared experiences of the teachers on their learners connecting their prior knowledge in mathematics to the new concept and the students' experiences, observed by the teachers, on connecting previous, present information. Teachers evaluate learners' prior knowledge before proceeding to the new concept to understand learners' ability in their basic skills in mathematics as they connect these skills to higher mathematics. This helps teachers know what to start and where to start in their classes.

Sociocultural Perspective (Vygotsky, 1978) explained the teachers' expectations to their learners in learning higher mathematics and how they help learners understand and in the new context. It shows that their relationship with peers is vital for students in transition (Spernes, 2020). This teachers' approach used in the classroom promotes collaboration and creates an atmosphere where everyone interacts and shares ideas. Trotman et al. (2015) also emphasized that teachers' support and peer support benefit the transition.

The Ecological Viewpoint of Bronfenbrenner (1979) gives the teachers' perspective on how students perform in their mathematics skills with their new environment. Teachers reiterated that group activities and buddy work help learners adjust to their new learning environment as they become acquainted with their classmates.

Prather and Alibali's (2009) Children Progress concepts relate to the teachers' perspective on how learners are

ready to move to a higher level of mathematics and learn mathematics. The lack of mastery in learners' basic math skills is evident that learners are not ready to learn higher mathematics.

Implication for Teaching Practice and Further Research

Handling the transition stage of basic skills to higher mathematics of grade 7 learners is very demanding for teachers. The awareness of the teachers how learners struggle in their mathematics learning during transition help teachers to provide actions that might occur during the transition. Teachers may also adjust their teaching practices and find teaching strategies that will help learners learn new concepts in mathematics.

Parental and psychosocial support might have an essential role in the transition stage. Exploring these areas might provide how parents and other stakeholders affect the learners' learning as they move from primary to secondary. There is also a potential to explore how peers, friends, and siblings might help learners adjust to their new environment, teaching practices, and school culture.

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Keeping Arts Education Alive: A Phenomenological Inquiry

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ABSTRACT

This phenomenological inquiry explores the experiences of Arts and Design students in distance learning. Moreover, this study discovers the coping mechanism and insights of the students in distance learning. In School A, purposive sampling was used in choosing 15 participants for the in-depth interviews and focused group discussion. The revealing themes for the experiences of Arts and Design students in distance learning were developing self-efficacy, lacking teacher's guidance, managing time, enhancing creativity and innovation. To cope with the challenges in distance learning, the Arts and Design students were utilizing the internet as a learning supplement, getting support from family and peers, adapting to the changes to the mode of learning, and facing challenges positively. The Arts and Design students continue to face these challenges with insights for the provision of educational technology, setting goals for the future, promoting arts education to others, and participating in classroom discussions and activities. This study suggests that action is needed to place the arts on education agendas and that arts matter for all learners at all levels of education. The benefits of arts education are part of a powerful strategy to keep the arts strong in our nation's schools.

Keywords: arts education, arts and design students, phenomenology, distance learning

INTRODUCTION

The pandemic currently sweeping the world had a tremendous impact in various sectors, especially in the field of education. We all know that this pandemic requires everyone to stay at home to keep their distance and avoid crowds. In the Philippines, the educational system is still in no face-to-face classes. The solution offered is to carry out the education under distance learning. For private schools they opted for online learning while for most public schools modular learning modality was implemented. The emergence of distance education as an alternative to the traditional education system forges problems to the Arts and Design students.

The purpose of this qualitative study was to discover and understand the experiences and coping mechanisms of Arts and Design. To discover and understand the experiences, coping mechanisms and insights of learners in distance learning, this study sought to answer the following questions: What are the lived experiences of Arts and Design students in distance learning? How do students cope with the challenges of Arts and Design track in distance learning? And What are the insights of students to be shared to others?

This study was viewed on the lens of the social learning theory, proposed by Albert Bandura (1977), that emphasizes the importance of observing, modelling, and imitating the behaviors, attitudes, and emotional reactions of others. Social learning theory considers how both environmental and cognitive factors interact to influence human learning and behavior. Moreover, this study considers the environmental factors in this sense, distance learning of Arts and Design students, and cognitive factors involved like attention given by learners to their lessons through modular learning, and how distance learning affects the way they learn and perform in distance learning. Additionally, the theory of Bandura moves with the flow of this study which would highlight the behaviors of the participants in their experiences in Arts and Design Track in distance learning, which consider the

influences of distance learning into the lives of the learners.

METHODS

Research Design

In this study, qualitative research design was used, specifically by employing phenomenological approach because this would involve interpretation and description of gathered information. According to Creswell (2007) Data for qualitative research studies can be obtained from different sources such as interviews, observations, documents, and are variedly used depending on the purpose and nature of the study.

Research Participants

In this study, there were 15 participants, in School A from Tagum City Division. Purposive sampling was used in this phenomenological study. The number of participants in the study were 15 senior high school students. In this study, it was within the range of participants having 8 informants for the in–depth Interview and another 7 participants for the Focused Group Discussion. According to Crossman (2017), purposive sampling technique which is a non-probability sample is selected based on characteristics of a population and the objective of the study. Purposive sampling is also known as judgmental, selective, or subjective sampling.

Data Collection

In conducting in – depth interview, the third characteristic mentioned by Seidman (2006) wherein the interviewer asks follow-up questions to gain a deeper perspective and understand the participant's viewpoint, and the fourth characteristic which is generative wherein as a researcher, you must interact with your target audience create new knowledge, was used in collecting data.

Data Analysis

In analyzing the data, thematic analysis was used which is an excellent method to research in trying to find out something about people's ideas, opinions, knowledge, experiences, or values from a collection of interviews, transcripts, social media profiles, or survey results.

Caulfield (2019) mentioned that it is a method where researcher examined data in detail to identify common themes, topics, ideas, and patterns of meaning that come up repeatedly. In conducting the study, ethics remained to be a top priority, hence, following and observing ethical codes and guidelines in each step of the research process was considered.

Ethical Considerations

According to Creswell (2007) as cited by Osho (2017) researchers need to look forward to the ethical issues that might come up during their studies. Therefore, moral principles require that research participants and respondents must be protected, have confidence in their response and participation, advocating the excellence of research, guiding against anomalies or misconduct that might replicate on the organizations and to deal with predicaments that keep reappearing during the research.

RESULTS

Experiences of Arts and Design Students under Distance Learning

In the experiences of Arts and Design students in distance learning, the emergent theme developing self-efficacy was revealed as learners shared how they were able to hone their skills. Moreover, the participants' experience revealed a massive development in honing their skills in drawing. It was also manifested that students rely on self to improve and that under distance learning they were learning individually. The Arts and Design students' belief in their capacity to execute behaviors necessary to produce specific performance attainments were evident in the responses they have shared.

Moreover, lacking teacher's guidance was revealed as one of the emergent themes because the participants all shared their experiences of the absence of a teacher in discussing the lesson. The distance learning has caught them to feel that there is no actual communication, and that learning is somewhat difficult without a teacher to guide them in their lesson.

Managing time was manifested in the responses of the participants as distance learning paved the way to make time worthwhile especially when they were confronted with other responsibilities at home. Balancing schoolwork with work at home, having difficulty managing time, and being pressed with so much work was revealed in the responses of participants.

Furthermore, it was also revealed that their creativity in Art works were cultivated and nurtured. Besides, it was revealed that under distance learning, the creativity and innovation of Arts and Design learners were enhanced and that the activities provided for them with their Art teachers have a positive outcome in their Art skills under distance learning. The experiences of Arts and Design students under distance learning have enhanced their creativity and innovation.

Table 1
Major Themes and Core Ideas on the Experiences of Arts and Design Students under Distance Learning

Major Themes	Core Ideas
Developing Self- Efficacy	● *Honing skills in drawing with massive improvement* ● *Relying on self to learn and improve* ● *Learning individually* ● *Having the will to take a step and make a change for the benefit of ourselves* ● *Studying hard to fully understand the lesson* ● *Learning more and improve knowledge in music*
Lacking Teacher's Guidance	● *Having trouble without a teacher to teach* ● *Lacking communication from the teacher in learning the lesson* ● *Having trouble without a teacher to guide us in our subject* ● *Challenging without teacher to discuss the lesson*
Managing Time	● *Balancing schoolwork with household chores* ● *Having difficulty managing time during the pandemic* ● *Having pressed with so much work with so little time* ● *Learning to manage my time wisely*
Enhancing Creativity and Innovation	● *Enhancing skills and ability* ● *Having art activities to improve art skills* ● *Harnessing creativity and innovation* ● *Cultivating the creativity in art works*

Coping Mechanism of Arts and Design Students under Distance Learning

In coping with the challenges in distance learning, utilizing the internet as a learning supplement was revealed in the responses of participants. Learners rely on the internet to supplement learning. Watching videos on the internet was used to learn new techniques in Arts Education. Also, getting support from family and peers was one of the emergent themes revealed and that learners turn to the support of family and classmates in coping under distance learning. They asked help from peers and classmates and relied on family members for clarification about their lesson. Indeed, family and peers are the support system of learners under distance learning. Another emergent theme is adapting to the changes of the mode of learning as a coping mechanism of learners in distance learning. This emergent theme was revealed in the responses of the learners as they experience that learning they have learned a lot without a pressure.

Moreover, they cope by composing themselves to be strong again after a downfall. Furthermore, it was manifested that for learners, distance learning is difficult, but it turned out it was a learning experience, and that they tried to cope by adjusting based on circumstances.

Additionally, the theme revealed facing challenges positively as a coping mechanism of learners in distance learning manifested that the participants make

challenges as steps towards achieving goals in college life and that having a positive attitude turned into the reason for choosing Arts and Design Track. Furthermore, looking at the bright side of every challenge as a learning experience and thinking of every positive side of everything were manifested as the coping mechanism of Arts and Design students under distance learning.

Table 2
Major Themes and Core Ideas on the Coping Mechanism of Arts and Design Students under Distance Learning

Major Themes	Core ideas
Utilizing the Internet as Learning Supplement	● *Relying on internet and surveys from others for supplemental learning* ● *Utilizing the internet to clarify some terms* ● *Using the internet to watch art lessons in YouTube* ● *Watching videos on YouTube to supplement learning in visual design technique* ● *Searching the internet to understand the lesson*
Getting Support from Family and Peers	● *Unwavering support of parents, relatives, and friends* ● *Asking help from classmates about the lesson* ● *Seeking help from peers and classmates* ● *Relying on one's sister for clarification.*
Adapting to the Changes of the Mode of Learning	● *Learning a lot without a pressure* ● *Composing self to be strong again after downfall* ● *Thinking distance learning is difficult but turned out it was a learning experience* ● *Trying to cope with distance learning* ● *Coping by adjusting based on circumstances*
Facing Challenges Positively	● *Making challenges as steps towards achieving goal in college life* ● *Having a positive attitude by turning on to the reason for choosing arts and design track* ● *Looking at the bright side of every challenge as a learning experience* ● *Thinking of every positive side of everything*

Insights of Arts and Design Students in Distance Learning

Technical assistance is essential and paramount in distance learning. The learners were confronted with the new system, which is in distance learning, thus provision of educational technology is imperative. It was revealed in the responses of learners that there should be provision of educational technology to both learners and teachers to enhance digital art techniques. Moreover, another emergent theme was revealed setting goals for the future as insight of the responses on their experiences in distance learning. It was revealed that they motivate themselves that this is for their future and for their own good. Moreover, they remind themselves of the goal they wanted to achieve in life and reward themselves for the challenges encountered. It was also revealed in the participant's responses the need to promote the Arts education to others.

Moreover, having virtual exhibits and promoting the track were manifested in their responses as their insights in Arts and Design in distance learning. And finally, revealed as insights of learners in their experiences in distance learning was participating in classroom discussions and activities. It was manifested that the learners participated by submitting their projects on time and being able to attend art activities. Additionally, recording their activity in painting and drawing were also manifested as an active participation of students. Additionally, contributing skills and talent in Arts and Design track was revealed as an insight of learners of Arts

and Design Track in distance learning. Technical assistance is essential and paramount in distance learning. The learners were confronted with the new system, which is in distance learning, thus provision of educational technology is imperative. It was revealed in the responses of learners that there should be provision of educational technology to both learners and teachers to enhance digital art techniques.

Another emergent theme was revealed setting goals for the future as insight of the responses on their experiences in distance learning. It was revealed that they motivate themselves that this is for their future and for their own good. Likewise, they remind themselves of the goal they wanted to achieve in life and reward themselves for the challenges encountered. It was also revealed in the participant's responses the need to promote the Arts education to others. Moreover, having virtual exhibits and promoting the track were manifested in their responses as their insights in Arts and Design in distance learning.

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Table 3
Major Themes and Core ideas on the Insights of Arts and Design Students in Distance Learning

Major Themes	Core Ideas
Provision of Educational Technology	● *Providing tools for Arts and Design students and Teachers* ● *Supplementing gadgets to enhance learning* ● *Providing materials and equipment for Art students* ● *Giving software application for digital art techniques*
Setting Goals for the Future	● *Motivating oneself that this is for the future and for own good* ● *Reminding oneself of the goal to achieve* ● *Rewarding oneself for the challenges encountered* ● *Telling oneself that this is for the future*
Promoting Arts Education	● *Supporting arts and design track* ● *Having virtual art exhibit amidst pandemics* ● *Encourage other learners to take up the track* ● *Promoting arts and design*
Participating in Classroom Discussions and Activities	● *Submitting projects on time* ● *Being able to participate in art activities* ● *Having recorded activity in painting and drawing* ● *Participating in virtual class* ● *Contributing skills and talent in arts and design*

DISCUSSION

The participants' experience in distance learning revealed that amidst the pandemic and with all the struggles they encounter they can face all these challenges. According to Roick and Ringeisen (2017) it was found out that self-efficacy positively impacted student's test anxiety levels and academic performance. This was evident in the responses of the participants as they have great improvements with their art skills.

According to Mayasari & Kemal (2020), the role of teachers in implementing

distance learning in the middle of the covid-19 plague, learning has changed from what is usually face-to-face learning to distance learning that does not hold face-to-face activities between students and teachers. Teacher's role in the teaching and learning process in general, the role of the teacher cannot be excluded, because learning is an interaction between teacher and students.

Kelly (2014) mentioned that most learners face issues like errand repugnance and vulnerability, so they begin to stall because they need time and administrative abilities. Time controlling is very fundamental to any student, and it is one of the keys to compete in the field and get achievements.

Creativity is a general ability of humankind - such as intelligence and memory- and all people are creative to some extent (Asma, 2006). Creativity is simply the production of novel, appropriate ideas in any realm of human activity, from science to the arts, to education, to business, to everyday life. The ideas must be novel and different from what have been done before, but they can't be simply bizarre; they must be appropriate to the problem or opportunity presented.

For Arts and Design students, distance learning has confronted them to find ways to cope with distance learning. Moreover, their ability to utilize internet connectivity and other available multi-media were enhanced under distance learning. Coping distance learning with supplemental web programs gained an advantage towards accomplishing students' activities in utilizing the resources of the World Wide Web as mentioned by Ng & Nicholas (2018).

According to Cantiga (2020) parents can encourage their children to study their lessons and answer their modules for enrichment activities or to better understand concepts. It would be beneficial to note that learning from home will be more sustainable if it feels nice for all family members and students as schools and districts communicate with families about these new learning activities to be done from home.

Furthermore, Jaggars (2017) mentioned that those with more extensive exposure to technology or those who have been taught skills in terms of time-management and self-directed learning may adapt more readily to online learning or in this study to distance learning through modular modality of learning.

In addition, Icekson (2020) stated that although optimistic expectations often improve student academic performance, they can also lead to academic failure if they are related to unrealistic beliefs of success. High awareness can control the negative effects of high optimism, such as unrealistic expectations and overconfidence.

According to Wan, Ludwig, & Boyle (2018), one new trend in arts education is the use of various technologies, such as software or online platforms, to teach the arts. Another trend is to study media arts as a course of study. Media arts may be structured as the study of a specific type of technique such as computer-generated arts, or graphic arts or a broad area of study that encompasses many techniques for a specific career-focused use like animation for film and television, advertising, journalism, museum education, and composing.

According to Cook-Sather & Luz (2015), the relationship between personal responsibility and learning has been examined extensively. Some researchers, for example, argue that a common trait among successful learners is that they take an active role in ensuring that their needs are met and sustained over time.

According to Lloyd (2017) the arts education benefits students in several critical ways, improving students' mental health, self-confidence, and life skills. Arts education also helps foster creativity and sustains the natural creativity of young children.

Participation between lecturers and students is integral in the process of learning. Based on a study conducted by Onge, J. & Eitel K (2017), it was found that participation and engagement are important factors in students' academic achievement and in increasing interest and motivation in the learning process.

Implications for Teaching Practice and Further Research

The findings showed that the experiences of Arts and Design and students in distance learning was both favorable and unfavorable. Favorable experience that the learners developed self-efficacy and learned to manage time. Surprisingly, even though the teacher's guidance brought upon the new normal distance learning, their creativity and innovation were enhanced and harnessed.

Furthermore, to cope with distance learning, learners utilized the internet as a learning supplement, with the support from family and peers they were able to cope with. Besides, adapting to the challenges of the mode of learning, learners were able to face challenges with positivity However, the participants felt there is a need for provision of educational technology and promoting a track to foster avenues of a quality Arts Education for senior high school learners.

It is therefore essential that teachers and the school identify factors that would help students adjust to distance learning, help learners face challenges positively and to cope with the changes of the mode of learning, remind learners of their responsibility, support arts by promoting arts education and initiating activities for learner's active participation such as virtual art exhibits. It is paramount that provision of educational technology for Arts and Design must be given with greater emphasis that would benefit the arts education as a part of a powerful strategy to keep the arts strong in our nation's schools.

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Pakikipagsapalaran sa Bagong Mundo ng Pagtuturo: Paggalugad sa Online na Pagkatuto sa Filipino

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ABSTRAK

Ang pandaigdigang krisis pangkalusugan na nararanasan ay nagbigay ng kakaibang mukha sa larangan ng edukasyon. Ito ay nagdulot ng pagpapasara ng mga paaralan, pagsasagawa ng *distance learning* at mahigpit sa pagpapatupad ng *public health safety protocols* upang mapigilan ang pagkalap at pagkahawa ng sakit na COVID-19. Sa transisyong nararanasan natin sa Bagong Kadawyan *(New Normal)* ng pagtuturo isang malaking hamon ngayon kung paano maipagpapatuloy ang epektibong paghahatid ng kaalaman at pagtuturo ng mga kasanayang inaasahang malinang ng mga mag- aaral sa kabila ng krisis na ito. Isa sa mga naging pamamaraan ng pagtuturo ngayong pandemya ay ang *online distance learning*. Hindi ganoon kadali ang pagsasakatuparan ng nasabing pamamaraan dahil dapat taglayin ang batayang kasanayan sa ICT ng kapwa mag-aaral at guro upang maipagpatuloy ang pagkatuto kahit layo at distansiya man ang pagitan. Maliban pa riyan, ang kakulangan at kahinaan ng pasilidad ng internet sa ating bansa ang isa sa mga hamon sa panahon ng pagpapatupad ng *online distance learning*. Dagdag pa rito ang pinansiyal na kakayahan ng mga magulang na masuportahan ang pangangailangan ng mga anak. Layunin ng kuwalitatibong pag-aaral na ito na alamin, ilarawan at suriin ang karanasan ng mga piling mag-aaral na gumagamit ng *online distance learning* sa panahon ng pandemya. Maliban pa rito, matukoy rin ang pananaw at saloobin ng mga mag-aaral upang mapatatag at mapalalim pa ang implementasyon ng *online distance learning*.

Keywords: *bagong mundo ng pagtuturo, online na pagkatuto sa Filipino, kuwalitatibong pag-aaral, phenomenology*

PANIMULA

Maraming paaralan sa buong mundo ang nagsara upang mapigilan ang pagkalat ng COVID-19 (Bonal et al., 2020; Gamage et al., 2020; Luke, 2020;). Ayon sa UNESCO *Institute of Statistical Data* sa pag-aaral nina Gamage et al. (2020), 67.7% sa kabuuang mag-aaral na nakapag-enrol sa 144 na bansa ang apektado sa nasabing pagpapasara. Ito ay kinabibilangan ng mga mag-aaral mula sa *pre-primary (kindergarten), primary* (elementarya), *lower-secondary (Junior High School), upper-secondary (Senior High School)* at kolehiyo. Biglang bumaligtad ang mundo ng edukasyon nang nagbago ang lahat ng pamamaraan ng pagtuturo at pagkatuto. Ang dating *face to face* na pagtuturo ay napalitan ng *remote learning* (Fernandes et al., 2020; Maddumapatabandi et al., 2020; Nahcivan et al., 2020; Ren, 2020;), at upang matugunan ang suliraning ito ang Kagawaran ng Edukasyon ay naglatag ng gabay at patnubay sa pamamagitan ng *Basic Education Learning Continuity Plan* (BE-LCP) sa ilalim ng DepEd Order No. 12 s. 2020 (*Adoption of the Basic Education Learning Continuity Plan for School Year 2020-2021 in the Light of the COVID-19 Public Health Emergency)* upang maipagpagpapatuloy ang edukasyon.

Sa mga pag-aaral na ginawa tungkol sa pagpapatupad ng *online distance learning* sa panahon ng pandemya lumabas ang mga suliranin at hamon gaya ng mahinang koneksiyon sa internet (Fauzi et al., 2020), mababang antas ng pag-unawa ng mga mag-aaral at kawalan ng retensiyon (Belgica et al., 2020), mababang kasanayan sa komunikasyon at kalinawan ng mga panutong ibinibigay ng mga guro (Baticulon et al., 2020), pagkatukso sa mga *chats*, *social media account, online*

games (Xie et al., 2020), sapat na kasanayan sa *information and communication technologies* (ICT) (Basilaia et al., 2020), kaunting impormasyon o sanggunian na mapagkukunan o hindi kaya'y limitadong kaalaman tungkol sa paksa (Bonal et al., 2020), kakayahan ng mga mag-aaral sa *digital literacy* at isyung teknikal (Gordon et al., 2020; Sandars et al., 2020).

Layunin ng pag-aaral na ito na alamin ang karanasan, pananaw at saloobin ng mga mag-aaral sa ilalim ng *online learning* at mula rito, inaasahang makabubuo ng rekomendasyon sa implementasyon ng *online distance learning* na makatutulong sa kapwa guro at mag-aaral at maging sa pangkalahatan.

METODO

Disenyo ng Pananaliksik

Sa pag-aaral na ito nagiging sandigan ang pamamaraang *qualitative research* gamit ang penomenolohikal na dulog ni Creswell (2009). Sa tulong nito nakukuha ang detalyadong paglalarawan tungkol sa karanasan ng mga mag-aaral sa ilalim ng *online distance learning*.

Kalahok sa Pananaliksik

Ang pag-aaral na ito ay pumili ng limang kalahok na kumukuha ng *online learning modality* sa Filipino at anim na mga magulang na pumili ng *online learning modality* para sa kanilang anak ngunit sa hindi inaasahang pagkakataon tatlo lang sa mga magulang ang tumugon sa iba't ibang kadahilanan. Naging batayan naman sa pagpili ng mga kalahok ang akademikong pagganap *(academic performance)* at gawi *(behavior)* ng mga mag-aaral.

Pamamaraan ng Pangangalap ng Datos

Ang pagrebyu ng mga kaugnay na literatura ang unang naging hakbang ito ay sinundan ng paghingi ng permiso sa mga kinauukulan at paghahanda ng instrumento gaya ng gabay na tanong (Creswell, 2009). Sumunod ang paghingi ng pahintulot sa mga magulang (consent) at ang pagsang-ayon ng mga mag-aaral (assent) na maging bahagi ng nasabing pananaliksik. Bilang pagsunod sa IATF *protocol* isinagawa ang birtuwal *in-depth interview* at *focus group discussio*n (Nyumba, 2018) na sinundan pagsusuri sa mga nakuhang datos.

Pagsusuri ng Datos

Isinaayos ng mananaliksik ang nakalap na impormasyon sa tulong ng *video recording*, sinuri ang pangkalahatang mensahe at ikinategorya ang magkakaugnay na sagot. Gamit ang *coding*, hinimay-himay ang mga impormasyon na naiiba, nangingibabaw at nakatawag-pansin sa at mula rito bumuo ng interpretasyon.

Etikal na Konsiderasyon

Gabay ang mga elemento sa etika ng pananaliksik ng *National Ethical Guidelines for Health-Related Research* [NEGHHRR], (2017), isinaalang-alang ang *vulnerability assessment* lalong-lalo na't menor de edad ang kasangkot. Binigyang-diin din ang pagiging kompedensiyal ng kanilang pagkakilanlan at nagsagawa ng *debriefing*. Sa layuning makatugon agad sa mga paglilinaw kaugnay sa pag-aaral ang mananaliksik ay nagbigay ng mga personal na mga detalye at ibinigay rin ang kanyang numero at pangalan ng *messenger*.

RESULTA

Magkahalong damdamin ang namayani hinggil sa pagpapatupad ng *online learning modality*. May kinabahan dahil sa hindi pa pamilyar sa magiging "paano" nito (IDI-E3), may natakot baka mawala ang koneksiyon (IDI-E3), at may nasasabik dahil sa tinagal-tagal na nilang nasa bahay hinahanap-hanap na nila ang ngiti ng kanilang mga kaibigan at kaklase (IDI-E2).

Naging negatibo naman ang pananaw ng mga magulang kung paano matuto ang bata sa bagong pamamaraan ng pagtuturo at kung paano maturuan ang anak na makisalamuha sa kapwa (FGD-M3). Maliban pa riyan, nawala rin ang mga nakagawiang ginagawa ng mga bata tuwing may pasok (FGD-M1).

Pinakamahalagang salik na dapat tingnan sa pagtuturo ay ang estratehiya na ginamit ng guro upang mapanatili ang

kawilihan ng bata habang ipinapaliwanag ang isang konsepto (IDI-E5). Kaakibat ng pagpapatupad ng *online* ay ang kagamitan at koneksiyon. Hindi lahat ng pumili sa pamamaraang ito ay may sariling *gadge*t at *internet* koneksiyon. at may kakayahang manipulahin ang gadget (IDI-E3).

Ang suporta ng bawat miyembro ng pamilya mapa-moral man o pinansiyal ay malaking bagay upang magkaroon ng determinasyon at inspirasyon ang bata sa pagsakatuparan agad ng mga gawain (IDI-E1, IDI-E4).

Sa kabila ng kahirapang naranasan ng mga mag-aaral sa *online learning modality,* sinisikap nilang isakatuparan ang mga gawain sa pamamagitan ng wastong pamamahala ng oras (IDI-E3). Sa usaping pangingistorbo ng mga kasama sa bahay, naging diskarte ng mag-aaral ang pagpapahupa muna ng tensiyon upang sa panahon ng klase ay wala nang distorbo (IDI-E5).

Ang pagkamit ng sinasabing ikadalawampo't isang siglong kasanayan ay hindi inaasahan, lahat ay natuto sa iba't ibang *online platform, application* at *educational software* (FGD-M1, FGD M-2).

PAGTALAKAY

Ang kawalan ng kapanatag ay nagdudulot ng pangamba at pag-aalinlangan. Ang matagalang pagpapasara ng mga paaralan ay nakaaapekto sa mental at pisikal na kalusugan na magdudulot ng pagiging sumpungin o iritable (Pragholapati, 2020).

Malaki ang epekto ng kapaligiran sa ganap ng pagkatuto ng mag-aaral at kapag hindi ito naaayon sa pilosopiya ng pagtataguyod ng isang epektibong kapaligiran inaasahang mawalang-saysay ang estratehiyang ginamit ng guro sa pagpapalawig ng konsepto at pagpapalalim ng kaalaman. Isa sa mga ito ay ang kawalan ng maayos at matinong espasyo sa loob ng bahay upang makapagpokus (Peachey, 2017). Dagdagan pa ang pangangambala ng ibang miyembro ng pamilya sa panahon ng klase (Xie et al., 2020).

Mahalaga ang suporta ng bawat miyembro ng pamilya upang matiwasay na maipagpatuloy ang mga akademikong gawain. Higit sa anomang suporta, ang pagibibigay ng tulong upang magkaroon ng determinasyon at inspirasyon ang bata sa pagsasakatuparan agad ng mga gawain ay pangunahing tunguhin lalo na ngayong may pandemya. Patunay lamang na ang pakikiisa ng magulang sa larangan ng edukasyon ay may impluwensiya sa pagkatuto ng bata (Delgado, 2019).

Napatunayan sa pag-aaral nina Sumardani et al. (2021) na ang suporta ng bawat miyembro ng pamilya lalo na ngayong pandemya ay nakatutulong sa pagiging matatag ng isang indibidwal.

Sa naging resulta ng pag-aaral kailangang malay sila sa bawat detalye upang magkaroon ng pokus. Pinatunayan ito nina Peachey (2017) at Xie et al. (2020) na mahalaga ang disiplina ng mag-aaral habang nagkaklase dahil ang kawalan nito ay mag-uugat ng malaking problema sa buong proseso ng pagtuturo at pagkatuto. Ang disiplinang ito ay tumutukoy sa kakayahang umiwas sa mga tukso gaya ng *chatting, online games* at panonood ng *video* habang may klase.

Higit pa rito, responsibilidad ng mga mag-aaral na umangkop upang umunlad sa mga panahong walang kasiguraduhan tulad ng pandemya at bumuo ng panghabang-buhay na kasanayan (Qadir, 2020). Ibig sabihin, hindi magiging hadlang ang krisis pangkalusugang naranasan upang tumigil sa pagkatuto at tumuklas ng bagong talento at kasanayan, bagkus gawin itong oportunidad na madebelop at madiskobre ang sariling kakanyahan.

Ang papel ng teknolohiya ay naging mahalaga dahil ang mga tao ay umaasa dito upang maipagpatuloy ang malikhain, propesyonal, at akademikong mga gawain sa panahon ng pandemya. Ang paglitaw ng makabagong teknolohiya, ang kawalang-hanggang impormasyon na makukuha sa internet, at pandemya ay nananawagan ng pangangailangan na makakuha ng mga bagong kasanayan sa ICT (Shastri et al., 2021).

Napatunayan sa pag-aaral nina Chavez et al. (2020) ang isang makabuluhang ugnayan sa pagitan ng pagsasama ng ICT at mga *digital* na kasanayan sa panahon ng pandemya. Nasabi nila ito dahil nabibigyan ng pagkakataon ang mga mag-aaral na

matuto at makabisado ang mga kasangkapang teknolohikal na angkop para sa birtuwal na pagtuturo at pagkatuto.

Mga Implikasyon sa Pagtuturo

Pagtalaga ng komite na maging responsable sa pagbuo **Manwal sa Pagsasagawa ng Online na Klase** na magsisilbing gabay ng mga guro may pandemya man o wala. Magkaroon ng pagsasanay ang mga guro sa epektibong paggamit ng mga *educational software*. Maaaring patatagin ng paaralan ang *Learning Management System (LMS).* Pagpapaigting ng oryentasyon sa mga magulang at mag-aaral tungkol sa pamamaraan ng *online distance learning.*

Implikasyon Para sa Susunod na Pananaliksik

Magkaroon ng baryasyon o magkahalong uri ng kalahok at mas magandang naisama sa *triangulation* ang gurong nagtuturo ng *online.* Magsagawa rin ng *quantitative research* upang masukat ang antas ng kasanayan sa paggamit ng ICT, antas ng suportang ibinibigay ng mga pamilya, at ang lebel ng saloobin at emosyon ng mga kalahok sa implementasyon ng *online learning modality*. Ang panghuli ay alamin ang kahandaan ng mga guro na tumugon online na pagtuturo.

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Pupils at Risk of Dropping Out in Modular Distance Learning: A Qualitative Inquiry

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ABSTRACT

The new average education transformed the classroom into a home school. This study aimed to find out the experiences, coping mechanisms, and insights of the pupils at risk of dropping out in modular distance learning. The participants of this study were the grade 6 pupils at risk of dropping out. Purposive sampling was used in this study to choose the participants from the elementary schools of Tagum City. The researcher employed a qualitative phenomenological research design using in-depth interviews and focus group discussions on gathering participants' information. Results showed that learners struggle in utilizing self-learning modules in this new normal education. However, some expressed that it shaped them into independent ones. They find ways to cope with those burdens happening in modular distance learning. Furthermore, learners did their best to study at home with the help of their family members. Findings suggest that constant teacher communication, parents' support, and proper motivation may be intensified to address the concerns of difficult lessons. Moreover, the Department of Education may provide programs to support the teachers, parents, and learners in enhancing modular study.

Keywords: pupils at risk of dropping out, modular distance learning, phenomenology

INTRODUCTION

COVID-19 pandemic has disrupted the normal functioning of various activities worldwide, including learning and education. This global crisis is overwhelming the functioning and outcomes of the education system.

This affects all children on multiple factors, including their country, ages, family backgrounds, and degree of access to educational opportunities. The children lack daily access to school, basic support, lose out on group activities, team sports, and recreational activities (Garcia, 2020).

The shutdown of schools posed major challenges to students. The virus consigned nearly 55 million U.S. school children under 18 to stay in their homes, with 1.4 billion out-of-school or childcare across the globe. Many children struggle with academic stress and find it difficult to receive effective instruction (Kislitsyn, 2020).

According to the Department of Education, a new era of learning is to be experienced by the learners. They are to utilize self-learning modules at home with the support of their parents or guardians. The use of modules encourages independent study. The benefit of using modules for instruction is the acquisition of better self-study. Pupils engage themselves in learning the concepts presented in the module. They develop a sense of responsibility in accomplishing the tasks provided in the module. With little or no assistance from others, the learners progress independently. They are empowered and learning how to learn (Quinones, 2020).

It will be challenging to identify which pupils struggle most and how much learning and development they have lost. A strengthened system based on meeting children where they are and providing them with what they need will be vital to lifting children (Agyemang, 2020).

When teachers measure and assess children's learning, they consider how children learn and acquire knowledge. Teaching and assessing children need to be done within a framework that understands that each child may have learned differently and different things. They were designing what is best to lift them to make up for the extended out-of-school sessions and disruptions (Cluver, Whipple, & Tarasawa, 2020).

Moreover, the researcher wants to determine the experiences, coping mechanisms, and insights of the grade six pupils on how they handle modular distance learning through in-depth interviews and focus group discussions.

METHODS

This study employed a qualitative design study utilizing a phenomenological approach. Qualitative researchers approach the world from a very different perspective. It means that all the qualitative methods view the world as subjective rather than objective (Dodgson, 2017).

Creswell (2018) explained that phenomenology's purpose is to define the meaning of this experience, both in terms of what happened and how it happened. It allowed the researcher to dive into the views, understandings, and sentiments of persons who had witnessed or lived through the phenomena or circumstances in question. Therefore, the qualitative phenomenology research design was used in this study to determine the experiences, coping mechanisms, and insights of grade six pupils at risk of dropping out in modular distance learning.

Research Design

This study utilized a qualitative phenomenological research design. It described the participants' interpretations of their experiences in modular distance learning. The participants are encouraged to respond to the provided questions through soft copy or hard copy. They were requested to participate in a face-to-face focus group discussion. Data analysis, themes, and common patterns will be formed from their responses.

This study used a phenomenological approach, which stated that it is an approach to qualitative research that describes the meaning of a lived experience of a phenomenon for several individuals. To describe the commonalities of the experience. Neubaurer (2019) added that this approach is positioned to help professionals or students to learn from the experiences of others.

Research Participants

The participants of this study were the grade six pupils who responded to the questions prepared by the researcher. This study was participated in by 13 pupils at risk of dropping out in school and was selected through purposeful sampling. There were seven Grade 6 participants invited to the in-depth interview, but only six responded to the invitation. The participants answered orally, and the researcher recorded the conversations with their consent. There were 7 grade six participants in the focus group discussion, which was done physically with the consent of their parents. Data analysis is made after the IDI and FGD. Themes and common patterns were formed from their responses.

Data Gathering Procedure

In gathering the data, first, the researcher made a permission letter duly signed by the researcher’s school head. Second, asked permission from the office of the Schools Division Superintendent (SDS). Third, the researcher listed the names of possible participants in the study and approached them if they were willing to participate. Fourth, secured the parent's consent and informed assent to the participants since they are minors. Then they underwent orientation before conducting an in-depth interview (IDI) and focus group discussion (FGD). IDI and FGD aim to learn more about the interviewee's experience and viewpoint on a particular topic.

Fifth, the researcher conducted an IDI and FGD to the 13 grade six pupils using the research questionnaire guide and voice recorder to record the conversation.

Sixth, the researcher transcribed the data *verbatimly*, translated, and thematically analyzed it.

Data Analysis

In analyzing qualitative data, it followed the idea of Wong (2018). Data analysis is a process of reading the transcripts for how many times to increase understanding about the phenomenon and look for similarities and differences to find the themes and develop categories.

Thematic analysis was used to analyze information and systematically gain knowledge about the phenomenon. It can help the researchers move from a broad reading of data toward discovering patterns. As suggested by Boyatzis (2017), there were five processes of thematic analysis: (1) Collect data from different sources, (2) Coding data in which the code should be clear and concise, (3) Code validation to ensure the integrity of the codes, (4) Themes or frameworks identification, and (5) Information consolidation and finalize the themes. Employing the trustworthiness of this study, follow the suggestions of Lincoln and Guba (2019). They cited the importance of evaluating the worth of the study, like establishing its credibility, dependability, confirmability, and transferability.

After the interviews were conducted with 13 grade six participants, the researcher analyzed the data. It has been translated, transcribed to introduce the emergent themes. They were formed based on the participants' in-depth interviews and focus group discussion. The themes formulated from the core ideas they answered are the details of struggling learners, intervention, family support, and character building.

Ethical Considerations

The participants' involvement was entirely voluntary. They had the option to withdraw their participation at any time during the study if they felt uncomfortable. The confidentiality of research participants' information was maintained, as was the anonymity of participants.

The participants were given informed consent/assent and fully informed about the objectives, methods, and benefits of the research as comprehensively as possible within the framework of the study. The researcher ensured that the participants would be physically, emotionally, and socially ready and not feel awkward in answering the research questions.

The researcher correctly cited the literature used in this study. There was no clue in the research of deliberate misreading of what had been done, no making up of data and outcomes, or purposely putting forward false conclusions.

RESULTS

Presented below were the experiences, coping mechanisms, and insights of pupils at risk of dropping out in modular distance learning. It includes the emergent themes supported by the participants' responses from in-depth interviews and focus group discussion.

Experiences of Pupils-at-Risk of Dropping Out in the Modular Distance Learning

The in-depth interview and focus group discussion were done to gather the experiences of the grade six pupils at risk of dropping out in modular distance learning. It is shown in table 1 the major themes for this section.

The results showed in the IDI and FGD with the participants that one of the major themes is getting family support. IDI-01, IDI-03, IDI-04, and FGD-04 shared that the family had a great influence on the academic accomplishments of the participants. Their parents were the facilitators of learning and needed them to study self-learning modules. The second theme revealed during the interview is accomplishing the module independently. IDI-03 shared that he accomplished answering the modules alone because he had a goal of graduating from elementary. He worked hard because of his objective. Agreed by FGD-01 said with similar experience in studying with minimal supervision developed his sense of independence. Since technology is rampant in this generation, IDI-02 shared that he explored using the internet as the third theme in editing video in his performance task. The same experience was shared by FGD-02, finding comfort in accomplishing her assignment through the google site. Shared by IDI-05, IDI-06 FGD-03, and FGD-07, the fourth theme, which is struggling with difficult topics, challenged them to find ways to solve hard lessons in the module. The fifth theme is using modules with discrepancies. IDI-04 shared that she used modules with unreadable texts and blurred images. She called up the teacher and asked for the

correct module. FGD-01 also shared that he utilized rumbled pages of the module. He asked assistance from his sister to help him arrange the pages properly.

Coping Mechanisms of Pupils-at-Risk of Dropping Out in the Modular Distance Learning

With the challenges that the participants experience studying modular distance learning, the following major themes shown in table 2 reveal during the collection of information in IDI and FGD.

It is evident to the participants that they are persevering to finish the study despite today's pandemic. IDI-02, IDI-03 IDI-04, IDI-05, and IDI-06 shared that they strive to answer the activities in the module even in the absence of their professional teachers. FGD-02 and FGD-03 expressed that studying at home did not hinder their learning. Self-study with the assistance of parents gained self-learning.

The second theme is developing study habits. IDI-02, IDI-03, and FGD-04 shared that they independently answered activities in the modules. Since their parents were working and did not have enough time to assist them. IDI-01 and FGD-06 shared that they practiced multitasking in modular learning. Videoing self while doing chores for their performance tasks.

The third theme is releasing stress. IDI-01, IDI-04, IDI-05, FGD-05, and FGD-06 shared that numerous modules per week got them pressured because of the various activities to be done as instructed in the modules. They engaged in planting with their parents. They participated in cooking or baking. Some basic skills have been developed in this pandemic time. Another way to release stress was to play outdoor games with friends to unwind.

The fourth theme is managing time. IDI-02, IDI-03, and FGD-01 shared that their parents followed the schedule of picking and returning self-learning modules every Tuesday. They see to it that they answered the activities in the modules within the time duration. IDI-04, IDI-06, FGD-01, FGD-02, and FGD-03 expressed that they made a daily schedule to avoid work cram. Time management helped them gain accomplishment daily.

The fifth theme which transpires during the interview with the participants is resolving module concerns. IDI-03, IDI-04, IDI-07, FGD-01, and FGD-02 said that they contacted their teachers to consult on the technical problems of the module. They knew that teachers were the writers of the module, so they believed their queries would be entertained.

Insights of Pupils-at-Risk of Dropping Out in Modular Distance Learning

Through in-depth interviews and focus group discussion, the grade six pupils shared their insights in handling modular distance learning. Table 3 shows the major themes in this section.

It transpires during the interview that learners want gadgets to use in their study. IDI-01, IDI-02, IDI-06, FGD-04, and FGD-05 shared that cell phone or laptop is a great help because they can join the online class and search in Google explore the apps.

The second theme is improving oneself. IDI-04, FGD-01, FGD-02, and FGD-07 shared that they wanted training in the use of technology because they knew how useful it is in this recent time.

The third theme is spending time with family. IDI-03 and FGD-01 expressed that they appreciated much the effort exerted by their parents from getting the modules, assisting in answering the module, and facilitating the modular learning. After which, parents teach basic skills to learners like baking, planting, and doing chores.

The fourth theme is appreciating the teacher's effort. IDI-04, IDI-06, and FGD-03 shared that they appreciated the teachers' effort in writing, printing, sorting, and arranging the modules intended for the pupils. Though physical contact is impossible, the constant communication of their teachers was relevant.

The fifth theme is hoping for the future. IDI-05, FGD-04, and FGD-06 shared that they aim to be vaccinated. The protection and benefits brought by vaccines were their strongholds. They hoped for face-to-face learning because formal education in school is incomparable.

DISCUSSION

The viewpoint of Mills (2021) stated that the modular approach situated students to learn in the comfort of their homes. The possibility that they worked on the modules for mere compliance, not for the sake of learning.

Palmer (2020) stressed that learners with different needs have their challenges. They need more attention and understanding, considering that lessons require the presence of facilitators. They should pay attention to their parents or guardians as their facilitators. They gave a chance to listen to their parents to continue learning.

However, Gilreath (2020) expressed that some students attended modules independently, but some needed assistance to understand the lessons in the prescribed modules. Others, even with facilitators, still have difficulty comprehending the lessons and thus can hardly proceed to the following lessons. Submission deadlines for modules further create pressure on students, especially when they fail to meet them.

The concept of Torto (2020) is that students consider distance education to be highly aware of their learning style and learning environment that best fits their needs. A typical distance learning environment requires pupils to be autonomous, self-regulated, and independent. As learners research distance learning programs, they should be vigilant of their level of need for community, autonomy, availability of opportunities to learn effectively and personally meaningful.

As Wong (2021) suggested, parents were vital partners in educating learners. This is true today since face-to-face classes are not allowed amid the COVID-19 pandemic. Learners without resources to attend online classes are provided with learning modules that they will use to continue in school for this School Year 2021-2022.

Implications for Teaching Practice and Further Research

In modular distance learning brought challenges to the learners because of its rare experience. The Department of Education directs the planning, implementing, and evaluating of the educational process. Find ways to lighten the burden of this modular distance learning. Consider some suggestions and recommendations raised by the parents and learners. School heads would come up with an appropriate solution to meet a variety of problems and challenges in ensuring the effective and efficient operation of modular distance learning.

Teachers should design the course and set the needs of learners. Assume responsibilities for preparation and presentation of learning tasks. Immediately consult with learners to correct problems and keep track of their tasks. Monitor, assess, and evaluate learners' performance.

Parents continued the unfailing love, care, untiring support, and effort to teach the learners. Do not be discouraged in handling education for your children. Prolong patience and perseverance. Always think of a better future for your children.

Learners should strive more to learn, even in modular distance learning. Adopt the changing procedure of the study. The changes happened in education, such as distance learning and the increase in the diversity of students. Distance learning seems comparable to face-to-face courses in terms of performance-based outcomes. But satisfaction levels of students enrolled in distance learning are much lower than studying face-to-face environments and are vulnerable to drop-out.

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The Effect of Google Classroom as a Learning Platform in the Performance of Students in Mathematics

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ABSTRACT

This research aimed to test the effect of Google Classroom as a learning platform on students' performance in Mathematics. A quasi-experimental study of two Grade 11 sections was conducted on functions and rational functions during a lesson. The respondents were selected through purposive sampling. The study was conducted during the first quarter of the first semester of 2021-2022. The study implemented three phases: pre-experimentation, experimentation, and post experimentation. A pre-test was given to both groups. Group A (control group) received modular instruction, while Group B (experimental group) received the treatment using Google Classroom. Afterward, a post-test was given to both groups. The data gathered were tabulated, computed, and analyzed using appropriate statistical tools, such as Mean, T-test, and ANCOVA. The pre-test results indicated that the control group had the edge over the experimental group at the start of the experiment. Results in the post-test demonstrated that the two groups performed well equally in Mathematics. However, comparing the mean gain scores between the two groups revealed that the experimental group was higher than the control group. This pointed out that using Google Classroom as a learning platform in teaching Mathematics was better than the modular way of teaching.

Keywords: google classroom, performance in mathematics, action research

INTRODUCTION

Mathematics has been viewed as an essential subject because numbers and logical reasoning are in almost all disciplines. But learning math is challenging for many people. Mathematical concepts can be abstract and difficult to visualize and sometimes can be frustrating for students to the point where they lose interest in the subject, resulting in low performance.

It can be seen in the 2019 result of the Trends in International Mathematics and Science Study (TIMSS) that Filipino students lagged other countries in the international assessment. The Philippines scored 297 in mathematics which is significantly lower than any other participating country. It is also revealed in the Program for International Student Assessment (PISA) that Filipinos fared second lowest in mathematical literacy (Philippine Daily Inquirer, 5 December 2019).

Locally, despite the continuing school efforts in enhancing performance in this learning area, the achievement rates of Tagum City National High School remain far below 75% passing rate in the National Achievement Test (NAT) in the previous years.

However, online media technology such as google classroom has been a new phenomenon to help motivate, differentiate, and allow students to achieve and excel in many ways. In the study conducted by Gunawan and Sunarman (2018), google classroom can enhance students' problem-solving skills. In contrast, technology has transformed teaching and learning dynamics over the last years. Whether integrating technology into the teaching and learning process significantly affects teaching quality and enhances learners' performance and experience, especially in this pandemic.

For these reasons, this research has been designed to examine whether google classroom would address the need to raise the interest of the students at School A, Tagum City Division in learning Mathematics since no known studies have

been conducted in recent years in the locale.

METHODS

Research Design

This study used the quasi-experimental design of Campbell and Stanley (1963) called pre-test and post-test non-equivalent control group design. This study used two intact groups–the experimental and control groups. The experimental group was taught using Google Classroom as the learning platform, while the control group was taught using a modular teaching approach.

Research Participants

The participants of the study were the Grade 11 students coming from the two sections of the K-12 Enhanced Basic Education Curriculum of School A, Tagum City Division, for the school year 2020-2021. They were selected through purposive sampling because the researcher assumes that they fit a particular profile. The control group was composed of forty-five students, while the experimental group was composed of fifty-three students.

Table 1

Distribution of the Respondents

Section	Number	Percentage
G11 - Einstein	45	45.92%
G11 - Euclid	53	54.08%
TOTAL	98	100%

Data Gathering Methods

Necessary permission was secured from the office of the principal. After the permit was granted, the researcher asked another Math teacher to conduct the study to avoid biases in the study.

Data needed for this research was gathered using researcher-made multiple types of test that consists of 30 items. Validation, reliability, and pilot testing were all done during the development of the test. Exporting, encoding, analyzing, and interpreting scores were all done. Table 2 shows the parameter that was used in identifying the level of the pretest and posttest results:

Table 2

Parameter of the Study

Range of Scores	Qualitative Rating	Remarks
25 – 30	Outstanding	Passed
20 – 24	Very Satisfactory	Passed
15 – 19	Satisfactory	Passed
10 – 14	Fair	Failed
Below 9	Poor	Failed

Data Analysis

The researcher used the Mean, T-test for correlated samples, T-test for uncorrelated samples, and ANCOVA to analyze the data.

Ethical Considerations

Permission to conduct the study in school was sought beforehand from the principal of School A, Tagum City Division. The researcher took concrete measures to ensure that respect, beneficence, and fairness are upheld according to the criteria established by the Tagum City Division Schools Division Research Committee.

During the data collection and analysis, voluntary participation, privacy and confidentiality, risk assessment and reduction, and identification of possible advantages were all used to achieve this. Other ethical concerns such as plagiarism, exaggeration, falsification, conflict of interest, deception, observation permission from an agency or site, and authorship were monitored throughout the study.

RESULTS

Level of Performance of the Students in Mathematics in the Control and Experimental Groups in Terms of Their Pre-test and Post-test Scores

Table 3.1 presents students' level of performance in Mathematics in the control group. Based on the data presented, the control group had a mean score of 10.87 and 19.51 in the pre-test and post-test, respectively, gaining a qualitative rating of fair and very satisfactory. The table also

shows that 42 students, or 93.33% in the control group, did not meet the passing score in the pre-test. However, all students or 100% in the control group passed the post-test.

Table 3.2 presents students' level of performance in Mathematics in the experimental group. Based on the data presented, the experimental group had a mean score of 9.09 and 22.72 in the pre-test and post-test, respectively, gaining a qualitative rating of fair and very satisfactory. It also shows that 51 students, or 96.23 percent, in the control group did not meet the passing score on the pre-test. However, all students in the experimental group passed the post-test, wherein 30.19% of them outstandingly passed the test.

Table 3.1

Level of Performance of Students in Mathematics in the Control Group in Their Pre-test and Post-test Scores

Range of Scores[c/]	Qualitative Rating	Frequency	Percent
Pre-test[a/]			
15 – 19	Satisfactory, Passed	3	6.67%
10 – 14	Fair, Failed	28	62.22%
< 9	Poor, Failed	14	31.11%
Post-test[b/]			
25 – 30	Outstanding, Passed	2	4.44%
20 – 24	Very Satisfactory, Passed	23	51.11%
15 – 19	Satisfactory, Passed	20	44.45%

a/ The mean was 10.87 with a qualitative rating of fair.
b/ The mean was 19.51 with a qualitative rating of very satisfactory.
c/

Table 3.2

Level of Performance of Students in Mathematics in the Experimental Group in Their Pre-test and Post-test Scores

Range of Scores[c/]	Qualitative Rating	Frequency	Percent
Pre-test[a/]			
15 – 19	Satisfactory, Passed	2	3.77%
10 – 14	Fair, Failed	23	43.40%
< 9	Poor, Failed	28	52.83%
Post-test[b/]			
25 – 30	Outstanding, Passed	16	30.19%
20 – 24	Very Satisfactory, Passed	31	58.49%
15 – 19	Satisfactory, Passed	6	11.32%

a/ The mean was 9.09 with a qualitative rating of fair.
b/ The mean was 22.72 with a qualitative rating of very satisfactory.
c/

Test on the Significant Difference Between Pre-test Mean Scores of the Students in the Experimental and the Control Group

Table 4 presents the pre-test mean scores of the students in the control group and the experimental group. The table shows that the computed value was 3.12 at a p-value of 0.002. At 0.05 level of significance, the null hypothesis is rejected. This indicated a significant difference in the pre-test mean scores obtained by the experimental and control groups. Put simply, the students in the control group have the edge over the students in the experimental group in terms of prior knowledge on some topics in Mathematics.

Table 4

T-test on the Significant Difference Between the Pre-test Mean Scores of the Students in the Experimental Group and Control Group

Group	Mean	SD	t-value	p-value	Decision
Control	10.87	2.75	3.12	0.002	Rejected
Experimental	9.09	2.84			

Test on the Significant Difference Between the Pre-test and the Post-test Scores of the Control Group

Presented in Table 5 is the t-test on the significant difference between the pre-test and post-test mean scores of the control group. The control group, exposed to a modular approach of teaching Mathematics, had a significant increase in their post-test scores, as shown in the t-test computed value of 30.751 with a p-value of 0.000 at a 0.05 level of significance. In this sense, the modular approach effectively increased students' performance in Mathematics.

Table 5

T-test on the Significant Difference Between the Pre-test and Post-test Mean Scores of the Students in the Control Group

	Mean	SD	t-value	p-value	Decision
Pre-test	10.87	2.75	30.751	0.000	Rejected
Post-test	19.51	2.78			

Test on the Significant Difference Between Post-test and Pre-test Mean Scores of the Experimental Group

Presented in Table 6 is the t-test on the significant difference between the pre-test and post-test mean scores of the experimental group in Mathematics. As shown in the table, the experimental group increased their mean scores from pretest to post-test. Using the T-test for correlated samples, the computed value of 40.853 with a p-value of 0.000 shows a significant difference in their pre-test and post-test scores. The result implies that the method of teaching using Google Classroom

helped the students improve their cognitive skills and achieve better in the post-test.

Table 6

T-test on the Significant Difference Between the Post-test and Pre-test Mean Scores of the Experimental Group

	Mean	SD	t-value	p-value	Decision
Pre-test	9.09	2.84	40.853	0.000	Rejected
Post-test	22.72	2.57			

Test on the Significant Difference Between the Mean Gain Scores of the Experimental and Control Group

The presentation of data in Table 7 proves that the teacher raised the low performance of students during the pre-test to significant results during the post-test, as shown by their mean gain scores. The computed F-value of 107.303 at 0.000 p-value determines a significant difference in the mean gain scores of the students between the experimental and the control group in Mathematics. This result shows that the Google Classroom instruction was more effective than the modular method, as shown in the mean gain scores.

Table 7

Test on the Significant Difference of the Mean Gain Scores of the Experimental and Control Group

Group	Pre-Test Mean Score	Posttest Mean Score	Mean Gain Score	F-Value (ANCOVA)	p-value	Decision
Control	10.87	19.51	8. 64	107.303	0.000	Rejected
Experimental	9.09	22.72	13.63			

DISCUSSION

Level of Performance of the Students in Mathematics in the Control and Experimental Groups in Terms of Their Pre-test and Post-test Scores

The respondents exhibited fairly in the pre-test. It can be concluded that the students from the experimental and control groups had a slight background of the course at the start of the experiment. This can be linked to the students' exposure to grade 10 math in the spiral setting of the curriculum, where all learners, regardless of their groupings, had the same learning experience.

On the other hand, the respondents displayed very satisfactorily in the post-test. Although students from both groups passed the test, it was evident that the students in the experimental group performed better than the students in the control group. This can be attributed to the exposure of these students to the intervention. In the study conducted by Azisah et al. (2020), students' learning is significantly impacted by technology. It can sustain fundamental changes. Technology adoption is essential, especially for improving student performance. Multiple studies show that using an e-learning platform in the classroom to engage with students in math provides opportunities for students to gain access to and understand different demonstrations of mathematical concepts (Forster, 2006, as cited in Msomi & Bansilal, 2018).

Test on the Significant Difference Between Pre-test Mean Scores of the Students in the Experimental and the Control Group

The null hypothesis that “there is no significant difference in the pretest mean scores between the experimental and control groups” was rejected since the computed t-value was greater than the p-value. This result implied that at the start of the experiment, the students in the control group had the edge over the students in the experimental group in terms of prior knowledge of some Mathematics topics. This can be associated with the way the respondents were selected.

According to Dudovskiy (2021), purposive sampling, also known as judgment sampling, can be unfavorable to a study. He pointed out that this kind of sampling is vulnerable to errors in judgment by researchers, leading to a low level of reliability and inability to generalize research findings.

Test on the Significant Difference Between the Pre-test and the Post-test Scores of the Control Group

The t-test on the significant difference in the pre-test and post-test mean scores of the control group in Mathematics showed that the computed t-value was greater than the tabular p-value.

The null hypothesis “there is no significant difference between the pre-test and the post-test score of the control group” was rejected. The control group did show significant changes in their scores from their pre-test and post-test results. This outcome indicated that the modular approach had impacted the students' performance in Mathematics.

According to the study by Dangle and Sumaoang (2020), the usage of modules fosters self-directed learning. One of the advantages of employing modules for instruction is that pupils develop greater self-study or learning skills. Students actively participate in understanding the concepts provided in the module.

Test on the Significant Difference Between Post-test and Pre-test Mean Scores of the Experimental Group

The t-test for correlated samples determined the significant difference in the pre-test and the post-test mean scores of the students within the experimental group in Mathematics. The computed t-value was greater than the p-value. This result showed a significant difference in the pre-test and post-test scores of the students in the experimental group. The results also implied that instruction using Google Classroom has helped the students improve their cognitive skills because they achieved better in the post-test.

According to Anshari et al. (2017), Google classroom can be a means that makes learners become more active participants.

Test on the Significant Difference Between the Mean Gain Scores of the Experimental and Control Group

The mean gain scores of the students in the experimental group in Mathematics were higher than the control group. The null hypothesis “there is no significant difference in the mean gain scores between the experimental and control group” was rejected since the computed F-value was larger at a specific p-value. The result implied that the performance shown by the students in different groups increased distinctively. It can also be deduced that Google Classroom instruction provided benefits such as students being motivated to learn because Google Classroom has several features that make learning more enjoyable and engaging. It also allows\ed students to learn at their own pace because they can access Google Classroom from anywhere and at any time.

In the study conducted by Bray and Tangney (2017), digital tools can enhance students' mathematical learning experiences. It has been studied that, when combined with an effective pedagogy, these digital resources can potentially solve some of the problems commonly associated with mathematics education by facilitating practical, problem-solving, and collaborative approaches to teaching and learning, thereby providing coherency, and meaning for mathematics. (Hoyles, 2016).

Conclusion

Based on the results and findings, the researcher has made the conclusions for consideration.

The respondents exhibited fairly in the pre-test and very satisfactorily in the post-test. There is a significant difference in the pre-test scores between the experimental and control groups. There is a significant difference in the pre-test and post-test scores of the students in the control group. There is a significant difference in the pre-test and post-test scores of the students in the experimental group. There is a significant difference between the mean gain scores of the experimental group and the control group.

In the light of the results of the data analysis, it is concluded that the use of Google Classroom in teaching Mathematics is more effective in enhancing the performance of the students than the modular method of teaching based on the difference of the mean gain scores of the students under the experimental and control groups. Also, students who were taught using Google Classroom performed better in Mathematics, as reflected in the test result on the significant difference of the mean gain scores of the experimental and control groups.

Reflection

This study conducted on the effect of Google Classroom as a learning platform

in teaching Mathematics has demonstrated a positive impact on students' performance in learning Mathematics. The researcher suggests that teachers use Google Classroom to encourage students to learn. In addition, the researcher recommends that school administrators advise the IT experts in the school to educate some teachers in the field on how to utilize Google Classroom in the teaching-learning process.

Finally, the researcher recommended conducting an in-depth qualitative phase to explore the students' perceptions and views regarding their exposure to Google Classroom. This is to ensure how beneficial the platform is in learning Mathematics; further study is recommended using a larger population to confirm the findings and establish the study's external validity.

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The Role of Technology in the 21st Century Education of Learners

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ABSTRACT

Technology is one of the most powerful influences in today's educational scene. This mixed methods study aimed to determine and describe the lived experiences of senior high school learners in terms of the role of technology in 21st century education. The researcher collected data from 100 senior high school (SHS) learners using simple random sampling for the quantitative phase (QTP) and five from SHS students using purposive sampling for the qualitative phase (QLP) for SY 2021-2022. Survey questionnaires and an in-depth interview guide were utilized to gather data and were analyzed using frequency, percentage, mean, and thematic analysis. Results revealed that because of the widespread availability of internet mobile connections, there has been a significant number of students that use technology. As a result, students have a high level of computer skills and use of technology because it is useful and relevant in the educational process. Similarly, students see the value of incorporating technology into classroom discussions since it increases their interest in the subject. Furthermore, technology is viewed as an important tool for learning, and the importance of using social media is proved by learners' average daily usage. The introduction of popular media into the lives of students has had a significant impact on this. Despite the negative effects of social media, students still find it useful in the classroom since it can spark other people's interests and inspire them to learn. It implies that instructional delivery and assessment need to be addressed with respect to the needs of the 21st century learners.

Keywords: role of technology, 21st century education, convergent parallel approach, Tagum City

INTRODUCTION

Technology is one of the most powerful influences in today's educational scene. With that, many school districts are supporting greater levels of technology in the classroom by providing gadgets like tablets and laptops, improving internet access, and developing computer literacy programs for both instructors and students (Johnson et al., 2016). As innovations rise, it is claimed that technology-enhanced embodied learning has the potential to change K-12 education. While Information and Communications Technology (ICT) offers a lot of potential for promoting new pedagogies, it is not a silver bullet (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2013 as cited in Serdyukov, 2017). And, despite its benefits, its adoption in mainstream education has been slow which is not a new problem (Georgiou & Ioannou, 2019).

In addition, the major technological difficulties in education may be divided into the integration of contemporary technology into existing learning theory, the evaluation of the usefulness of technology within instructional contexts, and the trials of successful technology integration (Courville, 2011). Several variables also contribute to teachers' apprehension about implementing educational innovations (Courville, 2011; Georgiou & Ioannou, 2019) in the classroom. Sometimes, teachers find it difficult to integrate new instructional technology smoothly and effectively. In fact, technological integration offers substantial obstacles to educators at all levels of school systems, from the procurement of new technology equipment to the adaption of curricula and teaching styles to include new educational resources (Irgashevich, 2020; Johnson et al., 2016). Teachers were also concerned about their own abilities to adapt to smartphones as well as their pupils' reactions to the technology. As teachers

become more involved with specific smartphone initiatives, they are likely to acquire greater management issues (Al-Furaih & Al-Awidi, 2020).

In the United States, Johnson et al. (2016) emphasized that most of the hurdles to successful technology integration in the classroom are external to the teachers who are utilizing technology. In Spanish Autonomous Communities, it was found that that the increased usage of ICT at school had no significant influence on students' arithmetic and reading achievements but has a favorable effect on science outcomes. Using data from national and international surveys such as Programme for International Student Assessment [PISA], Progress in International Reading Literacy Study [PIRLS], and Trends in International Mathematics and Science Study [TIMSS], some research has looked at the link between ICT and educational results. In general, their data suggest that having access to ICT is positively linked with educational outcomes but having a greater level of usage of these technologies is negatively connected with these outcomes (Fernández-Gutiérrez, Gimenez, & Calero, 2020).

Likewise, Das (2020) concluded that adopting ICT for inclusive education in North-East India is faced with difficulties. The issue has arisen owing to a variety of factors, including a lack of technology, internet access, and trained teachers, a multilingual and multicultural classroom, and a gap between policy and execution, among others (So, Jong, & Liu, 2020). In the Philippines, a 3G mobile internet signal is not available to more than seven million Filipinos (Global System for Mobile Communications [GSMA], 2016). For this reason alone, millions of Filipinos do not have access to the internet. Hundreds of isolated islands are without electricity, cellular coverage, or internet access (Roberts & Hernandez, 2019). In fact, mobile data is five times more expensive for the poorest or 40 percent (40%) of the Filipinos than it is for the richest which is five percent (5%). According to World Economic Forum data, Philippines ranks 107th out of 139 nations in terms of affordability (GSMA, 2016).

Additionally, the learner-to-computer ratio at the elementary and secondary levels of education in the Philippines is 412:1 and 49:1, respectively, according to the UNESCO 2014 report, and the shortage of computer equipment in schools has been a major problem. Internet access is similarly limited, with just seven percent (7%) of primary schools having access to the internet and only 40 percent (40%) of senior high schools having access to it ("Corporate Partnerships…", 2018). Furthermore, it was reported that during Coronavirus Disease- 2019 (COVID-19) classes, internet access was a problem for teachers and students in many schools (Barrot, Llenares, & Del Rosario, 2021).

Moreover, many Filipinos lack the necessary digital literacy or technical skills to participate actively in digital governance efforts (Roberts & Hernandez, 2019). In a study conducted to the students in Makati City and Cabuyao, Laguna, Nuncio et al. (2020) found that students will succeed and be well-versed in the use of technology if provided with chances such as access to online educational resources and exposure to a safe and child-friendly online environment.

With the emergence of COVID-19 in the country, students' fear in online learning experience stems not just from COVID-19's threats, but also from social and physical constraints, unfamiliarity with new learning platforms, technological problems, and concerns about financial resources (Barrot, Llenares, & Del Rosario, 2021). Exploring into the investigation in a school in Davao del Norte on the educational orientation of generation Y students, Gopo (2018) cited that learner were using technology in their classes and as a tool for research. However, students emphasized that they have insufficient technological resources and that, they call for innovative teaching strategies to supplement the gaps they encountered. Further, Cutillon (2019) agreed that during the implementation of Massive Open Online Course in a school in Sto. Tomas, Davao del Norte it was found that students must deal with poor internet connectivity during classes. In terms of adopting the Information and Communications Technology for Education (ICT4E) of

Japan, Philippines is still catching up. This implies that the Philippine government must set aside a significant amount of money to invest in ICT infrastructure (Nuncio, 2020).

As a senior high school teacher, the researcher aims to fill the gap between the role of technology in the 21st century education of the learners and its impact on the quality of education. Also, the researcher has not come across any studies relating to the role of technology in education in the new normal in Tagum City. With that, this mixed methods study aimed to determine and describe the lived experiences of senior high school learners in terms of the role of technology in the 21st century education. A convergent mixed methods design was used in which quantitative and qualitative data were collected in parallel, analyzed separately, and then merged. In this study, an adapted survey questionnaire was used to test the Constructivism Theory. Concurrent with this data collection, the qualitative part which involved in-depth interviews explored on the experiences of the learners in Tagum City Division in terms of the role of technology in their education. The perspectives and perceptions of learners were explored through a collection of both quantitative and qualitative data to compare the results on the role of technology in 21st century education of senior high school learners.

METHODS

Research Design

This study used a convergent mixed methods design, which entails conducting both quantitative and qualitative data collection in the same stage of the research process, weighing both techniques equally, and interpreting the results individually and jointly (Creswell & Plano-Clark, 2011). The researcher did not only collect and assess all types of data, but also used both quantitative and qualitative approaches combined.

Research Participants

Quantitative Strand. The participants of this study were the 100 purposely selected senior high school learners in a school in Tagum City Division, Tagum City, Davao del Norte, Region XI for SY 2021-2022. The names of the participants as well as the school where they are connected were purposely concealed.

Qualitative Strand. The participants for the qualitative part were the purposely selected five senior high school learners who were subjected for in depth-interviews. These five SHS learners were separate from the respondents surveyed in the quantitative phase. These learners were from a school in Tagum City Division, Tagum City, Davao del Norte, Region XI for SY 2021-2022 who qualified for the pre-inclusion criteria.

Research Instruments

*Quantitative Strand***.** The researcher adapted survey questionnaires to find out the role of technology in the 21st century education of senior high school learners. First, the researcher adapted the research questionnaire of Das and Mishra (2016) from the Technology-Enabled Learning Implementation Handbook. Further, the researcher also adapted the research questionnaire of Ardies, De Maeyer and Gijbels (2013) from the survey Reconstructing the Pupils Attitude Towards Technology.

*Qualitative Strand***.** The researcher used an interview guide and recorded all the original statements. After it was validated by experts, the interview guide was used to answer the question on the role of technology in the 21st century education of learners.

Data Collection

*Quantitative Strand***.** Data was gathered via a survey questionnaire administered online using *Google Form*. The survey questionnaire was revised to suit the context. The items include the learner use of technology and student attitude towards technology.

Qualitative Strand. The researcher made use of virtual in-depth interviews with the five identified participants. The data collection observed proper protocols of conducting interviews which was guided by the interview guide. Interviews were recorded with permission from the

participants which lasted for not more than an hour per participant.

Data Analysis

Quantitative Strand. Frequency, percentage, and mean were utilized to determine the extent of learner use of technology and student attitude toward technology.

Qualitative Strand. The researcher utilized thematic analysis to have a better grasp and appreciation of the examined data. Transcription was an essential approach in qualitative study outcomes. The translated data were encoded and analyzed for proper coding of the relevant subjects and theme statements.

Ethical Considerations

This research study involved sensitive issue, the student participants were hesitant at first to disclose information out of fear and withheld some data. Thus, the researcher ensured that the study was guided by ethical principles namely: respect for persons, beneficence, justice, consent, and confidentiality.

Prior to conducting a study, it is necessary to secure permission from them through understanding and signing of the informed consent. Before I conducted the in-depth interviews and survey, I explained verbally and in writing about the objectives and purpose of this research study. After getting the approval, I asked them to sign the informed consent/ assent form.

To minimize the risks or harm, anonymity of the interviewee in relation to the information shared was maintained. Confidentiality of the findings and protection of the identities of the informants was done by using a coding system to hide their true identities. Respect to right of privacy was given due importance in this study. Participants was informed that they have the right to refuse to answer any of the interview questions if they do not feel comfortable.

In conducting the study, I ensured that the participants do not spend any amount for the survey and interview, and their comfortability is my priority. To establish confidentiality, I made sure the students' true identities were safeguarded. After analyzing the data, audio recordings, encoded documents, notes, and other materials were deleted/shredded.

RESULTS

Quantitative Results

This section deals with the results of the quantitative data gathered through the survey questionnaires.

Nature of the Role of Technology in the 21st Century Education of Senior High School Learners

The nature of the role of technology in the 21st century education of senior high school learners is measured using the two variables which are *Learner Use of Technology* and *Student Attitude Toward Technology*.

A. Learner Use of Technology

This section presents the role of technology in the 21st century education of senior high school learners in terms of *Access to And Use of ICT* and *Perceptions of Use of Technology-Enabled Learning.*

1. Access to and Use of ICT

Access to and use of ICT is measured using the constructs*: Ownership of ICT, Internet Access, Use of ICT and Internet Skills, social media,* and *Resources/ Services/ Spaces.* The following discussions present the findings and supporting literature.

Ownership of ICT

Table 1 shows the ownership of ICT of the senior high school learners. It reveals that 49 percent (49%) of the learners have smartphones while a portion of them accounting to three percent (3%) only owns desktop computer, laptop/ netbook, smartphone, & tablet device (e.g. ipad).

Table 1
Access to and Use of ICT in Terms of Ownership of ICT

Ownership of and Access to ICT	Number	Percentage
Desktop Computer	6	6%
Laptop/ Netbook	5	5%
Smartphone	49	49%
Desktop Computer & Smartphone	10	10%
Laptop/ Netbook & Smartphone	19	19%

Desktop computer, Laptop/ Netbook, & Smartphone	8	8%
Desktop computer, Laptop/ Netbook, Smartphone, & Tablet device (e.g. iPad)	3	3%
Total	**100**	**100%**

Internet Access

Table 2 shows the access and use of ICT in terms of the area in accessing the internet. Among the given indicators, learners access the internet most of the time when they are at home accounting to 82 percent (82%) while a variable access is observed in the student who uses it at home and in the office with one percent (1%) only.

Table 2
Access to and Use of ICT in Terms of the Area in Accessing Internet

Area in Accessing Internet	Number	Percentage
Cybercafe/ Internet Shop	5	5%
Home	82	82%
Home & Office	1	1%
Home & Cybercafe/ Internet Shop	5	5%
Do not access	7	7%
Total	**100**	**100%**

Table 3 shows the access and use of ICT in terms of sources of internet. Among the sources of internet, two percent (2%) of the learners have variable access to different sources such as dial-up connection (use of telephone lines), wireless, & mobile devices. On the other hand, users of ADSL connection (broadband internet connection) account to about 30 percent (30%) which is followed by users of mobile devices at 28 percent (28%).

Table 3
Access to and Use of ICT in Terms of Sources of Internet

Sources of Internet	Number	Percentage
Dial-up connection (Use of telephone lines)	8	8%
Wireless	17	17%
Mobile Devices	28	28%
ADSL connection (Broadband Internet Connection)	30	30%
Wireless & Mobile devices	7	7%
ADSL connection (Broadband Internet Connection) & Mobile devices	8	8%
Dial-up connection (Use of telephone lines), Wireless, & Mobile devices	2	2%
Total	**100**	**100%**

Table 4 shows the access and use of ICT in terms of frequently used devices in accessing the internet. Most of the learners frequently use the smartphone or mobile phone with 75 percent (75%). However, none of the respondents use the tablet or iPad in accessing the internet.

Table 4
Access to and Use of ICT in Terms of Frequently Used Devices in Accessing the Internet

Frequently Used Devices in Accessing the Internet	Number	Percentage
Desktop Computer	8	8%
Laptop	17	17%
Smartphone/ Mobile Phone	75	75%
Tablet or iPad	0	
Total	**100**	**100%**

Table 5 shows the access and use of ICT in terms of average internet usage. It can be observed that more than half of the learners use internet daily accounting to 68 percent (68%).

Table 5
Access to and Use of ICT in Terms of Average Internet Usage

Average Internet Usage	Number	Percentage
Daily	68	68%
Alternate Days	20	20%
Once a Week	7	7%
Irregularly	3	3%
Rarely	2	2%
Never	0	
Total	**100**	**100%**

Table 6 shows the access and use of ICT in terms of average daily internet usage. The findings reveal that 38 percent (38%) of the students use internet more than five hours while 26 percent (26%) use internet for three to five (3-5) hours. Only around two percent (25) do not use the internet daily.

Table 6
Access to and Use of ICT in Terms of Average Daily Internet Usage

Average Daily Internet Usage	Number	Percentage
Less than 1 hour	7	7%
1-2 hours	26	26%
3-5 hours	27	27%
More than 5 hours	38	38%
Do not use daily	2	2%
Total	**100**	**100%**

Use of ICT and Internet Skills

Table 7 shows the access and use of ICT in terms of computer skills. It can be observed that the average computer skills of the students are 3.30 with a descriptive equivalent of moderate. From the data, the skill on using email has the highest mean

of 4.10 or high. Similarly, student's computer skills are often manifested in using word processor, PowerPoint presentation, search engines, video editing, and web 2.0 tools.

Table 7
Access to and Use of ICT in Terms of Computer Skills

Item	Mean	Descriptive Level
Word processor (e.g. Word)	3.58	High
Spreadsheets (e.g. Excel)	2.83	Moderate
Presentation (e.g. PowerPoint)	3.57	High
Email	4.10	High
Search engines	3.85	High
Databases	3.12	Moderate
Multimedia authoring	2.87	Moderate
Graphic editing	3.02	Moderate
Digital audio	3.03	Moderate
Video editing	3.52	High
Web page design	2.80	Moderate
Learning Management System	3.15	Moderate
Web 2.0 tools (wikis, blogs, social networking, and sharing tools)	3.43	High
Overall Mean	**3.30**	**Moderate**

Social Media

Table 8 shows the access and use of ICT in terms of having social media account. A vast majority of the senior high school learners have social media accounts which comprises the 97 percent (97%).

Table 8
Access to and Use of ICT in Terms of Having Social Media Account

Having Social Media Account	Number	Percentage
Yes	97	97%
No	3	3%
Total	**100**	**100%**

Also, it shows that the access and use of ICT in terms of utilization social media platforms. Among the respondents, *Facebook* has been utilized by the majority among the different platforms. On *Facebook* alone, it accounts to 29 percent (29%) of the respondents. Further, learners who casually use *Facebook* and *Google +* is at 19 percent (19%).

Table 9 shows the access and use of ICT in terms of updating social media status. It can be observed that 37 percent (37%) of the senior high school learners are not very frequently updating their social media status while 27 percent (27%) learners do it several times a day.

Table 9
Access to and Use of ICT in Terms of Updating Social Media Status

Having Social Media Account	Number	Percentage
Several times a day	27	27%
Once a day	17	17%
Once a week	10	10%
Once a fortnight	2	2%
Not very frequently	37	37%
Not at all	7	7%
Total	**100**	**100%**

Table 10 shows the access and use of ICT in terms of average daily usage of social media. Data reveals that learners who use the social media daily for one to two (1-2) hours tied with three to five (3-5) hours. Interestingly, none of the learners miss to use social media daily.

Table 10
Access to and Use of ICT in Terms of Average Daily Social Media Usage

Average Daily Social Media Usage	Number	Percentage
Less than an hour	20	20%
1-2 hours	40	40%
3-5 hours	40	40%
Do not use daily	0	
Total	**100**	**100%**

Resources/ Services/ Spaces

Table 11 shows the access and use of ICT in terms of resources/ services/ spaces provided by the school. It can be noted that the resources/ services/ spaces provided by the school has an average of 3.25 or moderate level. The highest mean is observed in the use of email with 4.03 having a high descriptive level.

Table 11
Access to and Use of ICT in Terms of Resources/ Services/ Spaces Provided by the School

Resources/ Services/ Spaces Provided by the School	Mean	Descriptive Level
Email services	4.03	High
Learning Management System (e.g. Moodle, etc.)	3.64	High
ePortfolio	2.98	
Online or virtual technologies (e.g. network or cloud-based file storage system, Web portals, etc.)	3.59	High
Access to software (e.g. MATLAB, GIS applications, statistical software, qualitative data analysis, graphics software, textual or image analysis program, etc.)	3.22	Moderate

Download and use of free and open-source software for teaching and learning	3.60	High
Access to data storage	3.68	High
Data visualization software	3.35	Moderate
Citation/reference management software	3.43	High
Plagiarism detection software	3.23	Moderate
Institutional repository for sharing of research	3.26	Moderate
e-Journals	2.98	Moderate
e-Books	3.20	Moderate
Citation databases	2.91	Moderate
Bibliographic databases	3.14	Moderate
e-Newspapers	3.12	Moderate
e-Theses and dissertations	2.84	Moderate
Patent database	2.93	Moderate
e-Proceedings of conferences	2.95	Moderate
Statistical databases	2.98	Moderate
Overall Mean	**3.25**	**Moderate**

2. Perceptions on the Use of Technology-Enabled Learning

Perceptions on the use of technology-enabled learning is measured using the two constructs: *Reasons for Using Technology* and *Usefulness of the Technology.*

Reasons for Using Technology

Table 12 shows the perceptions of the learners on the use of technology-enabled learning in terms of the reasons for using it. It can be observed that the overall mean is 4.25 having a descriptive level of very high; this means that the items are always manifested.

Table 12
Perceptions of Use of Technology-Enabled Learning in Terms of the Reasons for Using It

Reasons for Using Technology	Mean	Descriptive Level
I want to use technology in my studies because:		
It will help me get better results in my subjects.	4.30	Very High
It will help me understand the subject material more deeply.	4.33	Very High
It makes completing work in my subjects more convenient.	4.32	Very High
It motivates me to explore many topics I may not have seen before.	4.25	Very High
It allows me to collaborate with others easily, both on and outside of the campus.	4.13	High
It will improve my IT/information management skills in general.	4.32	Very High
It will improve my career or employment prospects in the long term.	4.12	High
Overall Mean	**4.25**	**Very High**

Usefulness of the Technology

On the perceptions of the learners on the use of technology-enabled learning in terms of usefulness, the average mean of usefulness according to the learners is 3.97 or high level, which means that the indicator is oftentimes manifested. Among the items, “Use instant messaging/chat (e.g. Skype, Messenger, Hangout, etc.) on the Web to communicate/collaborate with other students in the course”, has been the highest with a mean of 4.37 or very high level, followed by the item, “Use instant messaging/chat (e.g. Skype, Messenger, Hangout, etc.) on the Web to communicate with teachers and administrative staff from the course”, with a mean of 4.35 or very high level. Among the items, “contribute to another blog as part of your course requirements”, has got the lowest mean of 3.40 or high level.

B. Student Attitude Toward Technology

This section presents the role of technology in the 21st century education of senior high school learners in terms of *Student Attitude Toward Technology.* It has the following indicators: *Technological career aspirations, Interest in technology, Tediousness towards technology, Technology is for both, Boys and Girls, Consequences of technology,* and *Technology is Difficult.*

1. Technological Career Aspirations

Table 13 shows the student attitude toward technology in terms of technological career aspirations. It reveals that their overall mean is 3.85 having a descriptive level of high. This means further that the indicator is oftentimes manifested. However, among the items, “I would probably choose a job in technology”, has the lowest mean of 3.68 with a high-level description.

Table 13
Student Attitude Toward Technology in Terms of Technological Career Aspirations

Technological Career Aspirations	Mean	Descriptive Level
I will probably choose a job in technology.	3.68	High
I would enjoy a job in technology.	3.77	High
I would like a career in technology later on.	3.88	High
Working in technology would be interesting.	4.05	High

Overall Mean	**3.85**	**High**

2. Interest in Technology

Table 14 shows the student attitude toward technology in terms of interest in technology. The interest in technology of the senior high school learners has an overall mean of 3.94 having a descriptive high level. Among the items, “I would rather have technology lessons at school”, has the lowest mean of 3.75 or high level. On the other hand, the item, “Technology lessons are important”, have the highest mean of 4.15 with a high level.

Table 14
Student Attitude Toward Technology in Terms of Interest in Technology

Interest in Technology	Mean	Descriptive Level
Technology lessons are important.	4.15	High
I would rather have technology lessons at school.	3.75	High
If there was a school club about technology, I would certainly join it.	3.78	High
I am interested in technology.	4.00	High
There should be more education about technology.	4.13	High
I enjoy repairing things at home.	3.85	High
Overall Mean	**3.94**	**High**

3. Tediousness Towards Technology

Table 15 shows the student attitude toward technology in terms of tediousness towards technology. The tediousness towards technology of the senior high school learners has an overall mean of 2.54 with a descriptive equivalent of low level. This means that the items are seldom manifested.

Table 15
Student Attitude Toward Technology in Terms of Tediousness Towards Technology

Tediousness Towards Technology	Mean	Descriptive Level
I do not understand why anyone would want a job in technology.	3.02	Moderate
Most jobs in technology are boring.	2.58	Low
I think machines are boring.	2.32	Low
A technological hobby is boring.	2.25	Low
Overall Mean	**2.54**	**Low**

4. Technology is for Both, Boys and Girls

Table 16 shows the student attitude toward technology in terms of technology is for both (boys and girls). It can be noticed that the overall mean is 2.80 with a descriptive equivalent of moderate. This means that the items are sometimes manifested.

Table 16
Student Attitude Toward Technology in Terms of Technology is for Both (Boys and Girls)

Technology is for Both (Boys and Girls)	Mean	Descriptive Level
Boys are able to do practical things better than girls.	2.98	Moderate
Boys know more about technology than girls do this.	2.77	Moderate
Boys are more capable of doing technological jobs than girls.	2.65	Moderate
Overall Mean	**2.80**	**Moderate**

5. Consequences of Technology

Table 17 shows the student attitude toward technology in terms of consequences of technology. When it comes to the perceptions of the students on the consequences of technology, it has recorded an overall average of 4.02 having a descriptive level of high, which means that the items are oftentimes manifested. Among the items, senior high school learners believe that technology makes everything work better with a mean of 4.08 or high level.

Table 17
Student Attitude Toward Technology in Terms of Consequences of Technology

Consequences of Technology	Mean	Descriptive Level
Technology makes everything work better.	4.08	High
Technology is very important in life.	4.03	High
Technology lessons are important.	4.07	High
Everyone needs technology.	3.90	High
Overall Mean	**4.02**	**High**

6. Technology is Difficult

Table 18 shows the student attitude toward technology in terms of technology is difficult. In terms of the difficulty of technology, senior high school learners’ perception presented that it is sometimes manifested having an overall mean of 2.81.

Table 18

Student Attitude Toward Technology in Terms of Technology is Difficulty

Technology is Difficult	Mean	Descriptive Level
You have to be smart to study technology.	3.33	Moderate
Technology is only for smart people.	2.40	Low
To study technology, you have to be talented.	2.77	Moderate
You can study technology only when you are good at both mathematics and science	2.73	Moderate
Overall Mean	**2.81**	**Moderate**

Qualitative Result

This section tackles the results of the data gathered from the in-depth interviews. The themes that emerged from the results were thoroughly discussed.

Experiences of Senior High School Learners in Carrying Out their Role with respect to Technology in the 21st Century Education

From the data collected on the experiences of senior high school learners in carrying out their role with respect to technology in the 21st century education, six essential themes emerged. The emergent themes are *utilizing smartphone during classes, using internet daily, enjoying social media usage while learning, using applications relevant to learning, valuing technology as a learning tool,* and *recognizing teachers using technology in instruction.*

Utilizing Smartphone during Classes. The informants of the study indicated that they made use of smartphones or mobile phones during their classes. With the New Normal, it has become a big part of the learner's education to use the technology.

In fact, IDI 04 said that the use of cellphone is very vital right now.

> *"Cellphone is a big help in my studies right now. It has been very important to me. In fact, I use it always during classes." -IDI 04*

IDI 01 agreed that cellphone is a tool for learning. As teachers communicate through Facebook Messenger, learners find it advantageous.

> *"Right now, the use of mobile phone is important to me. My teachers communicate online. It would be difficult if I can't communicate with them through it." -IDI 01*

IDI 03 explained the importance of cellphones or smartphones in the New Normal.

> *"Because of the pandemic, some teachers give activities that need to be accessed online. It gives us the chance to explore some of the things that we have not done before." -IDI 03*

Using Internet Daily. Learners revealed that they access the internet daily. They find it necessary to access the internet as they explore social media, search relevant information related to the subject and use editing applications that need internet.

IDI 01 shared that using internet has become a necessary part of his daily life. It seems impossible for him to go on a day without an internet. Also, in class, they use internet to search for information.

> *"I find the internet very vital right now. It is everything. I find it so important. I even use it daily because I update social media. I use it for my lessons also." -IDI 01*

IDI 02 explained his side why he is using internet daily. Although it is quite difficult especially that sometimes the internet is intermittent. Nevertheless, internet becomes a tool for learning.

> *"It is very important to me. Internet is life for me. This is the reason why I am so into using the internet. I find it important in my class. I really have to use it." -IDI 02*

IDI 03 said the internet has been a source of happiness while watching different videos. Also, *Tiktok* has been so addictive to him.

> *"I enjoy the videos online. I use the internet watching videos in YouTube and TikTok. I have been using it daily." -IDI 03*

Enjoying Social Media Usage while Learning. Students appreciate the value of using social media while learning. It was underscored by the learners that they sometimes use social media for learning like in *Facebook, YouTube,* and other popular sites. Some teachers require them to present their outputs online also.

IDI 05 explained the value of social media while learning. They reasoned out that it had been exciting to use it for learning purposes.

> *"My teachers before use social media. They ask us to post our outputs in Facebook. We were able to present our videos online. I find it exciting. It is cool." -IDI 05*

Further, IDI 04 shared her sentiment that social media can also become relevant when it comes to doing different tasks in school. Indeed, it has been the avenue to showcase their victories in their subjects.

> *"I also see social media as a positive tool for learning. Imagine that there are things that we can store there. We can enjoy our activities also. We can do other tasks related to it. Yeah. I am happy to use social media in class." -IDI 04*

IDI 02 narrated that social media has been a tool for learning. There are many news and information that are posted by many pages.

> *"If you watch videos in social media, you will learn many things also. There are people who posts things like videos of history, science, and others. I think, that is very important to me." -IDI 02*

Using Applications Relevant to Learning. Nowadays, there are many applications online and even offline that provide easy access to the things that learners could use for their classes. They could even do things easily than other students before as what is needed is their skills to navigate the platforms.

IDI 02 stressed that using applications like editing apps have become very necessary especially that most of the activities/ tasks are done using technology.

> *"I use different apps. When we edit videos. We also edit pictures. I use PicsArt and CapCut. Things like these are important to me when I'm learning. It makes life easy." -IDI 02*

In addition, on using different apps for learning, teachers introduce to students the apps before they asked them to use it for their activities.

> *"When we had an activity in Math and English, teachers introduce to us some apps that we haven't use. We appreciate it so much. There are applications that can make your learning more fun. I think other teachers have to use it too." -IDI 03*

IDI 05 highlighted that there are activities in school today that are better be done with the use of plentiful applications online.

> *"When I do the tasks given to us by our teachers, I always make use of the applications that are available at hand. Sometimes, I find it hard to accomplish tasks that don't use easy-available apps." -IDI 05*

Valuing Technology as a Learning Tool. Students identify the importance of technology as indispensable in today's classroom settings. Learning skills are also changing because of the technology. With this, learners find it enjoying and at the same time valuable to use technology as a learning tool.

IDI 04 said that technology is a useful learning tool. For teachers to make use of this, learners must be navigated in the use of technology.

> *"I find the use of technology valuable in real-life. It is quite exciting to use technology. And others would agree that technology is very valuable in many tasks." -IDI 04*

Furthermore, IDI 02 supported the idea of the value of technology in learning. It has become a valuable tool for doing tasks in the different subjects.

> *"I find it technology valuable in my assignments in school. Right now, technology is just handy. You can use it anywhere. I can't imagine life without technology." -IDI 02*

IDI 01 said that technology is valuable for doing many things in life and most especially in school. In his class, he made use of the technology to accomplish activities easily unlike without using it.

> *"I realize that technology is valuable for many tasks. It is valuable doing presentations and writing essays. Before, technology is intended for some professionals, but right now, almost everyone uses it." -IDI 01*

Recognizing Teachers Using Technology in Instruction. Technology is a transformative tool in learning. With the teacher's pedagogical practices, it becomes an important tool to ignite interests and enhance the motivational aspects on the learners. In fact, many technological applications are designed to make changes in the delivery of instruction especially in the new normal.

IDI 05 explained why technology is valuable in class. She added that teachers using technology are doing a good job.

> *"When our teachers use technology, it becomes so enjoyable. I really appreciate them for using it." -IDI 05*

Furthermore, IDI 01 said that classes become exciting when technology is introduced in the lessons.

> *"We had activities before using technology. It was exciting. I had fun. We navigate through it. We use it. We are really found it so exciting. I wish all teachers would use it in classes especially now." -IDI 01*

IDI 02 emphasized the need to use technology in class.

> *"As learning is changing, teachers also need to change their strategies. Some*

teachers are quite boring because they ask us to always write and all sorts. We find it valuable to answer using technology or perform activities with the technology." -IDI 02

Mixed Methods Result

Data Integration

Table 22 presents the integration of salient findings from quantitative data gathered from 100 respondents and qualitative data transcribed from five participants in in-depth interviews. In this paper, there are only two nature of integration present, first, merging-confirmation in which quantitative data agreed with the qualitative data and second, merging-expansion, in which there is an emerging theme (critical feedback) that has no equivalent indicator in the quantitative survey.

Role of Technology in the 21st Century Education of Senior High School Learners. In the area Nature of the Role of Technology in the 21st century education of senior high school learners, it was found out that the quantitative data bearing the items *Access to and Use of Technology in Terms of Internet Usage, Use of ICT and Internet Skills in Terms Average Social Media Daily Usage, Perceptions of Use of Technology-Enabled Learning in Terms of the Reasons for Using It, Usefulness of Technology,* and *Student Attitude Toward Technology in Terms of Interest in Technology* are parallel to the qualitative data observed from the informants/participants on the experiences of senior high school learners on the role of technology in their 21st century education. In other words, the a priori themes confirm the high percentage and high ratings of the indicators of the quantitative data.

Table 22
Joint Display of Qualitative and Quantitative Results

Research Area	Quantitative Phase	Qualitative Phase	Nature of Integration
Role of Technology in the 21st Century Education of Senior High School Learners	The role of technology of in the 21st century education of senior high school learners shows that about 68% is recorded in the item, *Access to and Use of Technology in Terms of Internet Usage,* while 80% of the learners indicated the *Use of ICT and Internet Skills in Terms Average Social Media Daily Usage.* In terms of the *Perceptions of Use of Technology-Enabled Learning in Terms of the Reasons for Using It* of the learners, it was revealed that the mean has been 4.25 or very high. In the item, *Usefulness of Technology,* it shows a mean of 3.97 or high while the item, *Student Attitude Toward Technology in Terms of Interest in Technology* also shows a high mean of 3.94.	The five themes based on the indicators of the quantitative survey generally showed positive observations from the informants/ participants with regards to the role of technology in the 21st century education. This is parallel to the result in the quantitative phase wherein the five indicators indicated overall high rating.	Merging (Confirmation)

Conclusion

Because of the widespread availability of internet mobile connections, there has been a significant number of students that use technology. As a result, schools have a high level of computer skills and use of technology because it is useful and relevant in the educational process. Similarly, students see the value of incorporating technology into classroom discussions since it increases their interest in the subject.

Furthermore, technology is viewed as an important tool for learning, and the importance of using social media is proved by learners' average daily usage. The introduction of popular media into the lives of students has had a significant impact on this. Despite some concerns on social media, students still find it useful in the classroom.

Recommendations

With respect to the popularity of social media and internet use, teachers may anchor the curriculum implementation

on the aspects of creating a room of technological excitement. With the variability of internet access and the non-affordance of learners to the technology, it is encouraged that teachers be creative and innovative in designing and implementing lessons.

Moreover, a specialized training is recommended to be employed to address the growing concern of providing qualified teachers who could provide the best possible education to the 21st century learners. Lastly, it is recommended that future researchers explore the impact of technology especially for the underprivileged learners and document their experiences during the New Normal. Despite its limitations especially on the inclusion of other schools, these findings will be relevant in underscoring how the government could aid these learners and how policies could address their concerns.

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Topic, Inference, Proof, Sum-up (TIPS): A Strategy in Developing Reading Comprehension in Science Among Learners

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ABSTRACT

Today's scientific education relies on higher-level thinking skills rather than basic academic information. This study examined the effective use of the Topic, Inference, Proof, Sum-up (TIPS) strategy in developing reading comprehension in science among learners. The investigation was conducted using a quasi-experimental design in School A of Tagum City Division, Davao del Norte. The 70 Grade 7 students who participated were chosen through a purposive sampling technique. The data were collected using synchronous online timed pretest and posttest, and the results were then tabulated and textually presented, analyzed, and interpreted. The findings reveal that no significant difference between the experimental group's pretest and posttest has a p-value of 0.13, which is larger than the 0.05 level for significance ($p > 0.05$). The null hypothesis is therefore not refuted. This indicates that there is no significant difference between the experimental group's pretest and post-test scores when the TIPS strategy is used. Students have below-average reading comprehension, lack skills, abilities, struggle to utilize the TIPS strategy and have the same competency level before and after the intervention. The findings suggest improving research-based academic interventions in all fields to investigate other factors of poor reading comprehension, developing a parallel test that aligns with standardized test material, and evaluating each key stage area that needs improvement.

Keywords: reading comprehension, reading strategy, science, quasi-experiment, teaching-learning

INTRODUCTION

In the 21st century, developing students' scientific skills necessitates a high level of competence (Karnouskos, 2017). In the Programme for International Student Assessment (PISA), the Philippines did not meet the standards (Schleicher, 2019), and in the 2019 Trends in International Mathematics and Science Study (TIMMS), ranked in the bottom 70 of 58 countries, with a poor grasp of scientific ideas and essential science facts (Magsambol, 2020). Reyes (2019) presented the results of the 2018 National Achievement Test (NAT), which showed that problem-solving, information literacy and critical thinking scored 39.2%, 36.8%, and 33.5%, respectively. The TIPS strategy will enable teachers to better understand and develop students' knowledge, abilities, and attitudes through reading comprehension to address these gaps.

The study was conducted to determine the effectiveness of the TIPS strategy in developing reading comprehension in science among learners. Specifically, this study aimed to identify the levels of pretest and posttest mean percentage scores of the students, the significant difference between the test results, and the effectiveness of the intervention.

The following hypotheses were formulated from the research questions and tested at a 0.05 level of significance. *Ho 1*: There is no significant difference between the pretest mean percentage scores of control and experimental groups. *Ho 2*: There is no significant difference between the posttest mean percentage scores of control and experimental groups. *Ho 3*: There is no significant difference between the pretest and posttest mean percentage scores of control and experimental groups.

METHODS

This chapter includes the research design, participants, data gathering methods, analysis, and ethical considerations.

Research Design

This study used a quantitative method utilizing the quasi-experimental design. This answered the research questions that investigated the effective use of the TIPS strategy in the development of reading comprehension in science among learners.

Research Participants

In this study, 70 (35 students for the experimental and 35 students for the control group) Grade 7 online class students under the K to 12 Basic Education Curriculum of School A in Tagum City Division in School Year 2021 – 2022 were composed of a group of classes that underwent a purposive or judgmental sampling technique.

Data Gathering Methods

The procedures were divided into three periods: the pre-experimentation period, the experimentation period, and the post-experimentation period. Table 2 shows the proficiency level descriptive equivalent:

Table 2
Proficiency Level Descriptive Equivalent

Mean Percentage Score (MPS)	Descriptive Equivalent	Interpretation
Above 75	Above average	The students have met more than the learning standards and skills required.
75	Passing average	The students have met the learning standards and skills required.
Below 75	Below average	The students did not meet the learning standards and skills required.

Note: Proficiency level is based on DepEd Order No. 55 s.2016 "Policy Guidelines of the National Assessment of Student Learning for the K to 12 Basic Education Program"

Data Analysis

Data gathered were statistically treated and analyzed using Mean and t-test for dependent and independent samples.

Ethical Considerations

For this study, a letter of approval was obtained from the Schools Division Superintendent and the school principal for the conduct of the study. A letter of permission for the parents/guardians was translated into Filipino and bilingual format for the respondents to understand easily. Their involvement is purely optional and will not influence their grades. Potential benefits from participation in this study include improvement in the use of the TIPS strategy in developing reading comprehension in science among learners and the development of an action plan for the school to improve science instruction.

RESULTS

This chapter presented the analysis and interpretation of data organized in tabular and textual forms.

Level of Pretest Mean Percentage Scores of Control and Experimental Groups

Presented in Table 3, Section B got the highest mean percentage score of 39.24 while Section A got the lowest mean percentage score of 37.62, which both have a descriptive level of below average. This indicates that both Sections have the same level of understanding in identifying the Topic, Inference, Proof, and Sum-up in the passage given in reading comprehension in science.

Table 3
Level of Pretest Mean Percentage Scores of Control and Experimental Groups

Group	N	Mean	SD	Descriptive Equivalent
Section A Experimental Group	35	37.62	16.26	Below Average
Section B Control Group	35	39.24	11.55	Below Average
Overall		38.43	13.91	Below Average

Level of Posttest Mean Percentage Scores of Control and Experimental Groups

As shown in Table 4, Section A and Section B of School A. It was observed that

Section A got the highest mean percentage of 42.19, while Section B got a mean percentage of 37.62, which both have a descriptive level of below average. This indicates that the students in Section A exposed to the TIPS strategy still have difficulties identifying the TIPS in the passage given in reading comprehension in science.

Table 4
Level of Posttest Mean Percentage Scores of Control and Experimental Groups

Group	N	Mean	SD	Descriptive Equivalent
Section A Experimental Group	35	42.19	13.26	Below Average
Section B Control Group	35	37.62	11.31	Below Average
Overall		39.91	12.29	Below Average

Significant Difference in the Pretest Mean Percentage Scores Between Control and Experimental Groups

Table 5 shows the mean percentage, standard deviation with the computed t-value of -0.48. Since the p-value of 0.63 was higher than 0.05 (p>0.05), the null hypothesis is not rejected. This implies that there was no statistically significant difference on the pretest between Section A and Section B in identifying the TIPS in the passage given in reading comprehension in science.

Table 5
Significant Difference in the Pretest Mean Percentage Scores Between Control and Experimental Groups

Group	Mean	SD	t-value	p-value	Decision @α= 0.05
Section A Experimental Group	37.62	16.26	-0.48	0.63	*Ho is NOT Rejected*
Section B Control Group	39.24	11.55			

Significant Difference in the Posttest Mean Scores Between Control and Experimental Groups

Table 6 shows the mean percentage, standard deviation with a computed t-value of 1.55. The p-value of 0.13 was higher than the 0.05 level of significance (p>0.05), in which the null hypothesis is not rejected. This implies that there is no statistically significant difference between posttests of Section A and Section B in identifying the TIPS in the passage given in reading comprehension in science.

Table 6
Significant Difference in the Posttest Mean Scores Between Control and Experimental Groups

Groups	Mean	SD	t-value	p-value	Decision @α= 0.05
Section A Experimental Group	42.19	13.26	1.55	0.13	*Ho is NOT Rejected*
Section B Control Group	37.62	11.31			

Significant Difference Between the Pretest and Posttest Mean Scores of Control and Experimental Groups

As indicated in Table 7, the mean percentage, standard deviation, a p-value of 0.13, and a p-value of 0.63 of Section A and Section B, respectively, were greater than the significant level of 0.05 (p>0.05). Thus, the null hypothesis is not rejected. This implies that there is no significant difference between the pretest and posttest in Section A and B in identifying the TIPS.

Table 7
Significant Difference Between the Pretest and Posttest Mean Percentage Scores of Control and Experimental Groups

Groups	Pretest		Posttest		t-value	p-value	Decision @α= 0.05
	Mean	SD	Mean	SD			
Section A Experimental Group	37.62	16.26	42.19	13.26	-1.55	0.13	*Ho is NOT Rejected*
Section B Control Group	39.24	11.55	37.62	11.31	0.480	0.63	*Ho is NOT Rejected*

DISCUSSION

This chapter presents the discussion, conclusion, and reflection drawn from the results of the study.

Level of Pretest Mean Percentage Scores of Control and Experimental Groups

Students manifest Below Average reading comprehension. This finding indicates that the foundation of the Grade 7 students in terms of identifying the TIPS strategy is rated as poor mastery (Imam et al., 2014) and needs help in core skill and knowledge domains (Clemens et al., 2017).

Level of Posttest Mean Percentage Scores of Control and Experimental Groups

Students lack the skills and abilities to use the TIPS strategy. This can be deduced that the students exposed to the reading strategy were poor readers and comprehensives of science (Torppa et al., 2020), unable to grasp scientific ideas, and had difficulty comprehending science texts (Johnson & Zabrucky, 2011).

Significant Difference in the Pretest Mean Percentage Scores Between Control and Experimental Groups

Students have the same proficiency level. Both groups showed that reading intervention scored below proficient and did not yet meet the norm (Cordon & Polong, 2020). There is a necessity for differentiated intervention to address the underlying issues causing readers to struggle (Oslund et al., 2018).

Significant Difference in the Posttest Mean Scores Between Control and Experimental Groups

Students struggle with the use of the TIPS strategy in reading comprehension. A possible explanation might be that students lack the requisite prior knowledge (Best et al., 2005), which requires a lot of attention (Pourhosein Gilakjani & Sabouri, 2016), which is expected to have a highly positive relationship with reading comprehension (Zare & Othman, 2013).

Significant Difference Between the Pretest and Posttest Mean Scores of Control and Experimental Groups

Students have poor scientific literacy. The result indicates that using the TIPS strategy is due to a lack of scientific & inquiry skills (Kite et al., 2021) and scientific text reading strategies to improve students' scientific literacy (Roberts, 2007). However, some factors that affect the implementation of the academic intervention (Vaughn, 2010) need to be looked into.

Conclusion

Based on the findings, the study came to the following conclusions. Students have below-average reading comprehension, lack skills, abilities, struggle to utilize the TIPS strategy and have the same proficiency level before and after the intervention. The results of the study refute the hypothesis of Scientific literacy of Schools (2006) to master reading skills that will enable students to comprehend and apply the text to engage in the inquiry of learned science topics and become scientifically literate.

Reflection

The researcher provided the following suggestions based on the study's results and conclusions: There is a need to improve the research-based academic interventions in all fields to investigate other factors of poor reading comprehension, develop a parallel test that aligns with standardized test material to measure the proficiency level of the students, and evaluate each key stage area that needs improvement.

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Utilization of eReading Approach in Improving Reading Ability Among Grade 3 Learners in Basic Sight Words

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ABSTRACT

Reading is a vital aspect of literacy development. With the present covid-19 pandemic, teachers and learners have faced sweeping, unprecedented changes to teaching and learning. eReading Approach as a reading intervention will help increase learners' reading performance. The study was conducted to improve the reading ability among Grade 3 learners. Action research utilized the quasi-experimental research design to gather information from the respondents. To determine whether any difference exists, pre-test and post-test were conducted. The result was gathered, tabularized, and interpreted. Results showed that there was a significant difference between pre-test and post-test, especially in the experimental group where the eReading approach was being applied. Findings also suggested that the teacher-advisers and reading teachers may apply this approach to improve reading ability among learners. Moreover, teachers may undergo training on video editing to provide better video materials for better reading intervention.

Keywords: eReading approach, basic sight words, reading ability, action research

INTRODUCTION

It is not a hoax; poor reading comprehension of Filipino students is a reality. The Philippines has an important rate of low performers among all PISA-joining countries and economies. That is, 80% of the Filipino learners did not reach the minimum level of proficiency in reading. Their poor scores in English, Science, and Mathematics are credited to the learners' lack of basic reading and comprehension ability.

The eReading Approach was of great help to address such low performance of Filipino learners who have poor vocabulary and reading ability. The study was conducted to determine the result of utilizing the eReading Approach in improving the reading ability among grade 3 learners in basic sight words.

Specifically, this will identify the reading performance of the control and experimental groups before the implementation of the intervention, reading performance of the two groups after the implementation of the intervention, the significant difference of the control group before and after the implementation of the intervention, the significant difference on the reading performance of the experimental group before and after the implementation of the intervention and the significant difference on the reading performance of control and experimental group after the implementation of the intervention.

METHODS

In this chapter, the researcher presents a research method. It focuses on the research method used in this study. The method consists of research design; research participants; locale, respondents; data gathering; pre-experimentation period, experimentation period, post experimentation period; statistical tools, and ethical considerations.

Research Design

This action research will utilize the quantitative research design using the quasi-experimental approach. Quasi-Experimental Research Design is suitable in this study since the researcher investigates the conduct of an intervention into the study group and then measures the outcomes of the treatment.

Research Participants

The study was conducted among 40 grade 3 learners of section Y of School M, Division of Tagum City. This was conducted during the 1st Quarter school year 2021 -2022. The researcher grouped the respondents using systematic sampling to control an experimental group.

Data Gathering Procedure

In the conduct of the study, the following was employed in three phases, pre-experimentation, experimentation, and post experimentation.

The chosen respondents were divided into two as an experimental and control group. The experiment utilizes the eReading intervention while the controls were not.

Data Analysis

To answer the research questions, the study utilized statistical tools. To determine the mean gain scores in the pretest and posttest of each group, the mean percentage score was used and the t-test for the significant difference of each group.

Ethical Considerations

In this study, a letter request of approval was obtained from the Schools Division Superintendent and the school principal for the conduct of the study. A parent consent was secured, and the assent letter was translated to Filipino for the respondents to understand the content letters' content.

RESULTS

This chapter presented the analysis and interpretation of data organized in tabular and textual forms.

Reading Performance of the Control and Experimental Groups Before the Implementation of eReading Approach

Table 1 shows the mean data on the reading performance of the control and experimental groups before implementing the eReading Approach in terms of a pre-test. The pre-test mean of the control group is 18.25 with a standard deviation of 4.96 and a description of moderate, while the pre-test mean of the experimental group is 16.10 with a standard deviation of 8.57 and a description of poor.

Table 1

Reading Performance of the Control and Experimental Groups Before the Implementation of eReading Approach

Group	Mean	SD	Description
Control	18.25	4.96	Moderate
Experimental	16.10	8.57	Poor

Reading Performance of the Control and Experimental Groups After the Implementation of eReading Approach

Table 2 shows the mean data on the reading performance of the control and experimental groups after implementing the eReading Approach in terms of post-test. The post-test mean of the control group is 27.30 with a standard deviation of 5.43 and a high description, while the post-test mean of the experimental group is 37.40 with a standard deviation of 3.08 and described as very high.

Table 2

Reading Performance of the Control and Experimental Groups After the Implementation of eReading Approach

Group	Mean	SD	Description
Control	27.30	5.43	High
Experimental	37.40	3.08	Very High

Significant Difference in Reading Performance of the Control Group Before and After the Implementation of the eReading Approach

Paired t-test was computed to determine whether the control group's mean post-test significantly differs from the mean pretest. The result shows that the mean posttest is 27.30 with a standard deviation of 5.43 and the mean pretest is 18.25 with a standard deviation of 4.96. Since. The p-value of 0.000 is less than the 0.05 level of significance. Therefore, null hypothesis is rejected. It implied that the mean score post-test of the control group

has a significant difference from the mean score of pre-tests.

Table 3
Significant Difference in Reading Performance of the Control Group Before and After the Implementation of the eReading Approach

Variable	Mean	SD	t-value	p-value	Decision @ a=0.05
Pretest (Control)	18.25	4.96	-5.76	0.000	H_0 is rejected
Post-test (Control)	27.30	5.43			

Significant Difference in Reading Performance of the Experimental Group Before and After the Implementation of the eReading Approach

Paired sample t-test was computed to determine whether the mean post-test of the experimental group who used the eReading Approach as a reading intervention significantly differs from the mean pretest. Results showed that the mean post-test is 37.40 with a standard deviation of 3.08 and the mean pretest is 16.10 with a standard deviation of 8.57. Since. The p-value of 0.000 is less than the 0.05 level of significance. Therefore, null hypothesis was rejected. It implied that the eReading Approach as an intervention has significant differences in the post-test scores.

Table 4
Significant Difference in Reading Performance of the Experimental Group Before and After the Implementation of the eReading Approach

Variable	Mean	SD	t-value	p-value	Decision @ a=0.05
Pretest Experimental)	16.10	8.57	-12.67	0.000	H_0 is rejected
Post-test (Experimental)	37.40	3.08			

Significant Difference on the Reading Performance of the Control and Experimental Groups After the Implementation of the eReading Approach

Paired sample t-test was computed to determine whether the Mean post-the test of Control and Experimental groups has a significant difference after implementing the eReading Approach. The result showed that the mean post-test of the control group was 27.30 with a standard deviation of 5.43 and the mean post-test of the experimental group was 37.40 with a standard deviation of 3.08. Since the p-value of 0.000 was less than the 0.05 level of significance. Therefore, null hypothesis was rejected. It implied that there was a significant difference in the reading performance of the control and experimental groups after implementing the eReading Approach.

Table 5
Significant Difference on the Reading Performance of the Control and Experimental Groups After the Implementation of the eReading Approach

Variable	Mean	SD	t-value	p-value	Decision @ a=0.05
Posttest (Control)	27.30	5.43	-9.05	0.000	H_0 is rejected
Post-test (Experimental)	37.40	3.08			

DISCUSSION

Reading Performance of the Control and Experimental Groups Before the Implementation of eReading Approach

The moderate result of the control group and the poor result of the experimental group in terms of their reading performance before the implementation of the eReading Approach signified inadequate and weak reading skills that are most likely to fail in their scholastic aspect. The result was supported by Cayubit (2012), stating that a Filipino child needs to improve higher-order abilities and efficient reading ability. It was inevitable that any Filipino child with adequate reading abilities would have better achievement in school than a child whose reading abilities are poor. If no

appropriate intervention was directed early, it could impact educational, social, and emotional growth.

Reading Performance of the Control and Experimental Groups After the Implementation of eReading Approach

Reading performance of experimental group after the implementation of the eReading Approach was very high while the control group was high. It shows how the eReading Approach enhanced the reading performance of the experimental group compared to the control group with no reading intervention implied.

The result was supported by a research journal which states that remedial reading programs have been established for a long time in the Philippine basic education system. The country's elementary and secondary schools established remedial reading programs to aid struggling readers. School Heads should inspire their teachers to assess their learners' reading levels to offer suitable interventions for them by Mangila & Adapon (2020).

Significant Difference in Reading Performance of the Control Group Before and After the Implementation of the eReading Approach

The result of reading performance of the control group before and after the eReading approach showed an average significant difference since the pre-test mean 18.25 and is described as moderate. The post-test mean is 27.30 and is described as high.

This result was supported by a case study on the impact of reading intervention. It says, without intervention for at-risk pupils, the chances of these low-achieving students succeeding in the future are slim. Furthermore, most at-risk students who get extra successful reading treatments can avoid further reading difficulties. Again, any additional reading difficulties may be avoided by Smith (2015)

Significant Difference in Reading Performance of the Experimental Group Before and After the Implementation of the eReading Approach

The result of reading performance of the experimental group before and after the implementation of the eReading approach showed that there is an average significant difference since the pre-test mean is 18.25 and is described as moderate. The post-test mean is 27.30 and is described as high.

The result was supported by Somers (2021) as he saw the need for proper reading intervention to discontinue the problem of poor reading performances and low development of the reading ability of the learners. To reach the child's full potential, reading ability should be developed very well at the child's early age; thus, appropriate reading intervention may be employed.

Significant Difference on the Reading Performance of the Control and Experimental Groups After the Implementation of the eReading Approach

The result on the reading performance of the control and experimental groups after implementing the eReading Approach showed a significant difference. It entailed that the eReading Approach contributed a lot to the improvement of reading performance of the learners in the experimental group compared to those learners under the control group.

The result was supported by a specific study on online reading strategies for the classroom, stating that digital reading, no longer a prediction for the future, is a truth today. Information and communication technologies (ICTs), such as mobile applications and Internet connectivity, are integral in children's lives. ICTs are used progressively for personal matters but have also significantly transformed the types of reading that learner are expected to do in their present and coming education, not to mention their careers (Leu et al., 2011 as cited by Mercer 2019).

Literacy today entails more than just reading and understanding traditional print in books and twenty-first-century

technology (International Reading Association 2009 as cited by Mercer 2019).

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GOVERNANCE

Digital Library: A Web-Based Research File Management System

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ABSTRACT

In today's digital world, keeping data and having copies of documents was no longer a problem. This study aimed to create a web-based file management system for the Department of Education, Tagum City Division, to replace manual file and record administration with a dependable, efficient, and secure system. Design and development research highlighted the parallels between instructional design and scientific problem-solving strategies. The Digital Library was developed using Feature Driven Development, which prioritized quality at all stages because it was meticulously designed and tested after implementation until it was accepted. The webpages were designed to be distinct from the official DepEd RXI – Tagum City Division Official Website because this study was intended to be unrelated. This system was created to archive previously published research papers digitally, and it categorizes the research outputs to make tracking easier. The search filter was designed to help find a research output using keywords. The Teacher-Researchers and the Schools Division Research Committee can use saved files to conduct literature reviews and decide which research subjects to pursue. On this basis, the Digital Library might be used with Cloud Storage and Web Hosting to provide convenient and easy access to Teacher-Researchers outside the Division Office.

Keywords: digital library, file management system, design, and development, feature-driven development, governance

INTRODUCTION

The COVID-19 pandemic has prompted the government, private sector, and development organizations to create web-based resources and platforms to assist local businesses in surviving and thriving (Philippine Disaster Resilience Foundation, 2020). Due to social distancing practices and nationwide lockdowns, the Covid-19 pandemic has inevitably increased the use of digital technology (De' et al., 2020). While everyone is working to improve their service, they still lack a system to digitally provide a copy of teacher-researchers research output and keep track of the status of the research papers, which is a problem that requires a comprehensive solution.

A file management system is an application technique for storing data on a storage device. This technique eliminates the need for people to use traditional paper-based data management systems (Roomi, 2021). As data can be stored on servers worldwide, according to Wood (2021), using the File Management System to archive our papers properly without worrying about potential property loss is advantageous.

The file management system was designed to achieve the following objectives: to track the status of the research outputs quickly, store research outputs in one location digitally, and serve as a literature review resource and guide for teacher-researchers. It could be accessible via a local network, and for security reasons, only an Administrator could register the accounts of the Schools Division Research Committee members. The file management system would not include comments and discussions of any sort as it strays away from the main purpose of the research, and it minimized its account management to password changing due to the same reason above, as well as it aimed to focus only on managing the files of the users.

METHODS

Research Design

Design and development research, according to Richey and Klein (2014), seemed to be the systematic study of design, development, and evaluation processes to establish an empirical foundation for the development of instructional and non-instructional products and technologies, as well as new or improved models that govern their development. The software development process included implementing new features, analyzing requirements, and fixing bugs (Baltes & Diehl, 2018). The research design dictated the methodology used and how it was applied.

Research Materials

The system was developed using a set of hardware and software requirements. Table 1 lists the hardware and software requirements. The study's materials provided the technologies employed throughout the code implementation.

Table 1.

Hardware and Software Requirement

Category	Parameter	Requirement
Hardware	**Machine**	x86-64 (64-bit)
	CPU	Intel Core i7-7700HQ CPU @2.80GHz
	Memory	16 GB RAM
	Total Disk Space	256 GB
OS	**Operating System**	Windows 10
	Service Pack Level	Up to Date
Software	**Database Server**	Server: 127.0.0.1 via TCP/IP
	Web Server	PHP Version 7.0.9
	phpMyAdmin	Version information: 4.5.1
	MVC PHP Framework	Laravel Version 5.4
	Web Development	HTML5, CSS3, JavaScript, JQuery, Ajax, Bootstrap, JSON
	Programming Language	Python 3.6.4
	Hosting Service	GitHub, Google Docs
	Browser	Chrome Version 56.0.2924.87, Mozilla Firefox
	Text Editor	Sublime Text

The requirements were based on the laptop specifications of the researcher.

Research Technologies

This system used PHP for the database implementation. Various technologies were used to implement the system's web application features. These are GitHub, CSS, Bootstrap Framework, JavaScript, JSON, AJAX, jQuery, Google Drive, and Google Docs.

Software Development Model

Feature Driven Development (FDD) was used to develop the system as it emphasized quality at all steps since it was carefully designed and tested after implementation until approved. Figure 2 illustrated the step-by-step sequence of the Feature Driven Development, and it was the ideal approach to be used since the iterations delivered were feature after feature.

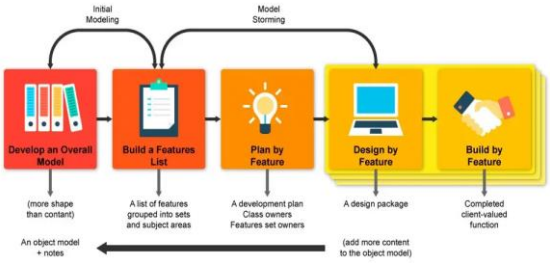

Figure 2. Feature Driven Development

Source: Feature driven development methodology – Custom web & mobile development company – New line technologies (2018).

Assumptions

Table 2 presented the assumption of this study. During the development of the File Management System, the Researcher made the following assumptions:

Table 2.

Assumptions

	Description
1	All the users were members of the School's Division Research Committee, who has the designation in the Department of Education, Tagum City Division.
2	The user's login information (username & password) would be created by the Division IT Officer of the Department of Education, Tagum City Division.
3	All the user's input values of the research file uploading were all right in terms of spelling, format, and validated.
4	All the guest users could be DepEd Employee or non-DepEd Employee, who were not a member of the School's Division Research Committee.

Ethical Considerations

The researcher took steps to ensure that respect, beneficence, and justice were observed according to the standards set by the Department of Education, Tagum City Division Ethics

Review Committee. Other ethical issues such as plagiarism, fabrication, falsification, conflict of interest, deception, observation authorization from an organization or location, and authorship were observed throughout the investigation.

RESULTS

The web pages presented below were made unidentical to the official DepEd RXI – Tagum City Division Official Website as these systems was planned to be connected.

Index Page

When a guest user opened a web browser and clicked the 'home' button, the first page displayed the index page. This page allows the guest user to type in the search key that s/he wants to use, leading them to the Search Result Page.

Figure 3. Index Page

Search Results Page

This page displayed all related research that matched the guest user's search key. The search algorithm checked to see if the search key was in the Research Title, Research Keywords, or Research Abstract. The Year, Research Category, Research Type, and Research Agenda may all be filtered by the guest user using the filters on the left side of the browser, as shown in Figure 4.

The Research View Page in Figure 5 will display all the information about a particular research output, including the DOI, Journal Title, Researcher's details, Research Abstract, and so on once a guest user has desired to view specific research.

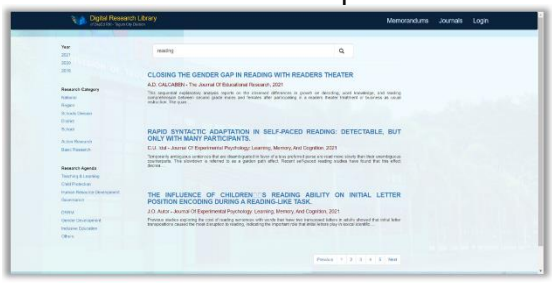

Figure 4. Search Result Page

Figure 5. Research View Page

Log-in Page

The user must provide their username and password on the login page, as shown in Figure 10. After that, they can utilize the system by clicking the login button. If s/he forgets to type input or enters an erroneous password, clicking the login button will result in an error.

Figure 10. Log-in Page

Home Page

After the user successfully logs in to the system, the Home Page will be displayed automatically on the browser. The user could do such works as adding & updating new users (only applicable to Admin User), researchers, research outputs, journals, and division memorandums by clicking its icon as shown in Figure 11.

Figure 11. Home Page

Users Feature

Figure 11 shows how only the Admin User could see the Users Symbol on the Home Page. The Users List page displayed all the Users added to the database by the Admin User. There are three options in each user that the Admin

User can perform; (1) Update the User information, (2) Reset the Password of the User, (3) Delete the User from the database.

By clicking the 'update' option, the Admin User might change each User's information. If a user forgets their password, the Admin User can reset the User's password, which will be changed to the default password. When the user logs back into the system, the system will prompt the user to change their password to one that they prefer. If the Admin User selects the 'delete' option, the User information will be permanently removed from the database.

The Admin User can create a new user by filling out the necessary information and clicking the 'Add User' button at the top of the Users List.

Researchers Feature

The Researchers List page will appear in the browser after clicking the Researchers icon from the Home page. The Researchers List page displayed all the Researchers added to the database by the User. Each researcher has two options that the User can perform; (1) Update the Researcher information, and (2) Delete the Researcher from the database.

The User might change each Researcher's information by clicking the 'update' option from the Researcher List Page. If the user selects the 'delete' option, the Researcher's information will be permanently removed from the database.

The User can add a new Researcher by filling out the necessary information and clicking the 'Add Researcher' button at the top of the Researchers List.

Research Feature

The Research List page will appear in the browser after clicking the Researches icon from the Home page. The Research List page displayed all the Researches added to the database by the User. There are two options in each research that the User can perform; (1) Update the Research information, and (2) Delete the Research from the database.

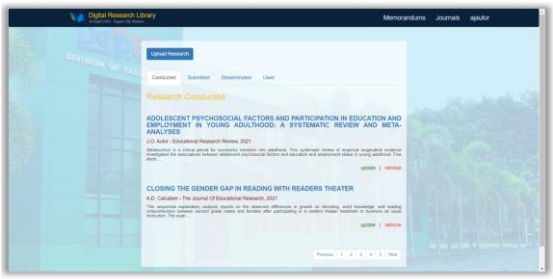

Figure 18. Research List Page

By clicking the 'update' option in Figure 19, the User might change each Research's information. If the user selects the 'delete' option, the Research information will be permanently removed from the database.

Figure 19. Update Research Information Page

The User can upload a new Research by filling out the necessary information and clicking the 'Add Research' button at the top of the Researchers List.

Figure 20. Upload Research Page

DISCUSSION

This chapter presents a discussion of the results, conclusion, and recommendation.

Easy Tracking of the Status of the Research Outputs

The Digital Research Library has been developed to digitally store previously accepted, conducted, and used research publications. It supports the review and approval of research output by the Schools Division Research Committee (SDRC).

The system divides the research outputs into categories to make tracking easier.

Digital Storing of Research Outputs in One Location

The Digital Research Library will save time and effort by manually reviewing each research paper. The system's filters can help efficiently locate a research output by using keywords or searching for a specific name.

Serving as Literature Review Resource and Guide for Teacher-Researchers

Viewing the stored files of the research outputs would aid the Teacher-Researchers in doing a literature review without signing into the system. It will also assist Teacher-Researchers and the SDRC in determining which research topics to pursue.

Conclusion

The study has developed a web-based information system for the Tagum City Division of the Department of Education that makes it easier for the Schools Division Research Committee (SDRC) to review and approve the content of research outputs by storing previously accepted, conducted, and used research papers digitally. As research outputs are digitally saved in the system, all an organization's records can be centralized for quick access and save time and effort by eliminating the need to review each research paper manually. It helped teacher-researchers who are preparing a research paper by viewing the stored files of the research outputs and would aid them in doing a literature review.

Recommendations

Further, the Digital Research Library is recommended using Cloud Storage & Web Hosting for convenient and easy access for the Teacher-Researchers who are away from the Division Office. A mobile integration teacher-researchers have a smoother experience accessing its features. The researcher recommends additional features that span a broader scope. Since the said system only handles document and report handling for conducted, submitted, disseminated, and utilized research outputs, it would be preferable if guest users could post any discussions on a specific research output page. Teacher-researchers could upload their outputs to the system.

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Dynamics of Community-School Partnership in Implementing Reading Intervention Program During COVID-19 Pandemic: A Phenomenological Inquiry

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ABSTRACT

Engagement of stakeholders in school is a vital element that plays a pivotal role towards the school's success while engaging them effectively within the spectrum of their responsibility. This study explored the experiences of school heads on their approaches in engaging stakeholders during the COVID-19 pandemic in the implementation of community-based reading intervention programs that would enhance students' literacy skills in Tagum City Division. Further, this investigated their coping strategies amidst the pitfalls of stakeholders' participation in the program. In exploring the approaches of school heads, the researcher employed the qualitative – phenomenological study of which the primary instrument of data gathering was through in-depth interview of the seven participants who were school heads, selected through purposive sampling. In terms of school heads' approaches in engaging stakeholders, the following themes emerged namely: planning and organizing, implementing innovative practices, capacitating, and orienting the stakeholders, and establishing a strong home-school partnership. Further, the themes that surfaced for school heads' coping approaches were intensifying resource generation efforts, effective information dissemination and communication with stakeholders, and strengthening community linkages. It has implications on the need for school heads to sustain various approaches towards effective engagement of stakeholders amidst the pandemic. To achieve holistic education, stakeholders need to play a supportive role in education and the Department of Education must consider the enactment of a policy for stakeholders' engagement. Thus, it has a continued synergy to every school's effort exemplified in strong partnerships among multi-stakeholders especially during crises.

Keywords: community-school partnerships, reading intervention program, COVID-19 pandemic, qualitative-phenomenological method, Tagum City, Philippines

INTRODUCTION

The United Nations Development Programme (2020) states that the world is facing a defining health crisis of our time, the COVID-19 pandemic, which was spread where many people were infected, numerous deaths were recorded while others are still recovering from this virus. This pandemic is not only a health crisis, but it is also an unprecedented crisis. It has the capacity to create destructive effects in our social, economic, political, and educational conditions. In India, research of Cashman (2020) showed that schools were challenged on looking at some of the motivators of parent engagement towards their children's education in rural areas, as well as how community-based accountability relationships improve learning outcomes for the most deprived primary-school learners particularly in the present situation where millions of children are affected of the COVID-19 pandemic.

Similarly, in the Philippines, Baloran & Hernan (2020) presented that the COVID-19 pandemic has affected the public educational sectors in terms of adjustment in educational modalities of instructional delivery, school operations (including the participation of stakeholders), and policies. Consequently,

in Tagum City Division, it has been observed that although the schools are doing their best to link with the different school stakeholders, still declining results had been reported by schools on some of the school-initiated activities, specifically in the enhancement of students' literacy through the conduct of intervention programs. In reviewing previous studies, a few investigations about the effects of COVID-19 on stakeholders' engagement have been found. Results of the study conducted by Tria (2020) highlighted the present COVID-19 pandemic which brought extraordinary challenges and has affected the educational sectors. However, this present investigation focuses on the need for stakeholders' support particularly in implementing various school programs like the reading program being conducted in the community amidst the pandemic.

The findings of this study provide relevance to the administrative committee of the Tagum City Division and the regional office to strengthen and intensify effective strategies and discover several ways to minimize the existing challenges in the program implementation. Moreover, the findings of this study will be used to improve program implementation which greatly influences the enhancement of students' literacy skills, how they are given attention for them to be academically motivated, and for the school heads and teachers to establish school mechanisms towards efficient and effective engagement of stakeholders especially in times of crisis. The main purpose of this phenomenological study was to explore the experiences of school heads on how they engage stakeholders during this pandemic in the implementation of community-based reading intervention programs that enhance the literacy of students in Tagum City Division. Further, this investigates how they cope with the challenges they encountered during the implementation of the program.

METHODS

Research Design

The research design employed in this study was qualitative, utilizing a phenomenological approach. Using the mentioned design and approach, the research aimed at gaining a deep understanding and description of the stakeholders' engagement approached school heads in implementing community-based reading intervention programs during the COVID-19 pandemic. Further, this also probed their coping mechanisms from the challenges they encountered in conducting the program.

Research Participants

The participants of this study were the seven school heads in Tagum City Division. I followed some criteria in selecting the participants. The selection criteria are the following: (1) must be holding a Plantilla position as Principal I, II, III, and IV for the elementary; (2) must be leading or handling a school for one to three years; and (3) must have shown exemplary performance in building strong partnerships with stakeholders particularly in the implementation of community-based reading intervention program during the pandemic. They were composed of both males and female school heads in the Tagum City Division. Additionally, the seven participants for in-depth interviews were already enough to provide information regarding the opportunity to identify and generate the themes.

Data Collection

There were different steps in collecting research data from the participants. The following steps were employed in gathering the data following the IATF protocols where face-to-face was limited or not allowed. In case when face-to-face was necessary, social distancing, wearing of face mask and face shield were observed. As a researcher, I sought permission to conduct the study, prepared the instrument, sought informed consent from the participants, administered the interview, transcribed, translated, and analyzed the data, endorsed to the data analyst, and ensured data privacy.

Data Analysis

Data were analyzed through data coding and thematic analysis. Highlighters and colored pens were used on the text being analyzed to represent important and

reoccurring themes. Then, the texts were grouped with the same color of pens and highlighter and described with words and short phrases. Thematic analysis was done after the initial codes were identified. Then, categorizing and analyzing all the responses of the participants from general to specific followed. Responses with similar core ideas were extracted and grouped to formulate comprehensive themes. Each theme should consist of at least three core ideas to make it valid. Meanwhile, code names were assigned for each of the participants.

To familiarize the data, listening and transcribing the recorded interview of the participants were conducted. In addition, I kept on reading it to identify similar answers given by the participants. After familiarizing the data, coding began. Coding was employed in which the data confirmed to arrive for themes, ideas, and categories.

Ethical Consideration

This study adhered to ethical consideration as cited in the Belmont Report (1979) where respect for persons, beneficence, and justice were identified. It also compiled the Data Privacy Act of 2012 (RA 10173).

RESULTS

Engagement Approaches of School Heads in the Conduct of Community-based Reading Intervention Program during COVID-19 Pandemic

The school heads shared their views, strategies or approaches in terms of the conduct of community-based reading intervention program during the COVID-19 pandemic.

Table 1 shows the approaches or strategies employed by the school heads in the conduct of the community-based reading intervention program during the COVID-19 pandemic. Four emerging themes from the data collected were generated based on their shared views. The themes are as follows: planning and organizing; implementing innovative practices; capacitating and orienting the stakeholders; and establishing a strong home-school partnership. These themes are supported and justified by the testimonies of informants during interviews. This serves as their evaluation in their journey as head of schools in engaging the stakeholders in the community-based reading intervention program during the COVID-19 pandemic.

Table 1

Engagement Approaches of School Heads in the Conduct of Community-based Reading Intervention Program during COVID-19 Pandemic

Major Themes	Number of Responses
Planning and organizing	5
Implementing Innovative Practices	5
Capacitating and Orienting the Stakeholders	5
Establishing a Strong Home-School Partnership	5

Coping Mechanisms on the Challenges Encountered in the Implementation of Community-based Reading Intervention Program during this COVID-19 Pandemic in terms of Engaging the Stakeholders

Table 2 shows the coping mechanisms on the challenges encountered in engaging the stakeholders during the conduct of their respective community-based reading intervention programs during the COVID-19 pandemic. Three emerging themes were generated based on their shared views. The themes are as follows: intensifying resource generation efforts, having effective information dissemination and communication with stakeholders, and strengthening community linkages. These provide mechanisms that address the difficulties encountered by the school heads in implementing the program, especially in engaging the stakeholders, this pandemic.

Table 2

Coping Mechanisms on the Challenges Encountered in the Implementation of Community-based Reading Intervention Program during this COVID-19 Pandemic in terms of Engaging the Stakeholders

Major Themes	Number of Responses
Intensifying Resource Generation Efforts	4
Having Effective Information Dissemination and Communication with Stakeholders	7
Strengthening Community Linkages	3

DISCUSSION

Engagement Approaches of School Heads in the Conduct of Community-based Reading Intervention Program during COVID-19 Pandemic

The themes drawn from the responses from the research questions of the participants during the interview are discussed, with the aim to explore their different experiences on how they engaged the stakeholders in the conduct of community-based reading intervention program during this COVID-19 pandemic and the overcoming mechanisms instituted to address the challenges encountered during the implementation. In gathering the data, important things were considered before, during, and after the conduct of the study; and one of the most important things I considered was to ensure the confidentiality of their identity and of their statements. With this, the participants felt safe and secure in their involvement.

Planning and Organizing

With their knowledge, experiences, and competencies, the school heads are central to leading and managing the effort in engaging the stakeholders, despite the pandemic, particularly in conducting community-based reading intervention programs. They are responsible for planning and organizing certain processes that would address the needs of the present times. It was evident in the participants' responses that when stakeholders were engaged during the planning and organizing phases, the program was implemented successfully. Further, the participants revealed that by employing specific strategies like planning the activities and organizing the people, it is easier to implement the program despite the pandemic.

One of the elements in the success of organizing events, official meetings, projects, and programs is through planning. It is a devised method or procedure on how the program should go about. Planning helps to implement the activities efficiently and effectively because of the prepared sequence of steps to reach the goals of an activity. It also helps save time and effort (The New Indian Express, 2016). Teachers' professional culture plays a critical role in sharing organizational learning capacity. In developing school activities, it is very important to have strategic planning given by the school leaders (Louis & Lee, 2016)

Implementing Innovative Practices

Innovations in the school are part of the practices that school heads utilize effectively. Through these, school leaders can develop various projects and programs which enjoin stakeholders' support or assistance. Based on the results of the interview, school heads further believe that innovations in schools are significant undertakings that invite possible stakeholders who will extend their time and resources for school projects and programs, especially this time of the pandemic.

As Hale (2017) sought to find characteristics of innovation and global leaders' innovation in the schools of Asia region, he found out that schools should establish school culture and practices in

developing innovation and support leaders in making an innovative school atmosphere. It is shown that innovative school leaders should be open in taking risks and creating experiences where employees have the freedom to fail. The findings of the study also showed that support from the school leaders is very important in building an innovative school environment. Furthermore, it was also found out that for the organization to be empowered to generate new ideas and implement innovations, school leaders must share the vision of the school, build strong relationships, and utilize the existing organization's resources.

Also, the result of the study conducted by Dungan (2017) focused on the extent of influence of innovation diffusion on the decision in using distance learning as a mode of delivering instruction. He discovered that teachers' small innovations at schools are diffusing horizontally before diffusing vertically to other grade levels. These small innovations have different diffusion from the larger innovations. It is because larger innovations are introduced by educational leaders downward throughout the school.

Capacitating and Orienting the Stakeholders

Communicating to our stakeholders plays an important role during this COVID-19 pandemic. School heads have undergone a series of capacity-building activities and orientation of parents and other stakeholders to communicate the purpose of implementing the community-based reading intervention program despite the pandemic to enhance the literacy skills of the learners. In the context of this study, I believe as a researcher that this activity conducted by the school heads is very critical in achieving the goals and objectives of the program to actively engage stakeholders despite the pandemic.

This is like the study conducted by Haris (2016), which focused on the capacity-building activities for educational stakeholders such as school principals, school supervisors, District Education officials, and school committee members. The result showed that the program helps to improve stakeholders' participation in the schools' educational management. It also showed that district governments give their greater commitment to improving education. There is also a change in behavior in the classroom and the community.

Establishing a Strong Home-School Partnership

As we face the threat of the COVID-19 pandemic, especially in the manner school leaders and teachers engage the stakeholders, there is a dire need to establish strong support and partnership that would undoubtedly assist the school towards the realization of the program, particularly the community-based reading intervention program. The school heads consider parents as teachers of their children at home. So, the partnership between home and school is pivotal towards the achievement of the goals of the program.

Similarly, Zacarian and Silverstone (2015) also mentioned the challenges brought by the community setting for educational leaders in running the school effectively. This is especially true in urban areas. Further, the school improvement and changes, strengthening families' support, improving, and developing a community where students live, and building a conducive learning environment for students help build partnership (Casto, 2016). Further, Blankstein and Noguera (2015) posited that establishing effective partnerships has a crucial role in school reform, even though it is challenging. They believed that school leaders are encouraged to broaden and strengthen motivations in establishing the partnership between the schools and service organizations to address students' needs, especially in social and healthcare services.

Likewise, the sustainability of this collaboration needs also depends on fostering a relationship that has reciprocal benefits. Educational leaders said that partnership efforts were not something added but is already embedded in the structure of how the school operates and manages. Hence, partnership is already a part of the school (Gross et al., 2015).

Coping Mechanisms of School Heads on the Challenges Encountered in the Implementation of Community-based Reading Intervention Program during COVID-19 Pandemic in terms of Engaging the Stakeholders

To weather difficulties or challenges the school may encounter, school leaders can institute various mechanisms and timely interventions. True to both external and internal stakeholders, putting in place such measures would ensure continuous improvement. Participants revealed that, along the way, they encountered numerous challenges in implementing their school's reading programs. The three emerging themes provide mechanisms that address the difficulties encountered by school heads in the implementation of the program in this pandemic, especially in engaging the stakeholders.

Intensifying Resource Generation Efforts

One of the vital mechanisms that would address the challenges encountered by school heads in engaging stakeholders during this pandemic, particularly in implementing the community-based reading intervention program, is the skill of resource generation. Efforts have been made by the school heads to address the pressing problems in this pandemic, specifically on how to source out funds, supplies, materials, and infrastructures that could be used in the implementation of the program.

On the same lens, Petko et al. (2015) posited that resource management plays a vital role in having an efficient and effective development and utilization of an organization’s resources to its optimum use. However, resources are not only limited financially, but it also includes inventory, human skills, production resources, or information technology. Since school principals or educational leaders manage the school's limited resources, they are also accountable for maintaining and increasing the schools’ effectiveness in transition, innovation, reform, or crisis happening in the school. Educational leaders are also encouraged to do innovations in strengthening curriculum implementation of the institution even in the chaotic fiscal and policy environment (Calub, 2015).

Having Effective Information Dissemination and Communication with Stakeholders

Reaching out to our parents and other education stakeholders is a vital element to deliver the education services that promote the learning of our learners. Our school leaders manifest this through their exerted efforts during this COVID-19 pandemic just to effectively inform the stakeholders of the projects and programs and communicate with them the purpose and goals of such. As a researcher, I see this action to have an impact on the success of program implementation since the roles of stakeholders during this pandemic is a serious undertaking and the need for constant communication creates an avenue for better understanding between the school and community.

Bisk (2018) also emphasized that leaders are role models in an organization. Subordinates need a good management team to organize and make sure that everybody is doing his or her job required of him or her. One of the most important skills for leaders is the ability to communicate effectively. While the ability to strategize is also crucial, strategies are nothing without a team that understands how to carry them out. It is a leader's responsibility to ensure that the team understands the tasks at hand and is motivated enough to give it their full attention.

On the same view, Green, Walker, and Hoover-Dempsey (2017) explained that the involvement of parents has a positive effect on the learning of children and develops self-efficacy of parents in the idea that they have something to do relative to their child's education. Moreover, a harmonious relationship between the school and home results in sharing and maximizing resources that can also support children in developing their positive behaviors and performing well in schools.

Strengthening Community Linkages

Stakeholders play a significant role in the delivery of education services to the community. Undeniably, connections with community stakeholders are crucial in realizing the school's projects and programs. I recognize the important functions they portray in the implementation of community-based reading intervention programs in this pandemic. The time and resources they rendered to the schools in the department only manifest the kind of community stakeholders we have.

It is the role of the community to provide quality education to the learners. A community that looks after the education of the children encourages them to develop critical thinking to face the challenges predominant in the community, motivates, assists and promotes the ability to solve pressing problems (The New Vision, 2018). Consequently, it comes with different paths the community school movement that ensures much-needed attention in the development of a child, family, and community well-being underscoring the shared core values and goals of school social work that promises the idea of better school reforms (Gherardi, 2019).

Implications for Teaching Practice

Results of this study are significant elements towards the improvement or development of policy, practice, theory, and ensuing research studies. It explains the importance of the experiences of school heads in engaging stakeholders during this pandemic in the implementation of community-based reading intervention programs.

With the hopes in mind, the Department of Education may incorporate initiatives, propose programs for better engagement of stakeholders for school as well as division-initiated activities; for school heads to have effective financial management on essential priority settings of specific school expenses to incur in implementing the program; and to coordinate with Local Government Units (LGUs) since there are some disadvantaged communities gained support through the provision of supplies and infrastructures that are utilized in the implementation of the community-based reading intervention program.

Implications for Further Research

This study explored the experiences of school heads on how they engaged stakeholders during this pandemic in the implementation of community-based reading intervention programs. Participants were delimited to seven school heads. The implementation of a community-based reading intervention program during the COVID-19 pandemic, highlighting stakeholders' engagement, has offered various learning opportunities to the school leaders and teachers. Specific actions are suggested that this study tries to resolve or needs to be taken about policy, theory, practice, or subsequent research in the future.

It is proposed to conduct regular monitoring on effective fiscal management of the program. Further, school heads can operate with transparency and accountability, tailoring communications to education stakeholders to collaborate better by reducing communication barriers. In addition, sustaining necessary innovativeness aid in gaining support and resources needed in implementing various programs and projects. Meanwhile, the use of other data gathering tools, like Focus Group Discussion, to triangulate the data involving school reading coordinators and school partnership focal persons captured interesting and varying results. Results

may serve as valuable inputs for DepEd personnel for further venturing into professional development training and capacity building. To further generate a more valid and reliable result, it is recommended that another study may be conducted using the mixed method approach to strike a balance in generating data and information.

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Exploring the Domain of Early Language, Literacy, and Numeracy: Accounts of Teachers and Parents

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ABSTRACT

This qualitative study explores the experiences of teachers and parents in the implementation of Mother Tongue-Based Multilingual Education (MTB-MLE) subject and the use of Mother Tongue (MT) language as a medium of instruction. Moreover, this study discovers the coping mechanism and insights of the teachers and parents. In Schools A, B, and C, purposive sampling was used in choosing 15 participants for the in-depth interviews and focused group discussion. In this study, the teachers' and parents' responses are centered to MTB-MLE as a subject per se and as a medium of instruction. The results revealed the themes for experiences: struggling with MT language use, sustaining MT for instruction, determining the downside of MTB-MLE subject, preferring English for numeracy, and losing interest to learn. To cope with the challenges, teachers, and parents' resort to bridging the languages, creating solutions, and strengthening parent-teacher links. The participants continue to experience the challenges with insights for re-evaluating the curriculum, intensifying the second language use, and retaining the mother tongue language instruction. This implies that an evaluation is needed to address the challenges in teaching particularly in using MT as the medium of instruction in the primary schools. The benefits of using the second language may be considered following the demands of 21st century education.

Keywords: mother tongue-based multilingual education, literacy, numeracy, K to 3 learners

INTRODUCTION

Educational research revealed that teaching techniques that allow bilingual kids to use their whole linguistic repertoire are helpful to both their bilingual development and their overall school accomplishment (Ganuza & Hedman, 2019; Garcia, 2009). The United Nations Educational, Scientific and Cultural Organization (UNESCO) published on the feasibility of teaching in the mother tongue or first language in a bilingual early childhood setting in Asia and the Pacific. They have pressed it on its commitment to growth and sustainability.

Formal education is also proven to be important for literacy development. Nonetheless, many bilingual kids are educated in only one language, which is usually the main language (Ganuza & Hedman 2015; Hyltenstam & Milani 2012).

The evolution of English in ASEAN, demonstrating that English has become increasingly significant even in ASEAN countries that were not colonies of the United Kingdom or the United States. The language policies of ASEAN countries almost always require people to learn both their native language and English. This combination of studying English and a national language. As a result, local and indigenous languages, in addition to the national language, are being phased out of many school curricula and other spheres in favor of English (Jenkins, Baker, & Dewey, 2018; Kirkpatrick, 2012).

In the Philippines, DepEd has been using the mother tongue as a medium of instruction, but it was implemented as a separate subject in June of the 2012-2013 school year (DepEd order No. 74, series of 2012-2013). The Key Stage 1 which is comprised of kindergarten and grades 1 to 3, shall be taught in the first language. First language or L1 is our mother tongue language (Sumalinog, 2018).

However, language-in-education policy has recently become a contentious issue in the Philippines, where the MTB-

MLE, or Mother Tongue-based Multilingual Education, was introduced (Alieto, 2018). This was thought to be a way to ease the linguistic change from the L1 to the national and official languages of Filipino and English in classrooms further equalizing prospects for social development for speakers from various linguistic and social contexts throughout the archipelago (Osborne, 2020). Problems arose because of the multilingualism in the Philippines. The implementers encountered obstacles for the flow of the newly implemented system (Sumalinog, 2018).

In the Division of Tagum City, limited research has been seen on the implementation of Mother Tongue-Based-Multilingual Education (MTB-MLE) subject after it was implemented for several years. Despite the continuous efforts to support the implementation, numerous challenges are encountered by teachers and parents from the beginning of the implementation up to the present. Conducting research to see if teachers and other stakeholders recognize its educational value not only fills in the gaps, but also highlights the necessity for sentiment analysis to confirm the premise that teachers' attitudes on teaching MTB-MLE will be very positive (Arispe, Capucao, & Maligat, 2019).

In general, both students and teachers find learning to be a frustrating experience. There is clearly a gap between policy and practice. This study highlights the in-depth perspectives of teachers and parents on the matter. Their insights play a vital role in reviewing and crafting policies that would serve the best interest of the learners.

Even though DepEd provided a rather progressive framework for expanding language in education policy, allowing teachers and parents to select their preferred medium of instruction, the majority of primary school learners remain at a disadvantage in literacy and numeracy. The dilemmas stated above led to crafting this study which explored how public teachers and parents viewed the pros and cons of MTB-MLE as a subject and Mother Tongue (MT) as medium of instruction, especially in literacy and numeracy; their experience and challenges in teaching MTB-MLE as a subject and using the mother tongue language in teaching literacy and numeracy; and how they cope up with the challenges they encountered to achieve the desired competencies in literacy and numeracy.

METHODS

Research Design

This study employed a qualitative design study utilizing a phenomenological approach. It means that all the qualitative methods view the world as subjective, rather than objective (Creswell & Poth, 2017). The phenomenology approach aims to describe the essence of a phenomenon by looking at it through the eyes of individuals who have experienced it (Teherani et al.,2015).

In this study, it explored how 15 K-3 teachers view the implementation of MTB-MLE as a subject, their experiences in the implementation of the subject and the use of mother tongue as the medium of instruction, and how these teachers addressed the challenges they encountered to achieve the required literacy and numeracy of the learners.

Two methods were employed in collecting qualitative data through focus group discussion (FGD) and in-depth interview (IDI). Focus group discussion is a common qualitative method for gaining a deeper understanding of social issues. An in-depth interview, also known as a one-on-one interview, is a technique for gathering more thorough information or gaining a deeper grasp of a subject or concept.

Research Participants

This study is participated by teachers and parents. Six among them were teachers designated for the in-depth interview: one kindergarten teacher, one Grade 1 teacher, one Grade 2 teacher, two Grade 3 teachers, and one Grade 4 teacher.

There were nine participants for the focus group discussion which is comprised of five teachers and four parents. The teachers who participated in the FGD were as follows: one Kindergarten teacher, one Grade 1 teacher, one Grade 2 teacher, one Grade 3 teacher, and one Grade 4 teacher. For the parent-participants, there were two

parents from Grade 1 level, one from the Grade 2, and one from the Grade 3 level.

The purpose of this selection is to triangulate the responses of the participants and saturate data based on the conducted interviews. Creswell (2009) advised that a phenomenological study conducted with a heterogeneous group should be a minimum of 3 to a maximum of 15 individuals.

Data Collection

Creswell (2007) mentioned that qualitative researchers will be tied up in a series of activities in the process of collecting data. A vital step is to find participants involve in this study, the availability of material, and place where to conduct study to obtain accurate information.

The researcher took laborious steps in the data collection procedure. The researcher also engaged in a series of activities in the process of collecting data before arriving to the completion of the research study. These are asking permission to conduct the interviews, selecting the participants, conducting the orientation and interviews, and storing data.

Data Analysis

Qualitative design includes a variety of data gathering methodologies that researchers can employ to aid in the supply of cultural and contextual descriptions and interpretations of social phenomena (Vaismoradi & Snelgrove, 2019).

This study made use of the content and thematic analysis in analyzing the data to be collected and gathered. Qualitative content analysis (QCA) and thematic analysis (TA) were the two common approaches in data analysis. According Vaismoradi and Snelgrove (2019), the researchers who use QCA aim to provide a concise yet comprehensive report on the data's commonalities and discrepancies.

Trustworthiness

In this study, the researcher observed the facets of trustworthiness to maintain the integrity of the data gathered from the selected participants.

According to Shenton (2005), the researcher would state the importance of assessing the worth of the study such as establishing credibility, confirmability, transferability, and dependability to create trustworthiness in the conduct of the study.

Ethical Considerations

According to Creswell (2007) as This study will follow the standards of the Schools Division Research Committee (SDRC) for the guidelines of ethical consideration particularly in addressing the population and data such as, but not limited to voluntary participation. No one should ever feel compelled to participate in a research study. Any sort of persuasion or deception used to acquire someone's trust falls under this category (Enago Academy, 2020).

The participants were granted the option to participate without any plan of consequence or compensations or loss of benefits. Therefore, after the purpose and the benefits of the study was shown to the participating person, the rights of the participant to provide the body of knowledge was carefully measured and foresighted upon. In this study, the participants were not forced to be part of the study. They were free to withdraw their participation when they feel uncomfortable during the conduct of the study.

RESULTS

Experiences of the Teachers and Parents in Early Language, Literacy, and Numeracy Using the Mother Tongue

The experiences of the participants in the implementation of the MTB-MLE subject and the use of mother tongue language in instruction revealed the following themes.

Struggling with MT Language Use. Teachers and parents struggle in the mother tongue language use. This is attributed to different home languages of learners that required them to contextualize materials and strategies. For the participants, it would be easier to implement the MTB-MLE subject only if we have our own orthography, meaning we don’t depend on other languages or

dialects as they have their distinct features applicable to its locals. The teachers also shared the unaligned materials to the curriculum which makes it hard for them to deliver MTB-MLE instruction. Parents also have aired that using the mother tongue language should not be forced in schools because home orientations are diverse. Lastly, learners also have encountered struggles, as per teachers and parents' account, in terms of literacy and numeracy where they frequently encounter language confusion.

Supporting the MT-Based Instruction. Teachers are positive in using mother tongue as a medium of instruction. They seem to have no problems as the use of MT in instruction highlights the identity of our culture. However, it should be used as a supplemental language especially in literacy and numeracy to catch up with the demand of producing 21st century learners.

Determining the Downside of MTB-MLE Subject. The relevance of MTB-MLE subject to real life practice is questioned as the subject will only end in Grade 3. It no longer has its counterpart in the higher grades; thus, teachers opt to use Filipino and English in their respective classes. Also, the inappropriate bridging of the languages has affected learners in terms of spelling and writing.

The teachers have looked at the MTB-MLE subject as compliance to the mandates of the curriculum. It has been considered as an additional subject for the learners and teachers where they struggle to make ends meet considering the inadequate materials for teaching the subject.

Preferring English for Numeracy. The use of the English language in teaching numeracy is a crucial factor in maintaining the learners' proficiency. Many teachers are encouraged to use English, deviating from the curriculum, because they see that a paralleled approach to learners is important. Learners have acquired knowledge in numeracy as early as kindergarten, thus the English terms are commonly taught at home. With this, schoolteachers should assess the language use of the learner to give complementary numeracy practices in English.

Losing Interest to Learn. In a heterogenous class, the diversity of the learners would serve as a challenge for the teacher. Therefore, doing differentiated instruction would help them address the individual needs of the learners, especially to those who no longer pose interest in learning since they are either proficient or doubtful of the mother tongue language.

Coping Mechanism of Arts and Design Students under Distance Learning

After determining the experiences that the participants met, the participants laid down their coping mechanisms to address the challenges they encountered on the implementation.

Bridging the Languages. As parents and teachers have immersed themselves in the concerns of their learners in mother tongue language and the implementation of MTB-MLE, they have experienced negative effects besides the bulking advantages of the use of mother tongue language. Hence, they have several coping mechanisms to adapt to the curriculum.

The challenges that have resurfaced were dealt by parents and teachers through language bridging. This means that although they can do nothing about the mandates of the curriculum, they simply must adapt with the implementation at their own levels. Initiatives were made to ease the burden of the learners who, instead of learning the concepts of the other subjects, are also learning the mother tongue language separately.

Creating Solutions. One of the problems in the implementation of MTB-MLE subject in our region is the lack of orthography that would serve as the basis for instruction. The textbooks cascaded in the locale are based on other region's orthography thereby creating repercussions among parents and teachers.

In line with this, there are teachers who took the step to create a contextualized dictionary that could aid the teachers in delivering instruction.

The versatility of the teachers can be seen in the efforts they put up in their classrooms; also, some initiatives such as

creating a vocabulary book or contextualized dictionary is an innovation to support the needs of the learners.

Strengthening Parent-Teacher Links. Cooperating with parents is seen to be an effective strategy to keep the relationship with stakeholders strong. Establishing connections with them is vital to focus and monitor learner development. At the height of the implementation of MTB-MLE subject and the use of mother tongue language, it is advisable to keep the parents informed so that teaching will be reinforced in their homes. The teachers tapped the parents, especially those who are struggling in learning, to keep being posted on the progress of the child.

Parents admittedly see the long-term effects of the mother tongue-based instruction, but they still choose to support the implementation of the curriculum through being open to discussion regarding learner development. Teachers also make sure that their links with parents are not compromised therefore proper and transparent reporting is needed to keep the parents informed.

Insights of Arts and Design Students in Distance Learning

The participants expressed their perceptions, observations, and suggestions on the implementation of MTB-MLE subject and mother tongue language as medium of instruction. The insights would bring significant effect on the teaching and learning process.

Re-evaluating the Curriculum. The teachers showed intense passion in their professional work which enabled them to present insights through their lens. One of which is the re-evaluation of the MTB-MLE implementation as a subject. Teachers have considered the subject as an additional baggage in teaching.

As the participants expressed their insights of the subject and the medium of instruction, most of the teacher-participants favor the removal of MTB-MLE as a subject saying that it is an additional burden for their preparation.

On the contrary, a few teachers found no problem with the subject because it is part of the curriculum therefore everyone is bound to follow. As per the parents' perspective, some agrees to the removal of the subject, and a few has no problem with it being implemented because they got no choice.

Intensifying Second Language Use. In this study, it was analyzed that most of the teachers would prefer to use the mother tongue language as a medium of instruction but not as a subject. In this case, to further intensify the literacy and numeracy rate of the learners, exposure to the second language must be done at the classroom level.

Teachers are the key players of the implementation and they have seen the effects of becoming too comfortable with the language that would later be used minimally as learners advance through life.

Retaining the Mother Tongue Language for Instruction. In this study, one of the insights of the teachers and parents is retaining the mother tongue language for instruction. The use of mother tongue in classrooms is backed up by empirical studies which laid down its effectiveness to learning.

Moreover, teachers and parents also want to continue the use of mother tongue to establish sustainable and strong foundation in teaching literacy. As per the numeracy factor, teachers and parents suggest that English should be used.

The insights shared by teachers and parents magnify the help that mother tongue language brings to learners especially in literacy. Moreover, it is suggested that the use would be minimal if the learner is approaching to higher grades. Frequent practice of the English language would lead to mastery. With this, the level of development and capabilities of the learner should always be a top priority.

DISCUSSION

This section presents the discussion of the results of the study and implications for practice and for future research.

Experiences of Teachers and Parents

The use of the mother tongue language in instruction has produced desirable effects especially in literacy and

numeracy. The use of the mother tongue language is widely used in schools. There are cases, however, that it debilitates the impact of mother tongue language to learners.

Parents were adamant when it comes to language use at home and in school. As the public schools focus on the mother tongue language implementation, some parents are having difficulties with providing academic support at home. This includes 1) learners speak or are exposed to the English language at home; 2) some learners came private institutions where the mother tongue is not widely used; and 3) teachers and parents do not understand Cebuano terms as the place of study does not have its own orthography.

The participants have expressed their experience with using MT as the medium of instruction as per result of the analysis: 1) MT is helpful for teachers to deliver the lessons; 2) most of the learners are proficient in MT since it is their home language; and 3) learners can freely express themselves using MT.

Furthermore, one is generally enthusiastic in learning one's native tongue. This optimism is thought to be driven by ethnic pride. As a result, it's not surprising that the kids in this study are performing well in learning their L1 (Perez & Alieto, 2018; GonzálezRiaño, Hevia-Artime & Fernández-Costales, 2013).

As for the implementation of MTB-MLE subject in the curriculum, it allowed the teachers and parents to identify whether it is necessary or not. The individual cases of the participants contribute to the public bubble of implementation, these cases have seen the downside of the subject to learners and to literacy and numeracy learning.

The data revealed that there are teachers and parents who see MTB-MLE as an extra *'baggage'* due to the following: 1) inappropriateness of the learning materials to the context of the teachers, parents, and learners; 2) the subject is quite laborious on the teachers' end due to the inappropriate and unavailable teaching materials; 3) the span of the subject ends right at the third grade and may affect to the transition of learners to the higher grades; and 4) teachers and learners are forced to engage with the subject because it is mandated by the curriculum.

Regarding numeracy, the implementation of the mother tongue-based instruction in mathematics has drawn attention particularly to parents who have raised children in an English-based numeracy classes. As kids are exposed to the universal terms in Mathematics, the shift to MT-based numeracy instruction confused the learners where the terms and concepts are inherently translated to Sinugbuanong Binisaya.

With the problems arising in the numeracy of the early grades, based on the analyzed data, there were instances that learners taught in MT could not catch up with others especially in participating Math and Science contests. Second, teachers are more comfortable in using English terms such as plus, minus, equals, etc. One scenario was recalled by the teacher when the learner misspelled the word 'one' with '*wan*.'

Immediate feedbacking is a vital part in teaching where the teacher should correct the learners' mistakes in literacy and numeracy. Lastly, the learners who have been taught using the English terms in Mathematics could do better than the other learners, based on the teachers' statements.

Another factor is the implementation of MTB-MLE subject where the terms used are slightly foreign both for teachers and the learners. In this case, the learners and the teachers had to abide with the curriculum. According to the data in this study, the Sinugbuanong Binisaya seemed to be new to the learners hence, the learners would prefer Filipino and English over MTB-MLE. One example is the '*pulingan*' in Grade 2 textbooks, which became '*pungan*' in the third grade. Both terms mean noun in English or *pangngalan* in Filipino which are familiar to the learners.

Coping Mechanisms of Teachers and Parents

Teachers who experience challenges in the implementation of MTB-MLE subject and using the mother tongue language in teaching literacy and numeracy have devised ways to meet with

the learners' needs. Parents have also made efforts to support their child's learning amidst hurdles they need to take.

Bridging languages was made possible through contextualization, code-switching, and using picture words. These methods are only supplemental to the background knowledge of the learners. In case the learner is not exposed to or has not banked as many words as possible, then language bridging could be limited. Parents have been encouraged by educators to continue exposing young children to enrich their background knowledge. Contextualization would be a great avenue for learners to relate their experiences to the class.

Perez and Alieto (2018) stated that the concepts would become more solid and relatable because of language bridging and using the MT as the medium of instruction. This technique would imply valuing and capitalizing on the knowledge youngsters acquire before entering school, as well as the information they continuously gain from their homes and environments, which is a characteristic of early education quality.

Some have made a localized materials and dictionaries that would aid their instruction. To further support the learners, putting up a reading corner in the classroom also helps the teacher to ignite interest in reading. Jaramillo-Ponton, et al (2019), creating a little library or reading corner is an effort to address the needs of the community. Literacy resources are needed in classrooms. The program's goal is to introduce students to books as a source of literacy. The reading materials should be in the three languages: Mother Tongue, Filipino, and English.

Parents and educators, according to Katenga (2017) as cited in Peleme (2022), are the two most important stakeholders in a child's mathematics learning. A line of efficient communication between the instructor and the family must exist for parents to be involved, either directly or indirectly (Pelemo, 2022; Butler et al., 2019).

Teachers has seen the need to establish a strong parent-teacher relationship. This helped them to make the concepts taught in schools to be parallel with the teachings at home. Parents, on their end, perform their duties to attend to meeting and discussions that would contribute to the development of learners. The learners have been considered as the center of the practice and community links, underscoring the importance of raising functionally literate individuals for the society.

Insights of Teachers and Parents

The insights of the teachers and parents in the implementation of the MTB-MLE and the use of mother tongue language as a medium of instruction prove that there is necessity in helping teachers and learners in these aspects.

Subsequently, it raised two ideas among the participants: retain and/or remove the MTB-MLE subject.

First, MTB-MLE implementation is deemed necessary for cultural identity. Teachers have noted on the importance of learning the cultural identity of the learners through the language they speak. Hence, they opted to retain the subject as it is not doing any harm for them and the learners.

Second, there are teachers who suggest that the subject must be removed. In this case, while teachers strive to help learners improve their English skills, the MTB-MLE topic does the exact opposite by teaching the learners concepts that are equal to English and Filipino terminology. Ironically, English is now merely a primary school subject with little application in other courses (Apolonio, 2022). The subject is believed to restrict the efforts of the learners to understand a foreign language.

As of the present times, early grade learners are already exposed to different digital media. This makes them learn English at the earlier age, opposing the notion that English must be fully used in the higher grades.

Parents also have confirmed both sides. A parent with less educational background could not suffice to support teaching their children in the English language at home, therefore, they choose to use the mother tongue language as the main medium of instruction.

On the other hand, parents who are English-proficient, perceived that the MTB-MLE subject be removed since it does not necessarily prepare their children to go outside their shells and that their children are only repeating the concepts in the second languages. MTB-MLE is a mere translation of the other two languages in the curriculum. As the subject ends in the third grade, it will not be further intensified since it is not included in the Key Stage 2 curriculum.

Balanced bilingualism is an idealized concept. No one is equally competent in two languages across all situations. Most bilinguals use two languages for different purposes and with different people. An intensified use of second language could bear two end results: 1) increase proficiency among learners in the second language; and 2) denigrate the use of the mother tongue language in the classroom.

In this study, the teachers aim to produce English proficient learners to prepare them before entering the higher grades. Teachers give instruction in English but resort to code-switching and translating which lessens the effect of introducing the second language. To stabilize English and Filipino teaching, though it may be tedious in the beginning, teachers should not do any code-switching or translation to give the learners a chance to process and understand the second language. Consistent use of the language would give optimal outputs.

As per the mandate of the curriculum, some teachers would deviate through using the second languages in instruction. Apolonio (2022) specified that English is widely used outside the classrooms and homes. It can be found in the menus, prices, tags, etc. The Internet, which can be accessed by children these days, are using the English language.

Standardized examinations such as admission tests, PISA, and the like, use English to measure the proficiency of the learners. Learners are confronted with the reality that outside the classroom, they must catch up with the demands of the world. In this way, teaching strategies also need to be reshaped and integrate English in instruction.

Further, as much as teachers would want to use English as the medium of instruction in most content areas, they choose to retain the mother tongue language as a supplemental medium of instruction. In certain instances, as the learners are non-English speakers, casual use of mother tongue language could aid in bridging second languages.

Difficult or unfamiliar words in English may be contextualized through the mother tongue language or a presentation that could activate their schema or prior knowledge. The motive for using the mother tongue in teaching is to produce a connection between the known to the unknown (Apolonio, 2022).

In education, the language of instruction plays an important role, since the chosen language can aid in understandingg the concepts in subject areas (Perez & Alieto, 2018; Orwenjo, 2012). As the result of this study laid out their perspectives, the teachers and parents favored the use of mother tongue language as an auxiliary language especially for Grade 3.

Implications for Teaching Practice

The findings of this study provide implication for teaching practice as follows:

One, this study supports the use of mother tongue language as a supplemental medium of instruction for literacy and numeracy, specifically in connecting the background experiences of the learners to their current learning context. The use of English as the primary medium of instruction in some learning areas could help the learners process and understand the concept in the second language. The use of mother tongue could help aid the learning whenever necessary. Subject areas such as Mathematics and Science should be taught in the English language.

Two, intensifying the use of second language could help young learners be familiar with English terms. As the world outside their homes and classrooms require them to learn and speak the English language, teachers and parents suggest that introducing the second language should be as early as possible. The underlying results also suggest that

learners should be prepared for standardized tests such as PISA.

Three, the study also supports the contextualization of learning materials as initiated by teachers to localize the Sinugbuanong Binisaya terms since the locale does not have its own orthography and code-switching is almost always practiced.

Implications for Policy Formulation

Schools and other education officials have dynamic roles in improving the proficiency of learners in the language learning areas. The use of mother tongue language as a medium of instruction provides desirable benefits on the end of the learners. However, teachers and parents have a slight negative reception of MTB-MLE as a subject.

This study supports the perspective of teachers and parents to re-evaluate the implementation of MTB-MLE as a subject in the early grades. It is noted that the subject ends at the Grade Three level and does not continue in the Key Stage 2. The third grade is a critical grade level for teachers as they prepare the learners for transition, hence, the application of MTB-MLE subject is deemed unnecessary and a mere translation of the concepts of the Filipino and English subjects. Teachers and parents aim to solidify bilingualism among learners through the mother tongue language as a medium but not as another subject.

Implication for Further Research

The study is limited only to the investigation of the experiences, coping mechanism and insights of the teachers and parents in the implementation of the MTB-MLE subject and the use of mother tongue instruction in literacy and numeracy among K-3 learners. It is only limited to the teaching practices of the teachers.

The study also focused on the domain that contributed to the literacy and numeracy learning of learners. Parental support through paralleled instruction in their homes could help build a foundation in literacy. Exploring these areas might provide how parents and other stakeholders affect learning of the learners as they transition from Key Stage 1 to Key Stage 2 levels.

There is also a potential to explore on how bilingualism could be sharpened in classroom among elementary learners, teachers, and school cultures. Bridging languages, reading, writing, code-switching, and translation of languages can also be explored. It was also suggested that primary teachers should start preparing these learners for learning higher skills in the Key Stage 2 (Grades 4-6).

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In-Depth Explication of Project EAGLE: A Qualitative Inquiry

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ABSTRACT

This study aimed to discuss the prevalent Project EAGLE in relation to looping of the Department of Education Tagum City Division. The participants of the study were administrators and teachers as the project implementers, and parents and learners as the project beneficiaries. Purposive sampling was used in this study to select the participants from the two project implementing schools. The researchers employed a qualitative phenomenological case study design using in-depth interview and focus group discussion to gather information from the participants. Results showed that the project E.A.G.L.E substantiate the pedagogy of the teachers, develop teachers' competence, gain parental support, create teaching innovation, and adapt curricular changes. Findings also suggested continuing the concept of looping and continuing the project E.A.G.L.E implementation. This implied that teachers could take advantage of opportunities in the lesson to consolidate students' learning outcomes holistically. Furthermore, the Department of Education can continue the project through strengthening the support in the teaching and learning process, enhancing transition process per grade level, and designing assessments for learning intended to track students' progress year-round.

Keywords: project EAGLE, looping, phenomenological case study, Tagum City

INTRODUCTION

Policymakers and academics are interested in how the structure of schools and classrooms influences student outcomes. Indeed, some researchers suggest that changing the way schools and classrooms are organized can be much more successful than simply growing school resources per student in improving student outcomes (Wang et al., 2017)

Consequently, the 2018 Philippine PISA results show significant differences in academic achievement between schools and among students (Trinidad, 2020). School administrators started studying and implementing instructional techniques to close the achievement gap (Findley, 2018). Looping is one technique that deserves further study. Looping is an instructional tool that can be used to improve academic performance and close the achievement gap for students while also fostering strong classroom relationships (Hall, 2021).

Meanwhile in the Department of Education Tagum City Division, there are two recipient schools of the Project EAGLE or Eliminating the Academic Gap of Learners in the Elementary. The program was commenced by the DepEd Region XI Office on the school year 2017-2018. Its mandate is to keep the learners in a looping classroom in the Key Stage 1 or the kindergarten up to Grade Three level and at the same time maximizing the skills of the teachers to bridge the academic gaps

through trainings and post-graduate enrollment.

Educational administrators should consider using certain techniques that demonstrate the capacity to boost students' academic progress. Because looping is a difficult procedure with inconsistent results, school administrators should conduct rigorous study before deciding to employ looping (Findley, 2018). School leaders should thoroughly investigate the benefits and drawbacks of looping, as well as the specific school context in which they want to use looping (Hall, 2021). Therefore, the purpose of this qualitative study is to discover and understand the challenges, coping mechanisms and insights of administrators, teachers, parents, and learners in the implementation of the Project EAGLE to address learning gaps.

METHODS

Research Design

This study employed a qualitative design study utilizing a phenomenological single case study approach. Qualitative researchers approach the world from a very different perspective (Dodgson, 2017). This phenomenological qualitative case study investigated the lived experiences and perceived experiences of the supervisor, school heads, teachers, parents, and learners in the implementation of Project E.A.G.L.E. and its impact, their attitude as recipients of the program, their social identity throughout the implementation of the program, the campus climate toward the implementation of the program, and other views on the implementation of the program.

Research Participants

The participants of this study came from the two schools implementing the Project E.A.G.L.E. Purposive sampling was used in this analysis that classified 8 teachers, 6 parents, 6 learners, 2 school heads and 1 supervisor who were the study's participants. In qualitative research, purposeful sampling is commonly used and common for identifying and selecting information-rich cases relevant to the event of interest (Palinkas et al., 2015).

Data Gathering Procedure

The researchers first asked permission from the office of the Schools Division Superintendent (SDS) and then to the school heads of the Project Eagle implementing schools. Second, the researchers listed the names of possible participants in the study and approached them if they were willing to participate. Those who voluntarily participated were given informed consent and undergone orientation before the conduct of in-depth interview (IDI) and focus group discussion (FGD).

Third, the researchers conducted an IDI to the five participants which composed teachers, parents, and learners and four groups were subjected to FGD which was composed of 4 teacher participants in a group, 5 learner participants in a group, 6 parent participants in group and 3 participants composed of 2 school heads and 1 supervisor in a group. Research questionnaire guide and voice recorder were used to gather the data and record the interview.

Fourth, the researchers transcribed the data in verbatim and translated it. After that thematic analysis was conducted. Lastly, with the support of related literature, the researchers wrote the results of the study and its implication.

Data Analysis

This study made use of the content and thematic analysis in analyzing the data collected and gathered. Qualitative content analysis (QCA) and thematic analysis (TA) were the two common approaches in data analysis. According Vaismoradi and Snelgrove, (2019) to the researchers who use QCA aim to provide a concise yet comprehensive report on the data's commonalities and discrepancies. In TA, however, the researchers are required to provide a deep and nuanced interpretation of the data as the topic.

Thematic analysis, according to Braun and Clarke (2013), entails seven steps: transcribing, reading and familiarization, coding, searching for themes, reviewing themes, defining, and labeling themes, and concluding the study.

The researchers transcribed the recorded interviews and translated it into written documents. Before the coding and identifying themes, the researchers familiarized the data which happened during the process of transcribing. This helped the researchers to gain an understanding of the data's patterns and linkages.

The researchers started coding the transcripts with the latent codes, and in the process of coding, semantic codes were identified. After the coding, the researchers looked for patterns occurring within the data. Next, the researchers identified themes and sub-themes through the patterns of the data.

Lastly, after the data analysis, the researchers presented the themes and other related data collected through codes in relation to the research questions. The researchers integrated the findings to the theories and literatures of the study. Implications were written based on the findings.

Ethical Considerations

The participants' involvement was entirely voluntary. They had the option to withdraw their participation at any time during the research if they felt uncomfortable. The confidentiality of research participants' information was maintained, as was the anonymity of participants.

The participants were given informed consent and were fully informed about the objectives, methods, and benefits of the research as comprehensively as possible within the framework of the study. The researchers ensured that the participants were physically, emotionally, and socially ready and did not feel any discomfort or awkwardness in answering the research questions.

The researchers properly cited the literatures used in this study. There was no evidence or hint in the research of deliberate misreading of what had been done, no making up of data and outcomes, or purposely putting forward false conclusions.

RESULTS

Experiences of supervisor, school administrators, teachers, parents, and learners in the implementation of the Project E.A.G.L.E.

The key informants revealed their experiences during the conduct of in-depth interviews and focus group discussion. After a thorough categorization of the data, five major themes were created. First theme is substantiating the pedagogy of teachers. The teacher is certain of the activities that best suits the learners. Second theme is developing competence of the teachers. They believe that the 15 to 20-day training was helpful for them to learn especially on early childhood development. Third theme is gaining parental support. Strong positive relationship is observable among the teachers and parents. The fourth theme is hurdling through the difficulties of the implementers. Learning the new curriculum every year is compelling. The last theme is looking into the reading levels of learners. The teacher prioritizes reading skill as a key to eliminating academic gaps. Parents affirm the development of her children's reading abilities.

Coping mechanisms of the supervisor, school administrators, teachers, parents, and learners in the implementation of the Project E.A.G.L.E. Program

After a careful segregation and classification of the responses of the participants in Project E.A.G.L.E, three major themes were demonstrated. First theme is creating innovation in teaching. Teachers conducted online reading as intervention in monitoring students' performance during pandemic. The second theme is adapting to curricular changes. Every school year teachers will have to adapt and study the curriculum embodied in every grade level. Third theme is strengthening support system. Parents support teachers by supplying materials for instructions for teachers to be more advanced in teaching.

Insights of the supervisor, school administrators, teachers, parents, and learners in the implementation of the Project E.A.G.L.E. Program

After scrutinizing the thoughts of the participants about their insights in the Project E.A.G.L.E. Program implementation, four major themes were manifested. First theme is the call for intensifying professional development opportunities for teachers. Teachers suggest intensifying its reading program and providing more seminar and training to improve and develop our skills in teaching the learners. Second theme is establishing a strong foundation of the program. Teachers suggest that there must be clear guidelines in implementing the program. The third theme is continuing the concept of looping. Teachers can easily track students' progress through looping. The last theme is continuing Project E.A.G.L.E. implementation. Parents shared that this program should continue and should be experienced by other school within the Division of Tagum.

DISCUSSION

Maslow's Hierarchy of Needs (1962) created a compassionate and successful environment for learners that will inspire them to stay in the looped classroom. Looped classrooms provide an atmosphere in which everyone, including the teacher and students, contributes to the formation of a sense of community. The strong relationship of teachers and parents provide successful environment in the implementation of the E.A.G.L.E. Program.

Attachment Theory supports the insights of the administrators, teachers, parents, and learners in the program implementation on the attachment development or the growth of children's trust and support from their teachers and classmates in the learning process. Learners expressed their wants to stay with their classmates and with the same teacher to the next grade level.

The looping program is in line with Vygotsky's (1978) social development theory as it centered on the idea of satisfying the needs of at-risk kids by forming close-knit groups that would help kids improve academically and socially. Teachers can easily track students' progress.

Implications for Teaching Practice and Further Research

The teachers can take advantage of opportunities in the lessons to consolidate students' learning outcomes holistically since the looping norm can give complete information upon knowing and understanding the diversity of students for a three-year time span. Teachers had plenty of time for students and can easily monitor students' progress that made all things in the E.A.G.L.E. program efficient and effective.

Content delivery, instructional materials and assessment might be distinct features of the E.A.G.L.E Program. Exploring these areas might help to improve the implementation of the program and its effectiveness in eliminating learning gaps.

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Life After Retirement: The Stories of Retirees

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ABSTRACT

Life after retirement is a complex world of uncertainties and happiness. This qualitative research design employing a multiple-case study approach on teachers' retirement aimed to describe the experiences of the three retirees, namely: *Sunset Traveler*, *Farmer in the Dusk*, and *Businessman in Twilight Zone,* who were selected through purposive sampling. Through in-depth interviews (IDI), results revealed that the experiences of the retirees were taking pleasure in retirement, spending quality time with family, being free from pressure, and adjusting to routines. They cope by doing religious activities, asking for help from family members, and prioritizing health. The retirees ask for provision for hospitalization benefits, investing for the future, financial management, and government provision on more comprehensive retirement benefits. These imply the need to highlight the provision for looking into the health and wellness and the retirement benefits and packages of the retired teachers.

Keywords: governance, multiple-case study, life after retirement, Davao del Norte

INTRODUCTION

Reaching retirement is said to be a blessing and a curse. On the one hand, after decades of following other peoples' rules, there is a sense of relief that one will finally get to live the way he wants to. On the other hand, it is easy to feel lost, fearful, or sad when reaching this critical milestone. One knows logically that he is retiring from work, not life, but it does not always feel like that (Feldman & Beehr, 2011).

As one works through these various emotions, it is important to remember that life after retirement can be anything that one wants it to be – to have earned the freedom to chart one's course. But with freedom comes responsibility. No one will tell one how to get the most from life after 60. It's up to him to decide which passions to pursue, which people to have in his life, and which places to visit (Donaldson et al., 2010). Life after retirement is a complicated time. One must worry about retirement savings and need to find meaning in their life (Lusardi & Mitchell, 2011).

While one needs to make his own decisions, it is often helpful to see how others have dealt with similar situations. As the Schools Division Superintendent of Davao del Norte during the study, preparation for retirement for the teachers and employees has been given a significant part in our training and seminars. The purpose is to help the teachers and employees plan for their new life after retirement. However, these are only descriptions, theories, and reminders to glimpse what retirement from work is all about. Their life after retirement is a new story despite the rich literature on retirement. Yet, the researcher has not come across studies that contextualize the experiences of Filipino retired teachers, specifically in Davao del Norte. Hence, this study with the retired teachers to share their experiences and insights about how to get the most from life after retirement, spend life after retirement, and what advice they could give to those approaching retirement age.

The purpose of this qualitative-multiple case study was to discover the lived experiences, coping, and insights of the retired teachers in the Division of Davao del Norte. In this study, life after retirement was broadly defined as coping with the experiences of many years of service to the department. This study attempted to provide retired teachers an avenue to share their insights about how to get the most from life after retirement, spend life after retirement, and what advice they could give to those who may be approaching retirement age. The study's findings could communicate information to policymakers on areas that could be

improved on retired teachers' retirement benefits and packages.

METHODS

This section contains the research design, participants, the data collection procedure, data analysis, and ethical considerations employed in the study.

Research Design

A multiple-case study approach was used in this qualitative research. Multiple Case Study refers to a variety of analytic procedures to collect and authenticate social phenomena systematically and descriptively. This study accounted for the experiences of the retired teachers in the Division of Davao del Norte. Further, to dig deeper into the core of the experiences of the retired teachers, a case study was used since it involves the study of an issue explored through one or more cases within a bounded system (i.e., a setting, a context). Case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audiovisual material, and documents and reports). It reports a case description and case-based themes (Creswell & Poth, 2016). Qualitative research considers that viewpoints and practices in the field are different because of the various subjective perspectives and social backgrounds (Flick, 2018).

As a rule, qualitative researchers are reluctant to generalize from one case to another because the contexts of cases differ. However, the inquirer needs to select representative cases for inclusion in the qualitative study (Creswell & Poth, 2016). Furthermore, this qualitative case study method permits the exam and quest of a phenomenon within its context using distinct facts sources. This ensures that the case was not understood in a single general component and section but considered broad perspectives. This can be a way of confirmation and pronouncement that the case was examined, analyzed, and the meaning of the phenomenon is found out (Yin, 2011).

To go through multiple case studies, first, you must determine if a case study approach is appropriate to the research problem. A case study is a good approach when the inquirer has identifiable cases with boundaries and seeks to provide an in-depth understanding of the cases or a comparison of several cases. Next, you need to identify their case or cases. These cases may involve several individuals, a program, an event, or an activity. The case can be single or collective, multi-sited or within-site, focused on a case or on an issue in choosing which case to study. We will select cases that show different perspectives on the problem, process, or event I want to portray (purposeful maximal sampling) (Creswell & Poth, 2016).

Research Participants

In this multiple-case study, the participants were taken from the representations of three retired teachers of the Davao Del Norte, considering their unique individualities in terms of age of retirement, educational attainment, and economic status. In contrast with quantitative research, which emphasizes random sampling to ensure generalization, qualitative research is more concerned with selecting the sample that best represents the phenomenon's complexity under investigation (Giba & Lincoln, 1995).

Gradual selection is not merely the original principle of sampling in various traditional approaches in qualitative research (Flick, 2018). The qualitative study may employ different sampling methods; purposive sampling was used to identify the three retired teachers with the given pre- inclusion criteria as stated above. Purposive sampling was characterized by incorporating specific criteria met by the participants during the selection. Purposive or judgmental sampling was used because the researcher intends to select participants with rich experience or interest in the study (Baraceros, 2016; Padilla- Diaz, 2015).

These criteria delimit the totality of possible cases to integrate all the cases into the study. Sampling proceeds

according to the relevance of cases instead of their representativeness. This principle is also characteristic of related strategies of collecting data in qualitative research. For this study, I selected particularly typical cases. This aims at the maximal variation in the sample—to integrate only a few cases. Still, those as different as possible disclose the range of variation and differentiation in the field (Flick, 2018).

To protect the participants' confidentiality, their names were replaced with pseudonyms. This helped conceal the research participants' information, which is considered vital in any research endeavor considering their participation is voluntary.

Data Collection

Qualitative data are any kind of information obtained or gathered from research (Amorado & Talili, 2017). The most common methods or techniques in data gathering are interviews. Obtaining data through these methods requires you to follow correct procedures (Baraceros, 2016). Qualitative data gathering approaches entail providing information that may be used to understand better the processes that lead to observed results and measure changes in people's attitudes. The researcher needed to understand the nature of the study and why it was being conducted. It would be simpler to introduce and get permission from the key informants to perform the research and include them in the quest.

The data collection process in this study followed Creswell's (2003) five-step process. Obtaining permission to conduct the study was the first step, followed by selecting participants, identifying data from various sources, administering, and recording data using observational and interview protocols, and finally, sensitively administering the data collection to individuals and sites.

First, the researcher needs to comprehend the nature of the research and the cause for conducting the study to introduce and obtain permission from the informants to perform the research and include them in the quest. For this multiple-case study, I first sought permission from the locale of the study. The authorities were informed that participation in the study was entirely voluntary. It was also made clear that if the participants did not feel like answering the question, they might leave the interview at any point or decline to do so. The people in charge of this study were notified via letter contact.

The second step addressed the participants' selection and the proper locations that assisted the researcher in comprehending the phenomena. The informants in this study came from the Davao del Norte Division. Then I requested and advised where the interview should take place to the informants.

The next phase was to gather information from diverse sources. After completing the evaluation questions and information needs, the researcher considered the data sources simply required to understand the study. Fourth, observational and interview protocols are used to administer and capture data. Being aware of potentially tough field situations that may damage the data, lead to early evacuation from the field or site, and contribute to lost information is also a significant factor.

The final phase was to administer the data collection sensitively to individuals and sites. A case study entails the most extensive data collecting as the researcher strives to develop an in-depth picture of the situation. The key informants were informed about the study's goal and completed an informed consent form to confirm freely sharing their experiences recorded on a device. The interview was conducted in vernacular (*Bisaya)* because the researcher assumed that interviewees would communicate their thoughts and reactions more clearly in their native tongue. The research was carried out as soon as the panel members approved.

The primary way for acquiring information to address the research questions was through personal interviews. In contrast to quantitative surveys, the discussion does not entail asking a set of preset questions. Instead, they are broad and penetrating, allowing the informants to express their thoughts on the topic of life after retirement in depth. In addition, the interview has the major benefit of delivering far more thorough information than other data collection methods, such as surveys.

Also, it provided a more comfortable atmosphere to collect information as the retired teachers felt more relaxed having a conversation about a certain topic of interest instead of filling out a survey.

Data Analysis

This study followed the three synchronized flows of action in data analysis: data reduction, data display, and generating conclusions and verification. The act of coding and condensing the codes and putting the acquired data into figures, tables, or a discussion is referred to as data reduction. To make data more accessible and intelligible, it must be minimized. Data reduction made it easier to communicate findings concisely and effectively. Thematic analysis is a phrase used to describe the process of pairing and sifting data. Thematic analysis is both a style of seeing and a method of coding qualitative data.

The cornerstone of the interpretations for proper coverage of the data analysis is a careful reading of the entire data material, which includes all the transcribed interview responses of the study participants. The following procedures ensure transparency and repeatability: one, enumeration of the facts on which all interpretations are based; two, breaking the interpretation process into parts; and three, making explicit the decision and interpretation rules. Aside from ensuring enough coverage, the methods above aimed to reduce arbitrariness and improve repeatability. The analysis was carried out step-by-step so that the study's readers and viewers could see the interpretation. The analysis was carried out step-by-step so that the study's readers could see the interpretation, giving them a clear image of the technical procedures and chain of reasoning that led to the conclusions (Des Jarlais et al., 2004).

Ethical Considerations

I followed the ethical steps suggested by Boyatziz (1998) to establish ethical considerations, such as *respect for persons, beneficence, justice, consent, and confidentiality*. Ethics has become a cornerstone for conducting effective and meaningful research.

To build respect for individuals, I provided informed permission to my informants, ensuring that they knew the study's goal and their critical position as participants. The researcher owes it to the participants to respect them and not abuse their weaknesses. I have made sure that my volunteers are comfortable throughout my research to demonstrate beneficence. I scheduled the interview for when they had free time and in their favorite location to openly share their opinions on the study. Before the scheduled date and time of the in-depth interview, they were given informed consent. Beneficence necessitates a commitment to minimize the participants' risks rather than maximizing the rewards owing to them (Creswell, 2012).

In addition, I kept the participants' genuine identities hidden to maintain confidentiality. After the data was evaluated, the videotapes, encoded transcripts, notes, and others were destroyed. To ensure fairness, I made sure that my volunteers did not spend any money because I appreciated their help completing my research. I gave my participants snacks and made sure they were comfortable. All contributions made by participants in the qualitative research must be acknowledged.

RESULTS

This chapter tackles the information gathered, which centered on the cases and experiences of three purposively identified retired teachers. Here, the participants were interviewed with other persons that matter in their life. They were asked about their experiences, coping mechanisms, and insights about retiring.

There were four research questions in this study. Each research question has sub-questions that support crystallizing the questions for the in-depth interview. The first research question that specified the retirees' cases or experiences consisted of several areas of concern. The second research question was centered on the coping mechanisms of the retirees, composed of seven interview guide

questions, and was themed into several areas. And finally, the third and fourth research questions that tackled the advice and insights they have as retirees in the retirement stage were composed of five questions that were also themed in several categories.

Case 1- Sunset Traveler

Sunset Traveler (not her real name) is a retired teacher from the Division of Davao del Norte. She happily spends time with her grandchildren while enjoying her lifelong vacation after serving the department. Sunset Traveler was given such a pseudonym because I observed that she traveled abroad and purchased airfare tickets most of her time. Also, the sunset was used because she was already in her senile years but found time to spend her retirement days productively. The following headings and discussions describe Sunset traveler as unique individuals in a retirement setting. And through her story, readers would also be able to discover the kind of retiree she is.

The unique characteristics of Sunset Traveler are approachable and friendly, a hardworking teacher, an early bird, and enjoying retirement life. Sunset Traveler's experiences on her retirement include enjoying while traveling, being satisfied, and fulfilled with lifetime vacation, adjustment to routines, and missing colleagues. The coping mechanisms of Sunset Traveler on her retirement are attending religious gatherings, visiting grandchildren, and visiting the physician. Sunset Traveler highlighted investing in the future, spending retirement claims wisely, aiming for promotion, keeping yourself healthy, and providing free trips.

Case 2- Farmer in the Dusk

Farmer in the Dusk (not her real name) is a retired teacher from the Division of Davao del Norte. She was very eager to retire and enjoy her retirement while farming. She feels bored after her retirement because she misses her school. Farmer in the Dusk was given such a pseudonym because I noticed that she spent her time farming during her retirement. Also, dusk represents the darker part of her life as she nears twilight. The following headings and discussions describe Farmer in the Dusk as a unique individual in a retirement setting. And through her story, readers would also be able to discover the kind of retiree she is.

The unique characteristics of Farmer in the Dusk are a loving wife and mother, patient, and determination, and loves farming and pets. Concerning his experiences, it includes the following: eager to be a retiree, tending pets and visiting the farm, spending time with the family, and watching movies, and going on vacation. The coping mechanisms of a Farmer in the Dusk on her retirement are caring for pets as stress relievers, asking the help of family members, and solving problems squarely. The pieces of advice and insights of Farmer in the Dusk on retirement are to venture into business before retirement, seek increment on a pension, pass the Universal Senior Citizens Act, save for the future, and be health conscious.

Case 3- Businessman in the Twilight Zone

Businessman in Twilight Zone (not her real name) is a retired teacher from the Division of Davao del Norte. She is happily spending time with her family. She loves to manage their small business. Businessman in the Twilight Zone was given such a pseudonym because I observed that she spent time with their small business. She finds it enjoyable. Her latent years have not been used because of her career. But typically, you retire from service when it’s near your twilight zone. The following headings and discussions describe the Businessman in Twilight Zone as a unique individual in a retirement setting. And through her story, readers would also be able to discover the kind of retiree she is.

The unique characteristics of Businessman in the Twilight Zone are business-minded, hardworking, and loving mothers. In terms of her experiences, she feels free from pressure and tension, manages a small business, adjusts to routines, and misses friends in school. On the businessman's coping in Twilight Zone, he said to pray to God, eat in moderation, and manage time. She expressed having

free hospitalization, managing the finances, loving teaching, and embracing the profession, and having a program for loan payment.

Cross-Case Analysis on the Experiences of Retirees

Five essential themes focus on their experience as retired teachers. These are taking pleasure in retirement, spending quality time with family, feeling free from pressure, and adjusting to routines. Taking pleasure in retirement is an essential theme because the three participants experience this in different forms as they find retirement an excellent way to enjoy themselves. Their time was spent with their families. Quality time is what they enjoy. One of the themes that I find relevant is feeling free from pressure. As everybody knows, teachers find it easy when they are already out of the service. It is satisfying to come out of the department because DepEd has been stressful.

Cross-Case Analysis on Coping Mechanisms of Retirees

These are divided into three essential themes: doing religious activities, asking for help from family members, and prioritizing health. Doing religious activities is considered a vital theme for retirees because they find time to go to church and pray to God. Whenever they encounter problems, they just rely on the Almighty Father. They believe in the importance of prayer to one's life. Another theme is asking for help from family members. These came out as I observed that whenever the participants meet problems, they always ask for support from their families. It has been essential since these retirees need family support. Lastly, they emphasize the need to prioritize health. They tried to highlight the need to visit the physician regularly and do necessities for their health. So, I find it necessary to do it and stay strong to enjoy their retirement years.

Cross-Case Analysis on the Advice and Insights of Retirees

The insights have four essential themes: provision for hospitalization benefits, financial management, increment, better retirement benefits, and investment for the future.

There was a clamor for the participants for better hospitalization benefits and even free packages for their health needs. This is a need for the retirees since health is a challenge for the participants to enjoy their retirement. Also, financial management is an essential theme in this study. As narrated by the participants, they experienced debt while still in service. They would like to ask for assistance in terms of financial literacy for teachers to reflect on.

Further, they ask for pension increments and better retirement benefits. Although two of them said, it was enough because they were happy. But they find it necessary to improve the retirement package for the retirees. In this, investing for the future is a vital theme since they noticed that retirement benefits must be appropriately spent to enjoy the remainder of their lives.

DISCUSSION

This chapter discusses the results of the study and implications for practice and future research.

Experiences of Retirees

Regarding the experiences of retired teachers, a participant described her retired life as full of enjoyment and relaxation as she spent her time traveling within the country and to foreign countries. When asked about their life after retirement, they quipped during the first three months of the retirement; they felt happy and eager to taste the life of a retiree. It was also noticed that retirees enjoy having a pet. Indeed, in the study conducted on the Benefits of Caring for a Pet in Retirement Years, there is increasing evidence that senior pet owners found love and loyalty and positively impact the retirees' self-esteem, emotional and physical wellness (Scheibeck et al., 2011). Further, it was revealed that 90% of senior pet owners reported that owning a pet positively impacted their health, while another 70% said their pet helped reduce feelings of stress. This result points to how

animal companionship can lessen loneliness, depression, anxiety, and overall stress (Weijs et al., 2013).

When asked what changes they experienced right after retirement, they pointed out adjustment and missing peers and colleagues. However, in the subsequent months, they felt bored and missed life in the classroom with their students. Most of them adjusted to their daily routines after retiring from the service. Conceptualizing retirement as an adjustment process provides a broader and more dynamic psychological approach to understanding retirement (Wang et al., 2009).

Now that they have retired, they intend to spend time with family and relatives. They found time to enjoy the time during their retirement days because they are free from the burden. Further, they already have opportunities to return to their hobbies, pastimes, and interests, which they rarely had time for while still working in DepEd. It also granted them more time, freedom, and energy to socialize with friends and family with their much-loved outdoor activities than wallowing in worries and anxieties over schoolwork and papers while still in active service.

However, in 2013, a completed a national study which explored the challenges retirees face in balancing their financial security with the needs of family members. Key findings included: 1) parenthood doesn't retire, e.g., younger and financially family members of the retirees are increasingly turning to them for financial support; 2) extended lives, extended needs, e.g., due to rising longevity of retirees, very often they require greater emotional, financial and physical support; and 3) stretched and stressed, e.g., many retirees and insufficient savings, putting them on shaky ground as they attempt to balance the competing priorities and tradeoffs of preparing for and financially managing their retirement while also helping family members (Lynch & Wave, 2013).

Retirement life can be described as very relaxed and free from pressure and tension. As to adjustments made with the uncomfortable situations they came across, they tried to avoid these stress-causing situations; otherwise, they had to face these squarely for a solution. With no more schoolwork and biometrics to worry about, they spent most of their time at the moment on her passion.

The retirees greatly valued these realities since they were still in service. Time pressure, working hours, noise in school, enormous class sizes, problems with school authorities, lack of autonomy, inefficiency, students' behavioral issues, lack of motivation, problem behavior on the part of parents, and low social status are some stress factors cited by teachers (Scheuch et al., 2015).

Coping Mechanisms of Retirees

Asked how retirees coped with their challenges, the participants said they deal with them by joining religious gatherings. Regarding time utilization as retirees, they replied that they utilized their time by attending masses, religious meetings, and visiting their children and grandchildren. Researchers have also argued that preparing to maintain or increase levels of mental, social, and physical activity in retirement provides retirees with valuable social roles while also promoting mental and physical health (Noone et al., 2010). In support of activity theory, Rosenkoetter and Garris (2001) have linked retirement planning with increases in social activity, reading, traveling, and participation in religious activities, which are in turn associated with better psychological health and adjustment to retirement (Noone et al., 2013; Pushkar et al., 2010; Stephan et al., 2008).

If they were confronted with problems, they dealt with these with their family members, particularly financial matters. During their retirement, they were with their family, so the nearest persons they could contact were their relatives and family members. Social support can be considered as the type and frequency of social contacts. It is also the degree to which a person perceives those certain types of support (e.g., emotional, tangible assistance) are available. Both types of social support have been directly linked to life satisfaction and retirement satisfaction (Ardelt, 1997; Aquino et al., 1996; Taylor et al., 2008). It is expected that the more the

retirees' social networks, the more effortless adjustment to retirement will be.

Therefore, it was hypothesized that social support would predict the psychological well-being of retired teachers. The higher the social support available to retirees, the better their psychological well-being. One's occupational prestige determines social status. It is an aspect of wellbeing due to being superior to others in the view of relevant others and oneself (Van Solinge & Henkens, 2005).

In response to life's eventualities, such as deteriorating health and other similar situations, they constantly visit the physician for health check-ups. They ensured they ate in moderation and maintained self-discipline to enjoy their retirement.

The research showed detailed results in a study conducted on retirees after all their stressors are gone and how this change affects their health and life expectancy. It was found that moving from work to non-work, everything about the retirees' daily schedule changes. They may be more relaxed, their lives may slow down, loss of work-related stress may be a great relief and suitable for their health; however, losing the daily structure and work relationship can also be stressful and harmful to health. Retirement is ranked 10th of life's most stressful events because it goes together with aging (Gerrig et al., 2010).

Advice and Insights of Retirees

The retirees and other teachers advised that saving for the future for life is very difficult without savings, particularly for those who have debilitating illnesses. It was also advised that they need to support their children's studies while they are still in the service because once they retire, their retirement pension could no longer suffice to finance these side-by-side with medical needs. In any company, because employers are under no obligation to provide retiree health benefits, except to current retirees who can prove that they were promised a specific benefit and because (unlike defined benefit pension plans) employers are not under any obligation to pre-fund retiree health benefits, employers will likely continue to make changes to those programs, especially for future retirees (Fronstin & Adams, 2012).

DepEd officials need to institutionalize financial management seminars to would-be retirees to prepare them to manage their finances once they retire. Also, there is a need for providing teachers a program for loan payments to spend money wisely. Acquiring and maintaining financial stability is one of the significant concerns of retirees. It has been observed that many retirees could not demonstrate financial readiness for their retirement years. This implies that saving for retirement is a challenging process requiring careful planning and follow-through.

The participants suggest a better governance plan for retired teachers, including pension and health benefits. They said that it would be best if the monthly retirement pension of teachers were raised to enable them to cope with the standard and cost of living. Then, they urge the DepEd officials and legislators to formulate policies that would increase the retirees' pension, the full implementation of the Senior Citizen Act, and, if possible, allow retirees to avail whatever privileges/increases of those who are still active in the service. The retirees also suggested the crafting of policies for additional retirement benefits. To answer this wish, the House Committee on Government Enterprises and Privatization has approved a bill seeking to lower the optional retirement age among government employees from 60 to 56, proposing amendments to the GSIS Act of 1997 and Section 13-A Republic Act 8291.

With this lower optional retirement age, the retirees can enjoy a better quality of life through their pension and retirement benefits earlier. This likewise helps the bureaucracy and hastens the turnover of government positions to younger professionals, making way for the fusion of fresh blood in the public service, infusing new perspectives and insights into the ranks, and creating more employment opportunities for those seeking employment in the government service. This is likewise beneficial to the families of

the retirees as they will have more time to spend with their loved ones. In contrast, according to retirees, they will enjoy the fruits of decades' worth of labor and lessen the burden of family spending (Hochguertel, 2015).

In this study, the importance of investing wisely before retiring to ensure the quality of future life is suggested. Life as a retiree is very laid back – no designer clothing, just simply wearing shorts and *bestida*. It is essential to venture into business to ensure additional stable income during retirement, considering that the retirement benefits are not that huge. In the United States, pension systems are typically pure defined benefit (DB) plans. The employer bears all investment risk and asset allocation responsibility or individually defined contribution (IDC) plans. Risk-bearing and asset allocation are the employee's responsibility (Novy-Marx & Rauh, 2014).

Implications for Practice

As the results unfold, I have deep concern with the issues relative to our retirees, especially since I am about to experience the same thing. It is high time to address these concerns to experience meaningful retirement years. Significantly, I would like to address the concern on the request for pension increment to lawmakers be lobbied by the Government Service Insurance System and teacher's coalition because of what teachers experience after serving public office. Anent this, it is also necessary to highlight the concern on providing a good retirement package for the retirees. This concern is given to the policymakers for more responsive and competitive retirement benefits to compensate for the years of service in public.

Further, school authorities may also investigate the health and wellness of teachers by providing programs responsive to their health status. In addition, financial literacy must be institutionalized so that teachers who will be retiring will not be in debt. It is a must because loaning is very popular in the department. Lastly, teachers who will be retiring should put a premium on the need to invest before retiring. With this, a retiree will have a source of income other than the pension. Finally, this data would be imperative in addressing the concerns on retiring and retired teachers. This research opens opportunities for higher authorities and other agencies to make things different for the retirees/ *retirables.*

Limitations and Implications for Further Research

This multiple-case study on teachers' retirement underscored the crucial agencies that need to respond to the retirees' needs and concerns. With this data, I hope for a better and fulfilling retirement experience for the teachers. Some limitations that need to be addressed include the fact that this study is limited in depth and generalizability to the participants interviewed. I suggest that the same study be conducted on different but larger groups of retirees to validate the current findings, especially on their experiences in their retirement years.

Finally, further research needs to be conducted on the effect of bridge jobs and part-time jobs among retirees since many have ventured into part-time employment after their service in public schools. Also, this would be instrumental in bringing out the cohort characteristics of the retirement group of teachers.

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Profiling of Teachers on their Engagement in Research: Basis for Intervention

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ABSTRACT

The issue of teachers' reluctance to perform research is related to the following factors: lack of research time, lack of instruction for research, and lack of knowledge in choosing an appropriate research technique. This study aimed to profile the teaching and non-teaching personnel in the Division of Tagum City in terms of their engagement in research through a quantitative non-experimental design. A standardized researcher-made survey questionnaire was administered to the teaching and non-teaching personnel identified through simple random sampling to collect the data. Data were analyzed using frequency and percentage. Results revealed that most respondents are married, baccalaureate degree holders, and are in the Teacher I position. Further, most of the respondents have no proper training and have no opportunity to attend intensive research training. A high percentage of respondents cannot disseminate and publish the results and findings in academic journals. The level of difficulty of most teachers in making the various parts and all the technical aspects of research varies from moderate to difficult. In this way, rigorous research training is recommended for teachers.

Keywords: profile of teachers, engagement in research, Tagum City, Davao del Norte, Philippines

INTRODUCTION

The importance of doing research has on the professional development of teachers. It provides teachers and other education practitioners with the knowledge and skills required to identify a school's problem and address it systematically (Piyao, 2019). For many years, action research was embedded in the curriculum that impacts literacy instruction. It was believed that through conducting action research, teachers upgrade themselves in addressing problems within the context of the classroom setting, and even in the whole academic community, which has been influential in making an intervention (Mago, 2018) that encourages a shift towards the co-creation of knowledge (Dugho, 2015).

Action research aims to improve teaching, educational test theory or evaluate and implement an academic plan. A study revealed that teacher respondents of action research and basic research perceive research positively because of its benefits toward teaching practice and student learning process, one of which is job promotion of teachers (Piyao, 2019). However, factors like tight teaching timetables and heavy workload (Morales, 2016) are just some reasons some public-school teachers are not motivated and interested in research. Some studies also revealed that teachers have difficulty in conducting research, both basic and action, because of (1) the lack of research skills, (2) lack of awareness, (3) time element, and (4) no adequate training on research. These often constitute the primary challenges and concerns faced by teachers and other educators aspiring to undertake research (Go, 2018).

In the Philippines, the Department of Education (DepEd) ordered all its school heads, supervisors, and teachers to point out classroom problems and offer solutions by adopting the Basic Education Research Agenda in carrying out education research (DepEd, 2016). It is on this note that teachers are believed to be change agents. Classroom research enables teachers to identify the problems and suggest solutions to improve the teaching and learning process since they are directly involved in the environment where the issues take place. As a result, action research has become one of the teachers' significant

professional development concerns in the Philippines. However, there are still teachers in the Philippines, both in the elementary and the secondary, who still need additional information and skill in conducting action research.

In Tagum City Division, only a few teachers have been researching for the past four years. To glean on the figures of its research submitted, School Year (SY) 2016-2017, there were two (2) teachers submitted completed study, SY 2017-2018, there were four (4) teachers submitted completed research, SY 2018-2019, there were three (3) teachers submitted their completed research studies, and on SY 2019-2020, there was only one (1) teacher proposed research study. On the other hand, some teachers presented their action research for compliance as part of their respective schools' Individual Performance Commitment Review (IPCR) requirements. They, however, neglected the fact that it could boost their performance evaluation score and their professional and career development.

With the above premise, the profiling of teachers on their engagement in research was undertaken to find out the status while assessing their research skills that need a concrete intervention. Hence, this research comes for.

This study aimed to profile the teachers in their engagement in research. Specifically, it sought:

1. To describe the profile of the teachers in their engagement in research; and
2. To come up with an intervention plan based on the profile of the teachers in their engagement in research.

Results of this study would provide baseline information to the DepEd Officials to plan, act, and implement significant and comprehensive interventions that will address the gap of the specific needs of teachers to conduct research.

METHODS

This chapter presents the research design, the research subject, data collection instrument, and the statistical tools of the data.

Research Design

This quantitative research design employed the non-experimental descriptive approach. This study aimed to describe the characteristics of a given population. Descriptive-status research seeks to answer real-life situations (who, what, where, why, and how), which allows the researcher to describe the characteristics of the phenomenon of the population under study (Ary, 1990; Beach, 1992; "Descriptive Research Design," 2020; Dinesh, 2014; Nassaji, 2015; Williams, 2007). Descriptive research was appropriate for the study to make a general representation of the population under study. This design allowed the researcher to profile the teachers in terms of their engagement in research.

Respondents of the Study

This investigation utilized simple random sampling, selecting samples from a statistical population so that every possible sample has a predetermined probability of being selected. The study's respondents are the 722 teaching personnel of Tagum City Division, the School Year 2020-2021. The sampling procedure was done based on simple random sampling from the total population of the target group. Slovin's formula was used to determine the number of respondents as a sample.

Research Instrument

A researcher-made survey questionnaire, which three research experts validated in the Division of Tagum City, was used in this study. The questionnaire contains simple and basic profiling information of teachers towards their engagement in research.

Data Gathering Procedure

The researcher sought permission from the Schools Division Superintendent to allow the researcher to conduct an online survey to generate profiles of the teachers on their engagement in research. Google form was used as a medium for the online survey of teachers. Collating of data was

extracted from the google form as part of its program package. The online survey was administered and communicated by issuing a Division Memorandum. Then, an intervention will be formulated based on the analyses of the data gathered.

Statistical Analysis

The data gathered were analyzed and interpreted through frequency and percentage. These were used to describe the teachers' profile in their engagement in research in Tagum City Division.

Ethical Considerations

Privacy and Confidentiality. Since the survey was administered online using a google form, the researcher recognizes its responsibility under the Republic Act No. 10173 (Act), also known as the Data Privacy Act of 2012, for the data collected, recorded, organized, updated, used, consolidated, or destructed from the teaching personnel. The personal data obtained from this form is entered and stored correctly and only accessed by authorized personnel. The researcher has instituted appropriate technical and physical security measures to protect personal data. Morse & Amp; Coulehan (2014) expounded their thoughts about privacy and confidentiality that these are axial dogma in any research ethics. Confidentiality and privacy had been observed by giving the respondents an option of not indicating their names on the survey questionnaire. Besides, confidentiality and privacy were attained by not publishing the demographic data of the informants, such as the age, gender, occupation, employment, disease, if there is any. Hence, their identity was kept confidential for safety purposes. Even their responses to the items in the survey questionnaire were considered confidential.

Furthermore, the information collected shall only be used for this activity. The researcher shall not disclose any personal information without consent and shall retain it over three years to effectively implement and manage its activities.

Plagiarism. The study had no trace or evidence of copying someone else's work. It had been subjected to a plagiarism detector like the Grammarly software trial version. As a researcher, there is a need to have that positive character and integrity associated with moral virtues and values.

Fabrication. The study had no indication or cue of incorporating makeup ideas. No manipulation was made in the presentation of the data and results. The researcher employed and integrated only theories that truly existed related to the information and other inferential concepts of the study.

Falsification. The study had no trace of purposefully misrepresenting the work of others to fit a model or theoretical expectation and had no evidence of making a claim or exaggeration. Additionally, this study does not adhere to manipulating the data, which involves formulating statements or disregarding important details, maneuvering materials, tools, or methodologies that mislead others (Resnik, 2014).

Deceit. The study had no trace of misleading or deceiving the respondents that would endanger them. Basically, in any study, there must be humongous protection on the rights of the respondents, especially that they have attained higher education, so balanced and appropriate principles shall be adhered to (Amerson & Strang, 2015).

RESULTS

Profile of the Teachers in Tagum City

It was revealed that the highest number of responses in the teaching position is Teacher I, which accounts for 52.8% of the respondents. This is followed by Teacher III and Teacher II positions. Further, no respondent holds Head Teacher I, Head Teacher IV, Principal III, and Principal IV positions. In terms of gender, females (83 percent) outnumbered the males (17.2 percent) in the list of the total number of personnel in the DepEd Tagum City Division, with a difference of 65.8 percent (65.8%).

Regarding civil status, most of the married teachers in the elementary come from Teacher I, while in the secondary, the majority of the Teacher I personnel are single. The least number of single teachers in the elementary school comes from

Principal I. At the same time, there is only one Teacher in the secondary who belongs to the Master Teacher I category. Overall, many of the teachers in Tagum City are already married.

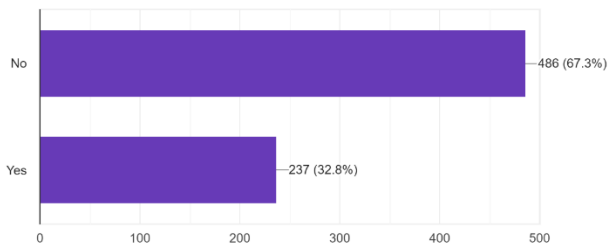
For the educational attainment of the personnel, most of the personnel in the elementary and secondary level have attained a bachelor's degree. Most of them belong to the Teacher I category. This can be attributed to the minimum requirement stipulated in the Recruitment, Selection and Placement (RSP) system for public school teachers under the 1987 Constitution, Administrative Code of 1987, and Civil Service rules and regulations, which requires a bachelor's degree for education qualification (DepEd, 2020).

Further, it has been observed that most of the Teacher III in the division are already full-fledged master's degree holders. In contrast, Master Teacher I hold the highest frequency of master's degree achievers for secondary level. On the other hand, most of the doctorate holders in the elementary are from the Master Teacher I category, and the secondary is from Teacher III classification, respectively.

Profile of the Teachers in their Engagement in Research

Most of the teaching personnel in the division have not conducted a research study, as shown in Figure 1. They cover 67.3 percent of the sample.

Figure 1
Profile of the Teachers in their Engagement in Research in Terms of Research Conducted



While Figure 2 shows the reasons for not conducting research. Out of 486 respondents, 221, or 41.9%, say that the reason for not conducting research is the lack of training on how to do it. It is followed by lack of time and insufficient guidance and technical assistance, with 40.2% and 24.1%, respectively.

Figure 2
Profile of the Teachers in their Engagement in Research in Terms of their Reasons for Not Conducting Research

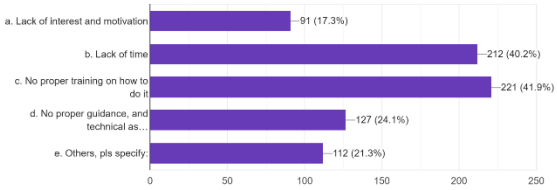


Figure 3 presents the distribution of responses in the technical assistance provided to DepEd Tagum City personnel conducting research. 50.3% of the teachers did not receive technical assistance during their research, while the percentage of personnel who receive technical assistance is only 26.3%. At the same time, the other 24.2% of the personnel responded maybe.

Figure 3
Profile of the Teachers in their Engagement in Research in Terms of Technical Assistance Provided

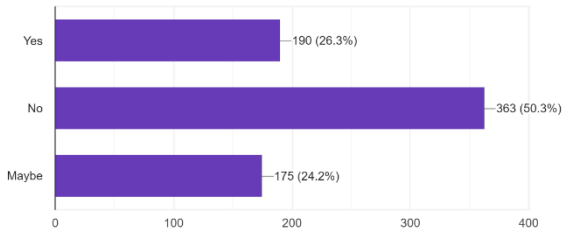


Figure 4 illustrates the distribution of responses for their intensive research training for the DepEd Tagum City personnel research. It shows that 73.7% of the total responses say that they have not attended any intensive research training, while only 26.9% have attended intensive training for research.

Figure 4
Profile of the Teachers in their Engagement in Research in Terms of Intensive Research Training Attended

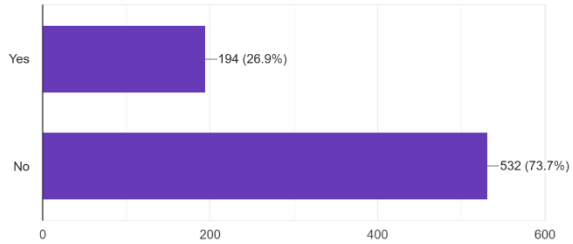


Figure 5 shows the level of perception of DepEd Tagum City personnel when formulating a research title. It shows that 44.2% of the total respondents find it challenging to formulate a research title, while 40.3% find it average, which means it is neither easy nor difficult. It is followed by 12.7% of respondents who find it very difficult and 3.2% who say it is easy. Only 0.1% of the respondents say it is straightforward to formulate a research title.

Figure 5
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Formulating a Research Title

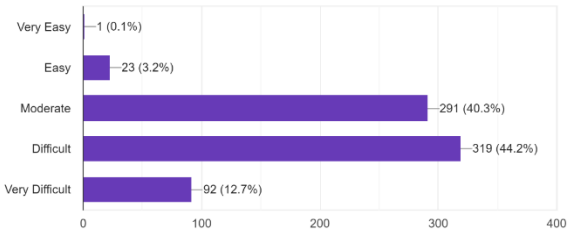


Figure 6 illustrates the level of perception among DepEd Tagum City personnel when making a research rationale. Among the 722 responses, 48.5% find making a research rationale moderate which means it is neither easy nor difficult, followed by 40.3% of personnel who find it difficult. The third-highest percentage is 9.1%, who say it is very difficult while 2.5% find it easy. Only 0.1% find making a research rationale very easy.

Figure 6
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Making a Research Rationale

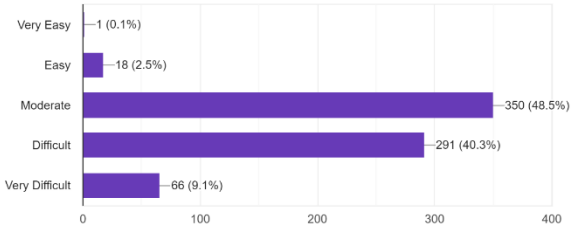
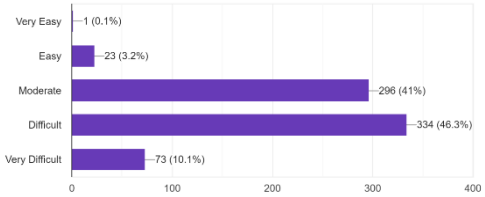


Figure 7 shows that identifying the research gap appears difficult for most Tagum City division personnel to research, while 10.1 percent rate this as a very difficult task.

Figure 7
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Identifying a Research Gap



Formulating research questions appears difficult for most division personnel to conduct research, as shown in Figure 8. While 53.8 percent rate this as a strenuous task (either difficult or very difficult), a notable 43.9 percent find it an average task or neither difficult nor easy.

Figure 8
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Formulating a Research Question

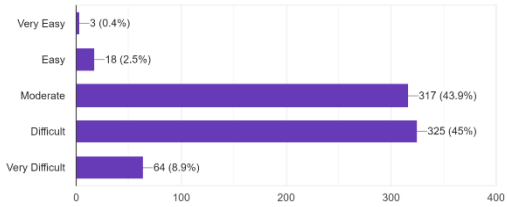


Figure 9 suggests that reviewing related literature has been perceived by many as a not-so-easy task as 96.4

percent of the responses fall in the moderate to very difficult level. In comparison, only 4.7 percent say it's easy.

Figure 9
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Reviewing Related Literature

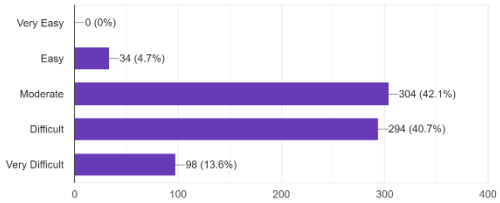
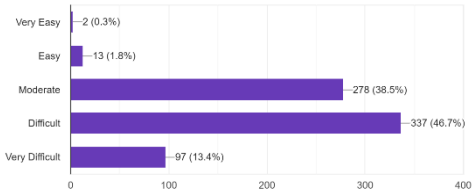


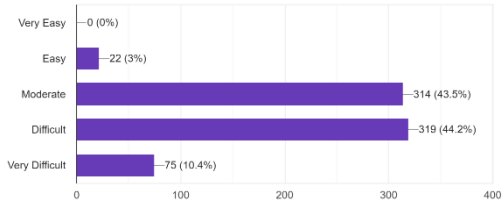
Figure 10 shows that making theoretical and conceptual frameworks appears to be difficult for most of the Tagum City division personnel to conduct research, while 13.4 percent rate this as a very difficult task. A notable 38.5 percent finds it an average task or neither difficult nor easy, while only a trivial percentage of 0.8 percent says it is very easy.

Figure 10
Profile of Teachers in their Engagement in Research in Terms of their Perception in Making a Theoretical and Conceptual Framework



Data in Figure 11 reveals that most personnel find identifying a research design difficult, with 44.2 percent, while 10.4 percent find it very difficult. While 43.5 percent find it an average task or neither easy nor difficult, it is also observable that a minimal percentage of respondents say it was easy.

Figure 11
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Identifying a Research Design



Data in Figure 12 shows that making a research instrument is difficult for most division personnel to conduct research, while 10.2 percent rate this as a very difficult task. A notable 41.6 percent finds it an average task or neither difficult nor easy, while only a trivial percentage of 2.6 percent says it is easy.

Figure 12
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Making a Research Instrument

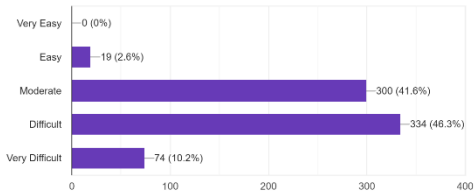


Figure 13 reveals that most personnel find analyzing data challenging, with 59.7 percent falling in the difficult or very difficult category. In comparison, only 38.5 percent find it an average task, or neither easy nor difficult. A very minimal percentage of only 3 percent says it is easy or very easy.

Figure 13
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Analyzing Data

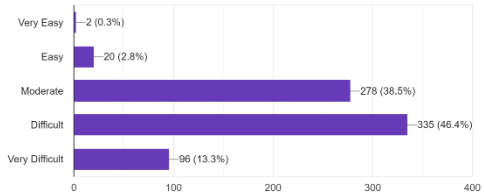


Figure 14 reveals that most personnel find interpreting results difficult, with 43.1 percent. While 42 percent find it an average task, or neither easy nor difficult, it is also observable that a minimal percentage of respondents say it's easy.

Figure 14
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Interpreting Results

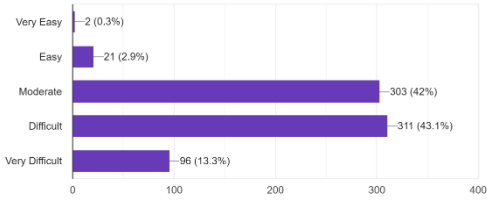


Figure 15 shows that most personnel perceive that their level in making conclusions is moderate. It is neither easy nor difficult for most, while an almost equal percentage (48.06 percent) of personnel find it difficult or very difficult. Only an insignificant percentage says it's easy or very easy.

Figure 15
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Making Conclusions

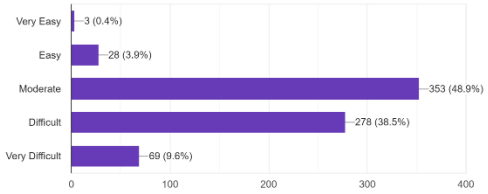


Figure 16 shows that most of the personnel sees formulating recommendations out of the result of the study as moderate. It is neither easy nor difficult for most, while a little bit lower percentage (44.18 percent) of personnel find it difficult or very difficult. Only an insignificant percentage says it is easy or very easy. The final stage of the paper is the researcher's recommendations based on the results, depending on the field of study.

Figure 16
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Formulating Recommendations

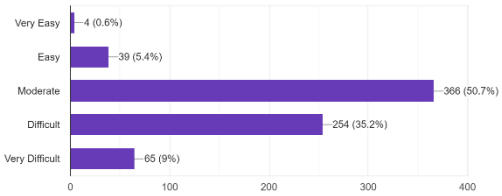
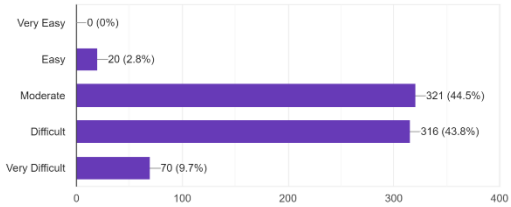


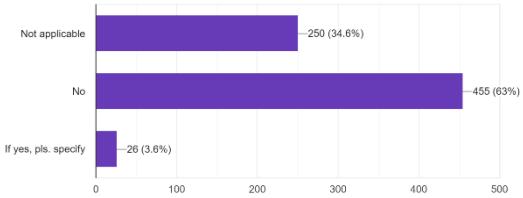
Figure 17 reveals that most personnel find constructing implications moderate while a very little difference of 1.5% lower finds it difficult. A notable percentage of 9.7 personnel find the task very difficult, while only very few percent agree that it is easy.

Figure 17
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Constructing Implications



Finally, Figure 18 reveals the wide disparity of research published and unpublished in any form of academic research journal. While *Not Applicable* could mean that they could not research at all, the percentage of those who could not publish the paper appears to be trivial compared to those who were not. This can be attributed to a limited avenue for research publications or insufficient knowledge of personnel-researchers for journals and publications where they could venture to publish research materials.

Figure 18
Profile of the Teachers in their Engagement in Research in Terms of their Perception in Publishing Research Journals



DISCUSSION

Profile of Teachers in Tagum City

As for the distribution of teaching personnel, this data corresponds to the report published by Salaverria (2019) and confirmed by Llego (2020), stating that much of the teaching force in the Philippines, or 93%, belongs to Teacher I to III positions, leaving only 7% to Master Teachers position. According to Recto (2019), public school teachers have an estimated 772,000 Teachers I to III with Salary Grades of 11 to 13, while there are only 39,950 teachers with the rank of Master Teacher I, 15,828 under Master Teacher II, and only 65 under Master Teacher III in the country. There is a four-salary grade gap between Teacher III to Master Teacher I, but the DepEd can only fund limited master teacher positions, so many are stuck at Teacher III.

There is also a limited number of applications approved for promotions or reclassification due to its guidelines and requirements since it is only applied when there has been a substantial change in the regular duties and responsibilities of the incumbent position and which may result in a change in any or all the position attributes: position title, level, and salary grade (DepEd R-III, 2016). Worldwide, the UNESCO Institute of Statistics (2020) shows the increasing trend in terms of the percentage of the share of female teachers in the level of gender representation in the teaching force both in the elementary and secondary levels. Consequently, trained male teachers at the primary level have tremendously decreased. This shows that teaching has become a woman-dominated profession.

Although gender equality is a crucial consideration globally (Cornwall & Rivas, 2015), the study of Okoduwa et al. (2018) in Nigeria Research Institute showed that the number of males working as research/teaching staff was higher compared with females in the entire directorate investigated. Among the female staff, involvement in research was notably lower compared with males. This observation is like some studies conducted in the United States, one of which cites low self-ability as a major barrier toward participation in research activities. On the other hand, this difference may be due to the cultural, religious, and social expectations and responsibilities females face in this part of the world (Mordi et al., 2010).

Finally, this result parallels the National Center for Education Statistics (2020) report stating that most public-school teachers in the Philippines last school 2017-2018 are females with 76% while 24% for males. This also corresponds to the study undertaken by Ragalado (2017), who recognized that teaching is a woman-dominated profession in the Philippines. With 44%, teachers account for the highest percentage of professional women in the country.

In 2015, there were 34.8 million single persons in the Philippines, or 44 percent of the ten-year-olds. Married persons comprised approximately 45 percent from 2000 to 2010 but shrunk to about 41 percent (41%) in 2015 (Philippine Statistics Authority [PSA], 2020).

Additionally, Kong (2008) observed that unmarried teachers are more vigorous and dedicated to their job. However, Ayeop (2003) posited that married teachers have higher satisfaction in their job. On the relationship of marital status and students' academic performance, Alufohai & Ibhafidon (2015) found that students' achievement was significantly influenced by teacher marital status; students of the married teachers achieved the highest scores, followed by those of the single teachers. However, the difference between the scores of the students was not significant. Still, the difference between the scores of the single and married teachers on the one hand and secondly and divorce, on the other hand, was significant. The separated and divorced teachers negatively impacted the students' academic achievement in the English language, while the single and married teachers positively impacted students' academic achievement.

In terms of the population of teachers who belong to the single category, this result coincides with Alufoha & Ibhafidon's findings in 2015, which concluded that 30% of the teaching force are single. However, this contrasts with

Abarro's (2018) findings which stated that almost half of the Teacher's population, or 51.3%, are single.

Obtaining a master's degree falls next to the interest of the teachers. It covers the second majority of the population, combining both Full-fledged Master's Degree (23.5 percent) and Completed Academic Requirements in master's degree (20.2 percent), comprising almost half of the population of 43.7 percent. Meanwhile, it is observable that a high percentage (47.4 percent) of personnel attained and continuously pursued postgraduate studies. In the U.S., the rate of public-school teachers who held a post-baccalaureate degree (i.e., a master's, education specialist, or doctor's degree) was 58 percent in 2017-2018, composed of 55 percent of elementary school teachers and 61 percent of secondary school teachers (U.S. Department of Education, 2020).

There is a considerable percentage of teachers in the division who have experience when it comes to conducting research based on the 47.4 percent of teachers who have completed or are currently pursuing postgraduate studies (master's or doctor's degree). Under the master's level, the program levels are designed to provide students with advanced academic and professional knowledge, skills, and competencies, leading to a second degree higher than the bachelor's degree. It contains a substantial research component. These programs are theoretically based and are informed by state-of-the-art research and best professional practice. On the other hand, programs under the doctoral level led to an advanced research qualification and are devoted to advanced study and original research (CHED, 2019).

Moreover, this finding is also supported by the National Center for Education Statistics (2020). For the school year 2017-2018 alone, 58% of the public-school teachers in the Philippines held a post-baccalaureate degree. Furthermore, Catolos & Catolos (2017) also have the same findings in their study on the teaching performance of selected public secondary school teachers in Tanay, Rizal. Regarding the distribution of the highest educational attainment of public-school secondary teachers, 48% of its respondents have a baccalaureate degree, and 12% have completed a master's degree. This is low compared to the data from 2004 to 2011 published by Philippine Basic Education (2013), which reported that 35.6% of teachers have a master's degree while 10.3% completed a Doctorate Degree.

Profile of the Teachers in their Engagement in Research

Most of the teaching personnel in the division have not conducted research. A similar scenario exists in other divisions, particularly in the Division of Iligan City, where several teachers are conducting research, despite the division office's efforts. (Hussien et al., 2019). Alternatively, more than one-quarter (32.8 percent) of the population have conducted research. It could be attributed to postgraduate study requirements, independent research, local action research, or others.

The majority say that the reason for not conducting research is the lack of training on how to do it, lack of time, and insufficient guidance and technical assistance. These findings are supported by the studies conducted by Hancock (1997), Meerah *et al.* (2001), and Ulla (2018). It was concluded that most teachers are reluctant to research because of teachers' professional status, working conditions and workload, lack of confidence due to insufficient training, and difficulty engaging with outsider's research methodologies.

Proper training on conducting research and time has been lacking among personnel who have not researched a combined percentage of 82.16 percent. The same findings have emerged from Hussien et al.'s (2019) study at the Division of Iligan City. Teachers show the need for training, seminar, workshops, mentoring, technical assistance, and LAC Sessions in research. Also, it presents the need for school research coordinators and research teams to mobilize the research efforts of the teachers in their respective schools. The research also found out that teachers need more time for reading literature, doing research and a lesser teaching load for them to allocate ample time for research.

Okoduwa et al. (2018), in the study of Nigerian Teachers, also found out that inadequate training/orientation programs (52%) and lack of mentorship (84%) as some of the many barriers to conducting research.

In Hong Kong, one impeding factor that hinders the flourishing of the Teacher in research is the time constraint (Chow et al., 2015). Apart from teaching and marking students' work, teachers who hold administrative positions such as coordinators of teams at school take charge of extra-curricular activities. They also join professional development programs to keep themselves abreast with the latest pedagogical and methodological developments amid the challenges brought about by the local education reforms. Other factors like interest and motivation, proper guidance and technical assistance, and others are also evident.

Okoduwa et al. (2018) concluded that the lack of suitably qualified research mentors with appropriate expertise and sufficient time for mentoring was one of the factors contributing to a failure to execute research tasks. Lack of mentorship contributes to the staff's inadequate research experience (Nykamp et al., 2010). This observation was in harmony with the report of Williams (2013) on the need for new researchers to have a mentor who can guide them through research and the publishing of scholarly articles.

Moreover, a high percentage of personnel have not attended intensive research training. This can be attributed to the division's limited training conducted and designed for teacher-researchers and the limited personnel invited to join. The same challenge has been observed in other countries. One is in Hong Kong, where teachers lack training in research skills (Chow et al., 2015). However, registered teachers in Hong Kong must comply with training programs such as the Postgraduate Diploma in Education (PGDE) program, etc., specified in the Education Ordinance (EDB, 2008). Still, research skills are often not emphasized in the teachers' training. Their ability to conduct classroom-based research is seldom a core component used to evaluate their performance. Wong's (2019) findings revealed that the research capability of teachers could be explained by training attended related to research, attitudes toward research, and research knowledge.

Data says that the majority of the division personnel find formulating a research title a difficult task. In contrast, the second most numbered personnel see it as an average task, which is neither easy nor difficult. While it is not easy for authors to select an appropriate title considering multiple contrasting and conflicting factors while finalizing, several articles on formulating research titles in a different journal can be followed to make the tasks easier. Bavdekar (2015) emphasized that the title is an important part of the article. It condenses article content in a few words and captures readers' attention. Thus, writing scientific titles that are informative and attractive is a challenging task.

Dissanayake (2013) stressed that gap identification and formulating a research problem are vital for a research project. The note details two approaches to identifying the research gap and formulating a research problem. It is further suggested to emphasize the literature review since having a complete set of literature, and the researcher can form a gap.

Formulating research questions appears difficult for most division personnel to conduct research. Khankeh et al. (2015) explained that forming the research question is one of the initial challenges researchers encounter in the early stages of a research project. It is essential to take the time to choose a research question because it can be a very challenging exercise. The project's ultimate success depends on selecting a straightforward and convenient question. The question should be appropriate for the qualitative research and the specific approach you choose, grounded in research. It must ask precisely what you want to find out and be articulated clearly (Kinmond, 2012).

Some researchers formulate research questions without considering the approach of the study in a proper way, and usually, their research questions are comprehensive, unclear, and vague. Since the intention of the studies is not completely clear at the beginning, they

cannot decide about the research approach. They must change their research question and take different directions in the study, or they will end up without adequate results that help readers or consumers improve their understanding or solve the problem (Khankeh et al., 2015).

Reviewing the literature is the backbone of any study conducted, and verifying past studies done by other scholars justify the research and make it fruitful. Literature plays a vital role in establishing gaps in research problems. However, Khankeh et al. (2015) observed that novice researchers have some problems finding the right topics in their field of interest because they do not perform a broad literature review to find the gaps and problems suitable to be investigated.

Casanave & Li (2015), in the study of novices' struggles with conceptual and theoretical framing, elucidate ten problems that novice scholars have with theoretical/conceptual structure based on personal experiences as manuscript reviewers and writers. The paper concludes with ways that novice scholars can address the task of framing their scholarly work conceptually and theoretically, on the understanding that the struggles continue over the lifetime of an academic career. It concludes further that personal account also indicates that the issue of theory or conceptual and theoretical framing may vary in importance or meaning with people from different research traditions or training backgrounds.

The same observation has been revealed in the study of Lessing & Schulze (2002) that students (masters and doctoral) usually have difficulties with the research process and scientific method, especially in terms of methodology. The same findings of the study by Qasem & Zayid (2019) that the challenges and issues participants face during writing research proposals and projects concerning research methodology include the lack of knowledge of research methodology in general, facing obstacles in formatting research proposals and projects, having a good skill in selecting research tools, data collection, and data analysis.

Holloway & Wheeler (2013) pointed out that the research design and methodology must address the selected topics and the research question. Researchers must identify, describe, and justify their chosen methodology, besides the strategies and procedures involved. So, it is pivotal to find the proper method for the research question. It should be noticed that some of the details of a qualitative research project cannot be ascertained in advance and may be specified as they arise during the research process.

The validity of the survey instrument has been one of the many challenges in making a research instrument. It is a threat to the data collection process (Kwadamah & Brobbey, 2015). Adzeh (2014) synthesized and analyzed several studies and highlighted some specific areas of concern on conducting quantitative business research challenges, including sampling, validity, and reliability.

It is the joy of every researcher to hear that the result of his work has been judged credible, objective, and reliable. This is the anticipation of all researchers. However, researchers' expectation is dashed by a collection of hazards that may happen at any phase in the research process, which can negatively influence the cogency of the investigation. These hazards have been categorized into content, criterion, and construct validity of the questionnaire (Onwuegbuzie & Johnson, 2006).

Glanzy et al. (2017) documented some of the struggles of student-researchers as they collect, organize, and interpret data and then ultimately attempt to draw conclusions or make decisions based on these data. Students struggle in a variety of ways which includes difficulties in (1) properly using specific measurement devices, (2) accurately coordinating quantitative data with the phenomenon being measured, and (3) correctly interpreting the significance of variation, uncertainty, and error in the data.

For new qualitative researchers, it often seems that the researcher should concentrate on the dual process of data

collection and data analysis. It is very important to consider thorough planning in all stages of the research process, from developing the question to the final write-up of the findings for publication (Corbin & Strauss, 2008). It is imperative to take note of the importance of correct data analysis as it affects the interpretation and findings. Brown et al. (2018) stressed that the effects of errors on conclusions could be severe. However, when treatment effects are misanalyzed, it can often not be immediately stated that the conclusions are false. Instead, it can be argued that the analyses are unreliable for statistical inference and conclusions. In other cases, conclusions may be wrong (Brown et al., 2018).

Qasem & Zayid (2019) said that one of the challenges the participants face during writing research proposals and projects is having a problem writing and reporting the results. The same results of the study by Alsied & Ibrahim (2017) show that Libyan EFL learners have difficulty interpreting results and reporting the findings. Lecoutre et al. (2003) found that even statisticians had difficulties interpreting the significance test. It appeared especially difficult to interpret the results of a nonsignificant effect.

The findings in data analysis and result interpretation are supported by the University of Pretoria (2020) and Moore (2017). Both concluded that the analysis and interpretation of data is the most crucial and challenging part of any research. It has recently taken center stage with the advent of the digital age, and the sheer amount of data can be frightening. A Digital Universe study found that the total data supply in 2012 was 2.8 trillion gigabytes (Lebied, 2018).

Presenting research findings as if other researchers are the only end-users is hardly ideal for addressing complex questions that contribute to society (Adler & Harzing, 2009). The findings on the dissemination and publication of academic research journals are supported by the University of Stellenbosch Business School (2018).

This percentage is expected to increase the necessity and advantages of publishing a research study have cascaded over time. Some of the key points that highlight the importance of publishing research papers in the academe are enhancing teaching practices, encouraging research-based practice and knowledge production, and helping in building a professional career (Panigrahi, n.d.).

Even for teachers who are willing to take the researcher's role, channels, or platforms for publishing their research findings are lacking. There were several platforms to bring teachers into the territory together. However, it is more often seen as a resource-sharing site instead of an official and authoritative avenue for disseminating research findings geared towards knowledge-sharing. Academic journals tend to have high standards for articles to be published, thereby deterring teachers from submitting their research findings for publication (Chow et al., 2015).

Okoduwa et al. (2018) found out that the main barrier to publishing at least one article was a lack of research because they were not engaged in any research activities in the first instance; thus, they believe they have nothing to declare as a publication. This was also in agreement with the findings of a survey of Australian researchers that showed that research infrastructure support is vital to research productivity (Shewan et al., 2002). It is then suggested that research and publishing be made mandatory for all academic and research staff. Mandatory involvement in research activities has been demonstrated to improve researchers' attitudes toward research (Okoduwa et al., 2018).

Conclusion

Most of the teachers have not conducted classroom-based or school-based research since they encounter problems with their time management, juggling with other workloads, and motivation to do so. Further, most teachers find it difficult or challenging to do the different parts of the research paper. It was due to a lack of knowledge, proper training, and technical assistance.

Recommendations

Based on the findings and conclusion, it is recommended that the Schools Division Research Committee plan

and fill the gap in providing technical assistance through intensive training of our teachers, which includes conducting research, facilitating research, paneling, and disseminating significant results and implications to their colleagues in the DepEd community. Data also showed that there are a lot of essential concerns that our teacher-researchers should know when conducting Research. Thus, this becomes the springboard and the basis for formulating this proposed research-based intervention program for our teachers to engage in Research. Moreover, a qualitative study is suggested to be undertaken by other researchers to explore other areas of the low performance of teachers in terms of research.

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Project EAGLE: Comparative Analysis on Its Impact in Improving Academic Success of Recipient Vis-À-Vis Non-Recipient Learners

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ABSTRACT

Enhancing the academic success of learners can be a challenging task for teachers and it is in this context that Project E.A.G.L.E. utilizing looping strategy was implemented. This study determined the impact of project E.A.G.L.E. in improving the academic success of recipient vis-à-vis non-recipient learners in two implementing schools in Tagum City Division. A quantitative research design was employed using a causal-comparative approach utilizing secondary data: the pre-assessment of kindergarteners' learning domains development and the grades of learners in grades one and two. Data were analyzed using mean, ANOVA, and T-test and results showed that the profile of the Project E.A.G.L.E. recipient and non-recipient learners for two schools indicated an average overall development in the domain. Further, the level of grade one E.A.G.L.E. and non-E.A.G.L.E. recipient learners for school A were high and average respectively, but high for both E.A.G.L.E. and non-E.A.G.L.E. learners in grade two. For school B, E.A.G.L.E. and non-E.A.G.L.E. learners' level of academic success was average. There was no significant difference between recipient and non-recipient kindergarteners' post learning domains development assessment for both schools. There was no significant difference between grades one and two learners' academic success for the two schools. However, there was an overall significant difference between the grades one and two recipient and non-recipient learners' academic success for both schools. It is recommended that Project E.A.G.L.E. using looping strategy must be intensified by reviewing the mechanisms to further improve its implementation and academic success of the learners.

Keywords: project EAGLE, academic success, recipient and non-recipient learners, causal-comparative approach

INTRODUCTION

Globally, as reported by Ruiz-Esteban et al. (2020), if gross motor learning is not mastered, children may face lifetime challenges gaining subsequent motor skills. In South Korea, relatively less attention has been given to identifying the language variables (expressive and receptive) that explain phonological awareness (Kim, Park, & Lust, 2018). Meanwhile, in Thailand, despite the initiatives and efforts, indicators suggest that early English language and literacy skills are not improving at a sufficient rate. Breeman et al. (2015) also noted that unfavorable peer contact influences

children's mental, social, and behavioral skills.

In Manila, Philippines, the Philippine Educational Study (2016) highlighted the factors that weaken the standard of reading skills. The readiness gap exists right at school entry and poor development in social and emotional skills contributes to this gap. Parallel to that, exposure to problems outside school affects the formative and crucial years of learning. In Tagum City Division, the reported post-test results of the Philippine Informal Reading Inventory (PHIL-IRI) for the school year 2015-2016 showed that for English, 27% of the learners belonged to the frustration level while 3.57% were non-readers. For Filipino, 21.28% fell under the frustration level while only 3.76% were non-readers. On the numeracy achievement of learners, a similar observation was noted.

Consequently, the early language, literacy, and numeracy situation in local elementary classrooms in Tagum City Division lead to interesting questions about the ways the school implements Project E.A.G.L.E. (Elimination of Academic Gaps of Learners in the Elementary) and how teachers teach early graders in the locality who have difficulty achieving academically. This study covered three consecutive years from kindergarten to grade two levels to determine the impact of looping instructional design in students' reading, writing, and numeracy skills.

The main thrust of this causal-comparative study was to find out the impact of Project EAGLE in improving the academic success of recipient vis-à-vis non-recipient elementary learners in two recipient schools in Tagum City. Findings will be used to improve project implementation which will greatly influence the increase of academic success.

METHODOLOGY

Research Design

This quantitative study employed a causal-comparative research design. The independent variable in this study was the exposure to the preexisting Project E.A.G.L.E. The treatment group was the recipient learners, and the control group was the non-recipient learners.

Research Participants

Project E.A.G.L.E. was conducted in two schools in Tagum City Division. The EAGLE recipient learners were randomly selected based on the kindergarten enrollees. There were no predetermined criteria or prerequisites for a learner to qualify.

Data Gathering Methods

Following the IATF guidelines, the following steps were taken to collect data: obtained authorization to conduct the study; gathered secondary data of learners; conducted data analysis and interpretation and ensured data privacy. Secondary data were grades of the recipient and non-recipient kindergarten, grades one and two learners. The learners' learning domain development was determined using the parameter scale limit below.

Table 1
Scaling of Kindergarten Learners in Terms of their Learning Domains' Development

Scaled Score	Interpretation
1.0 - 3.9	Development in the domain must be monitored after 3 months.
4.0 - 6.9	Development in the domain must be monitored after 6 months.
7.9 – 13.9	Average overall development in the domain
14.0 – 16.9	Suggest slightly advanced development in the domain.
17.0 – 19.9	Suggest highly advanced development in the domain

To determine the level of academic success of Grades one and two learners, ranges of scales with interpretations were used.

Table 2
Scaling of Grades One and Two Academic Success

Grading Scale	Level	Interpretation
90.0 – 100.00	Very High	This signifies Outstanding academic success of recipient and non-recipient learners.
85.0 - 89.9	High	This signifies Very Satisfactory academic success of recipient and non-recipient learners.
80.0 - 84.9	Average	This signifies Satisfactory academic success of recipient and non-recipient learners.
75.0 - 79.9	Below Average	This signifies Fairly Satisfactory academic success of recipient and non-recipient learners.
Below 75.00	Poor	This signifies Failing academic success of recipient and non-recipient learners.

Data Analysis

In this study, mean and T-Test were used to get the profile of the kindergarten learners in terms of learning domain development. Analysis of Variance (ANOVA) was used to determine the improvements observed on both groups' academic success.

Ethical Consideration

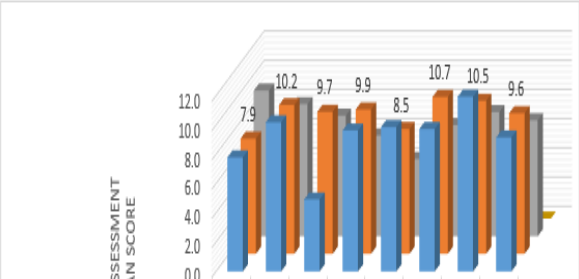
This study adhered to ethical consideration as cited in the Belmont Report (1979) where respect for persons, beneficence, and justice were identified as well as the strict compliance with the Data Privacy Act of 2012 (RA 10173).

RESULTS

Profile of the recipient and non-recipient kindergarten learners in terms of their learning development domains

Figure 1 shows the profile of recipient and non-recipient learners in terms of their learning domains' development in the pre-assessment both in school A and B. For recipient learners, school A has higher overall mean than school B, which is 9.2, while the school B registered a mean of 7.9. Both schools indicate an average overall development in the domain. For non-recipient learners, school A got an overall mean of 9.6 which signifies an average overall development in the domain. Both recipient and non-recipient learners have similar performance in terms of their learning domains' development based on their scaled score in the pre-assessment.

Figure 1
Profile of E.A.G.L.E. and Non-E.A.G.L.E. Kindergarten Learners in Terms of their Learning Domains' Development Pre-Assessment



	Gross Motor	Fine Motor	Self-help	Receptive Language	Expressive Language	Cognitive	Social-emotional	Over-all Mean Score
EAGLE RECIPIENT (A): N = 39	7.8	10.2	4.9	9.6	9.9	9.7	11.9	9.2
NON-EAGLE RECIPIENT (A): n = 114	7.9	10.2	9.7	9.9	8.5	10.7	10.5	9.6
EAGLE RECIPIENT (B): N = 28	10.0	9.0	8.3	6.9	5.3	7.6	8.5	7.9
NON-EAGLE RECIPIENT (B): n = 95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Improvements observed on the recipient and non-recipient learners' academic success after every quarter and cycle

In table 3, the overall quarter means the level of improvement of grade one E.A.G.L.E. learners is 85.9 which is described as High. This means that the academic success of E.A.G.L.E. the recipients is very satisfactory. The quarter mean of non-E.A.G.L.E. learners is 84.2 which has a descriptive level of Average which indicates that their academic success is satisfactory.

Presented in table 4 are the overall subject mean of the seven subject areas and the overall quarter mean with the corresponding descriptive levels. The overall mean level of improvement of Grade Two E.A.G.L.E. learners is 85.8 which is described as High. The quarter mean of the non-E.A.G.L.E. learners is 85.1 which has a High descriptive level indicating that their academic success is Very Satisfactory.

Table 3

Level of Improvement of Grade One E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School A

	E.A.G.L.E.					NON-E.A.G.L.E.				
SUBJECT	Q1	Q2	Q3	Q4	Subj. Mean	Q1	Q2	Q3	Q4	Subj. Mean
Mother Tongue										
$\bar{X}$	84.3	84.0	85.1	84.9	85.0	83.3	83.9	85.0	85.2	84.4
SD	3.87	3.96	4.17	4.10	4.02	4.65	5.05	5.10	4.95	4.94
DL	A	A	H	H	H	A	A	H	H	H
Filipino										
$\bar{X}$		83.1	84.2	86.4	84.6		82.8	83.6	84.0	83.5
SD		3.50	3.93	3.29	3.57		4.35	4.44	4.67	4.49
DL		A	A	H	H		A	A	A	A
English										
$\bar{X}$			84.9	87.1	86.0			83.0	83.6	83.3
SD			4.06	3.87	3.96			4.45	4.77	4.61
DL			H	H	H			A	A	A
Math										
$\bar{X}$	82.2	83.2	84.1	85.9	83.9	82.2	83.0	83.8	84.1	83.3
SD	4.19	4.32	4.65	4.32	4.37	4.82	4.91	5.07	5.14	4.99
DL	A	A	A	H	A	A	A	A	A	A
Araling Panlipunan										
$\bar{X}$	85.3	85.4	86.6	89.7	86.8	83.1	84.0	84.9	85.3	84.4
SD	2.91	2.90	2.91	2.54	2.82	4.64	4.58	4.49	4.81	4.64
DL	H	H	H	VH	H	A	A	H	H	A
MAPEH										
$\bar{X}$	86.0	86.3	87.2	89.6	87.3	84.3	85.0	85.8	86.2	85.3
SD	2.23	1.95	2.02	1.67	1.97	4.40	4.51	4.35	4.58	4.46
DL	H	H	H	VH	H	A	H	H	H	H
Eduk sa Pagpakatao										
$\bar{X}$	86.2	87.1	88.4	90.1	88.0	83.9	85.0	85.4	85.9	85.1
SD	2.07	1.89	2.24	1.77	2.00	4.30	4.22	4.43	4.54	4.38
DL	H	H	H	VH	H	A	H	H	H	H
Qtr. Mean	*84.8*	*84.9*	*85.8*	*87.9*	***85.9***	*83.4*	*83.9*	*84.5*	*84.9*	***84.2***
SD	*3.05*	*3.08*	*3.43*	*3.08*	***3.16***	*4.57*	*4.61*	*4.62*	*4.78*	***4.65***
DL	*H*	*H*	*H*	*H*	***H***	*A*	*A*	*H*	*H*	***A***

Table 4

Level of Improvement of Grade Two E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School A

	E.A.G.L.E.					NON-E.A.G.L.E.				
SUBJECT	Q1	Q2	Q3	Q4	Subj. Mean	Q1	Q2	Q3	Q4	Subj. Mean
Mother Tongue										
$\bar{X}$	85.0	85.2	86.0	86.8	*85.8*	83.8	84.4	85.4	85.8	*84.9*
SD	4.08	3.97	3.77	3.78	*3.90*	5.19	4.99	5.30	5.52	*5.25*
DL	H	H	H	H	*H*	A	A	H	H	*H*
Filipino										
$\bar{X}$	84.1	84.3	84.4	84.7	*84.4*	83.7	84.7	85.0	85.5	*84.8*
SD	4.38	4.15	4.17	4.01	*4.18*	5.33	4.96	5.07	5.17	*5.13*
DL	A	A	A	H	*A*	A	A	H	H	*H*
English										
$\bar{X}$	85.0	84.5	84.5	85.0	*84.8*	83.5	83.5	84.5	84.6	*83.9*
SD	3.73	4.03	4.07	4.00	*3.96*	5.00	5.01	4.81	5.24	*5.01*
DL	H	H	H	H	*H*	A	A	H	H	*A*
Math										
$\bar{X}$	83.9	83.5	83.6	84.1	*83.8*	83.3	83.9	84.3	84.9	*84.2*
SD	4.04	4.47	4.28	4.23	*4.27*	5.22	4.98	4.90	5.07	*5.04*
DL	A	A	A	A	*A*	A	A	A	H	*A*
Araling Panlipunan										
$\bar{X}$	85.4	86.1	85.6	86.7	*86.0*	84.2	85.1	85.4	86.2	*85.2*
SD	2.91	2.93	3.03	3.03	*2.99*	4.44	4.23	4.19	4.71	*4.39*
DL	H	H	H	H	*H*	A	H	H	H	*H*
MAPEH										
$\bar{X}$	86.2	86.9	86.3	87.1	*86.7*	85.0	86.1	86.3	86.8	*86.1*
SD	2.52	2.51	2.37	2.43	*2.46*	4.24	4.08	4.08	4.08	*4.11*
DL	H	H	H	H	*H*	H	H	H	H	*H*
Eduk sa Pagpakatao										
$\bar{X}$	88.6	89.3	89.4	90.4	*89.4*	85.4	86.7	87.3	87.7	*86.8*
SD	2.12	2.26	2.44	2.50	*2.33*	4.49	4.42	4.54	4.57	*4.51*
DL	H	H	H	VH	*H*	H	H	H	H	*H*
Qtr. Mean	*85.5*	*85.7*	*85.7*	*86.5*	***85.8***	*84.1*	*84.9*	*85.5*	*85.9*	***85.1***
SD	*3.40*	*3.48*	*3.45*	*3.43*	***3.44***	*4.85*	*4.67*	*4.70*	*4.90*	***4.78***
DL	*H*	*H*	*H*	*H*	*H*	*A*	*H*	*H*	*H*	*H*

In table 5, data revealed that the E.A.G.L.E. recipients obtained a quarterly mean score of 82.8 with an Average descriptive level while the non-E.A.G.L.E. recipients have a quarterly mean score of 82.2 which is described as Average. This indicates that both E.A.G.L.E. and Non-E.A.G.L.E. recipients' academic success is Satisfactory.

Table 5
Level of Improvement of Grade One E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School B

	E.A.G.L.E.					Non-E.A.G.L.E.				
SUBJECT	Q1	Q2	Q3	Q4	Subj. Mean	Q1	Q2	Q3	Q4	Subj. Mean
Mother Tongue										
$\bar{X}$	80.0	81.1	83.0	84.5	*82.2*	81.6	80.9	82.6	82.7	*81.9*
SD	5.29	5.05	4.74	4.28	*4.84*	4.53	4.89	5.62	5.62	*5.25*
DL	A	A	A	A	*A*	A	A	A	A	*A*
Filipino										
$\bar{X}$		78.8	82.2	83.9	*81.7*		80.7	81.0	81.4	*81.1*
SD		4.64	5.05	4.69	*4.79*		4.99	4.65	5.42	*5.02*
DL		F	A	A	*A*		A	A	A	*A*
English										
$\bar{X}$			80.5	81.7	*81.2*			80.9	80.9	*80.9*
SD			4.04	4.20	*4.12*			4.65	5.28	*4.97*
DL			A	A	*A*			A	A	*A*
Math										
$\bar{X}$	79.2	79.2	81.9	83.6	*81.0*	80.9	81.0	81.6	82.2	*81.4*
SD	4.69	4.75	4.60	4.00	*4.51*	4.42	5.34	5.27	5.72	*5.2*
DL	F	F	A	A	*A*	A	A	A	A	*A*
Araling Panlipunan										
$\bar{X}$	80.8	82.5	84.8	86.0	*83.6*	81.1	81.6	82.4	82.8	*82.0*
SD	4.26	4.18	4.21	3.82	*4.12*	4.06	4.68	5.20	5.69	*4.90*
DL	A	A	H	H	*A*	A	A	A	A	*A*
MAPEH										
$\bar{X}$	83.1	84.4	87.0	87.8	*85.6*	83.1	83.5	84.0	84.4	*83.8*
SD	2.97	3.30	3.13	2.95	*3.09*	3.62	4.52	4.85	5.49	*4.62*
DL	A	A	H	H	*H*	A	A	A	A	*A*
Eduk sa Pagpakatao										
$\bar{X}$	83.2	83.2	85.0	85.8	*84.1*	82.4	83.0	83.5	83.8	*83.2*
SD	4.23	4.23	3.92	3.59	*3.97*	4.10	4.83	4.96	5.51	*4.85*
DL	A	A	H	H	*A*	A	A	A	A	*A*
Qtr. Mean	*81.1*	*81.6*	*83.5*	*84.8*	***82.8***	*81.9*	*81.8*	*82.3*	*82.6*	***82.2***
SD	*4.57*	*4.36*	*4.54*	*3.94*	***4.20***	*4.14*	*4.87*	*5.03*	*5.59*	***4.91***
DL	*A*	*A*	*A*	*H*	***A***	*A*	*A*	*A*	*A*	***A***

In table 6 is the level of improvement of Grade Two E.A.G.L.E. and Non-E.A.G.L.E. learners' Academic Success of School B. Both E.A.G.L.E. and Non-E.A.G.L.E. learners had an average descriptive level of competence as evident in the average, which is 82.8 and 82.2, respectively.

In Table 7, the mean score in the post learning domains development assessment for recipient learners is slightly higher than that of non-recipient learners. The standard deviation of recipient learners is also slightly smaller than that of non-recipient learners.

Table 6
Level of Improvement of Grade Two E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School B

	E.A.G.L.E.					Non-E.A.G.L.E.				
SUBJECT	Q1	Q2	Q3	Q4	Subj. Mean	Q1	Q2	Q3	Q4	Subj. Mean
Mother Tongue										
$\bar{X}$	80.7	82.7	83.8	84.2	*82.9*	81.7	82.5	83.3	83.2	*82.7*
SD	4.87	4.62	4.68	4.49	*4.66*	4.52	4.74	5.11	5.25	*4.91*
DL	A	A	A	A	*A*	A	A	A	A	*A*
Filipino										
$\bar{X}$	80.2	81.7	83.2	83.8	*82.3*	81.2	82.2	82.5	82.8	*82.2*
SD	5.23	4.96	4.57	4.54	*4.82*	4.41	4.85	4.89	5.18	*4.83*
DL	A	A	A	A	*A*	A	A	A	A	*A*
English										
$\bar{X}$	83.3	84.2	85.0	85.6	*84.6*	81.1	81.8	82.1	82.0	*81.8*
SD	4.08	4.13	4.04	3.92	*4.04*	4.22	4.32	4.46	5.06	*4.52*
DL	A	A	H	H	*H*	A	A	A	A	*A*
Math										
$\bar{X}$	81.5	82.8	84.0	84.7	*83.3*	81.1	81.0	81.9	81.7	*81.5*
SD	5.22	4.92	5.15	4.87	*5.04*	4.59	4.40	4.72	4.84	*4.64*
DL	A	A	A	A	*A*	A	A	A	A	*A*
Araling Panlipunan										
$\bar{X}$	83.8	84.8	85.6	86.2	*85.5*	81.3	82.0	82.6	82.6	*82.2*
SD	4.61	4.74	4.31	4.39	*4.43*	4.39	4.41	4.74	4.96	*4.63*
DL	A	H	H	H	*H*	A	A	A	A	*A*
MAPEH										
$\bar{X}$	84.3	86.0	86.7	87.5	*86.2*	82.6	84.0	84.4	84.9	*84.0*
SD	3.33	3.26	3.17	3.00	*3.19*	3.99	4.10	4.38	4.55	*4.25*
DL	A	H	H	H	*H*	A	A	A	H	*A*
Eduk sa Pagpakatao										
$\bar{X}$	83.5	84.9	85.2	86.1	*84.9*	82.8	84.5	85.0	84.8	*84.4*
SD	4.89	4.77	4.54	4.52	*4.68*	4.20	4.82	4.74	4.71	*4.62*
DL	A	H	H	H	*H*	A	H	H	H	*A*
Qtr. Mean	*82.5*	*83.9*	*84.8*	*85.5*	***84.2***	*81.7*	*82.6*	*83.1*	*83.2*	***82.7***
SD	*4.60*	*4.49*	*4.35*	*4.25*	***4.42***	*4.33*	*4.52*	*4.72*	*4.94*	***4.63***
DL	*A*	*A*	*H*	*H*	***A***	*A*	*A*	*A*	*A*	***A***

Table 7
Significance on the Difference Between E.A.G.L.E. and Non-E.A.G.L.E. Kindergarten Learners' Post Learning Domains Development Assessment of School A

Group	$\bar{X}$	*SD*	t-value	p-value	Decision
E.A.G.L.E.	100.46	7.23	0.886	0.378	Ho is NOT Rejected
Non-E.A.G.L.E.	99.22	8.44			

In Table 8, the mean score and standard deviation in the post learning domains development assessment for recipient learners is slightly lower than that of non-recipient learners. However, the t-test results show that there was no statistically significant difference between the post learning domains development assessment mean scores of the recipient and non-recipient learners of the school, greater than p> .05, thus null hypothesis was accepted.

Table 8
Significance on the Difference Between E.A.G.L.E. and Non-E.A.G.L.E. Kindergarten Learners' Post Learning Domains Development Assessment of School B

Group	$\bar{X}$	SD	t-value	p-value	Decision
E.A.G.L.E.	97.11	12.46	1.610	0.091	Ho is NOT Rejected
Non-E.A.G.L.E.	101.87	14.12			

Significant difference on the recipient and non-recipient learners' academic success

Table 9 shows the kindergarten learners' post-learning domains development assessment where E.A.G.L.E. recipients gained a mean score of 96.06 with a standard deviation of 9.82. On the other hand, the non-E.A.G.L.E. recipients showed a mean score of 100.43 with a standard deviation of 11.43. The computed t-value was 0.880 with a p-value of 0.380 that was higher than 0.05 (p>0.05), the null hypothesis is not rejected. Thus, there was no statistically significant difference between the kindergarten recipients' and non-recipient learners' academic success in both schools.

Table 9
Significance of the Difference Between E.A.G.L.E. and Non-E.A.G.L.E. Kindergarten Learners' Post Learning Domains Development Assessment

Group	$\bar{X}$	SD	t-value	p-value	Decision
E.A.G.L.E.	99.06	9.82	0.880	0.380	Ho is NOT Rejected
Non-E.A.G.L.E.	100.43	11.43			

Table 10 shows grade one E.A.G.L.E. and non-E.A.G.L.E. learners' academic success of School A where E.A.G.L.E. recipients gained a mean score of 85.98 with a standard deviation of 3.16. On the other hand, the non-E.A.G.L.E. recipients showed a mean score of 84.29 with a standard deviation of 4.65. The mean difference was tested, and the computed t-value was 2.675 with a p-value of 0.009. that was lower than 0.05 level of significance, the null hypothesis was rejected. This implies that there is a statistically significant difference between the grade one E.A.G.L.E. recipient and non- E.A.G.L.E. recipient learners' academic success of school A.

Table 10
Significance on the Difference Between Grade One E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School A

Group	$\bar{X}$	SD	t- value	p- value	Decision
E.A.G.L.E.	85.98	3.16	2.675	0.009	Ho is Rejected
Non-E.A.G.L.E.	84.29	4.65			

Table 11 showed that the mean scores of Grade 2 E.A.G.L.E. recipients in School A is 85.85 while its non-E.A.G.L.E.

recipients have a mean score of 85.13 with the standard deviation of 3.44 and 4.78, respectively. With the p-value of 0.293, which is greater than the significant level of 0.05, the null hypothesis was not rejected thus there is no significant difference between grade two E.A.G.L.E. and non-E.A.G.L.E. recipients' academic success of School A.

Table 11
Significance on the Difference Between Grade Two E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School A

Group	$\bar{X}$	*SD*	t- value	p- value	Decision
E.A.G.L.E.	85.85	3.44	1.057	0.293	Ho is NOT Rejected
Non-E.A.G.L.E.	85.13	4.78			

Table 12 shows that the mean scores of Grade One E.A.G.L.E. and Non-E.A.G.L.E. recipients are 85.92 and 84.74, respectively. While the standard deviation for the two groups is 3.15 and 4.06, respectively. Specifically, it is 3.15 and 4.06 standard units farther from the mean scores of E.A.G.L.E. and non-E.A.G.L.E. recipients, respectively. With the p-value of 0.066 which is greater than the significant level of 0.05, thus there is no significance on the difference between grade one E.A.G.L.E. and Non-E.A.G.L.E. recipients' Academic Success of School B.

Table 12
Summary on Significance of the Difference Between E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School A

Group	$\bar{X}$	*SD*	t- value	p- value	Decision
E.A.G.L.E.	85.92	3.15	1.863	0.066	Ho is NOT Rejected
Non-E.A.G.L.E.	84.74	4.06			

Table 13 shows that the mean scores of Grade 2 E.A.G.L.E. and Non-E.A.G.L.E. recipients of School B are 82.93 and 82.2, respectively. The p-value, which is 0.444, greater than the significant level of 0.05, suggests that the null hypothesis is not rejected thus there is no significance on the difference between grade two E.A.G.L.E. and Non-E.A.G.L.E. recipients' academic success of School B.

Table 13
Significance on the Difference Between Grade One E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School B

Group	$\bar{X}$	*SD*	t- value	p- value	Decision
E.A.G.L.E.	82.93	3.94	0.769	0.444	Ho is NOT Rejected
Non-E.A.G.L.E.	82.21	4.52			

In Table 14, E.A.G.L.E. recipient learners' academic success mean score is 84.19 while non-E.A.G.L.E. recipient learners mean score is 82.66. With the p-value of 0.100, higher than 0.05 level of significance, thus, the null hypothesis was not rejected. This means that there is no significant difference between the academic success of grade two E.A.G.L.E. and non-E.A.G.L.E. recipient learners of school B. This implies that the program E.A.G.L.E. is not significantly effective in improving grade two learners' academic success as implemented in school B.

Table 14
Significance on the Difference Between Grade Two E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success' of School B

Group	$\bar{X}$	*SD*	t- value	p- value	Decision
E.A.G.L.E.	84.195	4.19	1.657	0.100	Ho is NOT Rejected
Non-E.A.G.L.E.	82.66	4.32			

In Table 15, E.A.G.L.E. and Non-E.A.G.L.E. learners' academic success mean scores are 83.59 and 82.45 with the variability indices of 3.98 and 4.06 standard deviations. With a computed t-value of 1.321 and a p-value of 0.189, higher than 0.05 level of significance, thus the null hypothesis is not rejected. Therefore, there was no significant difference in the level of academic success of E.A.G.L.E. and non-E.A.G.L.E. recipient learners of school B implying that the program E.A.G.L.E. as implemented in school B failed to significantly improve the academic success of learners.

Table 15
Significance of the Difference Between E.A.G.L.E. and Non-E.A.G.L.E. Learners' Academic Success of School B

Group	$\bar{X}$	*SD*	t- Value	p- value	Decision
E.A.G.L.E.	83.59	3.98			
			1.321	0.189	Ho is NOT Rejected
Non-E.A.G.L.E.	82.45	4.06			

Lastly, table 16 showed that the mean scores of E.A.G.L.E. and non-E.A.G.L.E. recipient learners are 84.95 and 83.70 respectively with 3.68 and 4.21 standard deviations. With computed p-value of 0.030, lower than 0.05 level of significance, thus the null hypothesis was rejected in favor of the research hypothesis which claims that there is a significant difference on the academic success of the recipient and non-recipient learners in terms of grade. This implies that overall, the program E.A.G.L.E. is effective in improving learners' academic success as implemented in the two schools in the Division of Tagum City.

Table 16
Overall Significance on the Difference Between E.A.G.L.E. and Non-E.A.G.L.E. Recipient Learners' Academic Success

Group	$\bar{X}$	*SD*	t- Value	p- value	Decision
E.A.G.L.E.	84.95	3.68			
			2.177	0.030	Ho is Rejected
Non-E.A.G.L.E.	83.70	4.21			

DISCUSSION

The discussions and conclusions are presented in this section.

Profile of the Recipient and Non-recipient Kindergarten Learners in Terms of Learning Domains Development

In terms of their learning domains' development, both recipient and non-recipient learners have similar performance based on their scaled score in the pre-assessment. Similarly, the findings of Minardi (2020), which examined the efficacy of a collaborative support team approach to establishing a whole child's developmental foundation, identified preventive strategies for addressing gaps across all developmental domains (e.g., gross, and fine motor, receptive and expressive language, and others), and report on the significance of these gaps.

Improvements on the Recipient and Non-recipient Learners' Academic Success After Every Quarter and Cycle

A slight variation between the EAGLE and non- EAGLE recipient learners' academic success for schools A and B, but not statistically significant, was implying that learners' academic success for both groups is comparable to each other. This signifies that Project E.A.G.L.E. failed to address the gaps.

This finding matched those of Findley (2018), who found that assigning children to a classroom that used looping

had no statistically significant influence on overall student success or closing the achievement gap.

Conclusion

The profile of the Project E.A.G.L.E. recipient and non-recipient learners both in school A and B indicate an average overall development in the domain.

There is no significant difference between Project E.A.G.L.E. recipient and non-recipient kindergarten learners' post-learning domains development assessment for both schools. However, there is an overall significant difference between the grades one and two Project E.A.G.L.E. recipient and non-recipient learners' academic success for both schools.

Recommendations

The researchers formulated the following recommendations for consideration: (1) using of looping strategy must be intensified by reviewing the mechanisms to further improve its implementation and to establish a closer connection between the school and parents to enhance collaboration and strengthen relationships; (2) there must be standardized instruments across grade levels for pre and post-assessment; (3) assessment data in every competency must be included as they evaluate learners' performance; (4) teachers must keep or provide a repository of learners' data to ensure a complete and more reliable results; (5) conduct of quarterly monitoring and evaluation of learners' academic success; (6) provide sufficient resources and guidance to teachers and commit to it for a substantial amount of time; and (7) a case study may be conducted that to investigate and describe teachers, parents, and other stakeholders' situations on the key issues of looping strategy and analyze a deeper understanding of the case involved to substantiate the findings of this study.

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HUMAN RESOURCE DEVELOPMENT

Assessing the Crisis Self-Efficacy in Relation to Work Commitment of Teachers Amidst COVID-19

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ABSTRACT

The COVID-19 outbreak significantly impacted public education in terms of teacher instruction, school operations, and policy changes. A paradigm shift was on the horizon, and teachers' crisis self-efficacy and commitment to their work were investigated. The study examined the impact of crisis self-efficacy on the commitment of teachers to work in the era of the COVID-19 pandemic. A questionnaire adapted for this study was retrieved from google forms online and was distributed to 61 elementary school teachers in the Division of Tagum City, Davao del Norte, Philippines. Data analysis was done using the mean, standard deviation, Pearson r, and regression analysis. Findings indicated that the commitment of teachers was significantly influenced by crisis self-efficacy. Throughout the time of crisis, commitment to work was best predicted by teachers' preventive, achievement, and uncertainty management skills. Further, a high degree of self-efficacy was observed in the aspect of action and prevention. Also noted was a high level of work commitment to teaching and learning. Correlation analysis revealed a link between crisis self-efficacy and the commitment of the teachers. The researcher recommended conducting a comparative study using a greater number of respondents in a different area to validate the finding of this study.

Keywords: crisis self-efficacy, work commitment, teachers, COVID-19 pandemic

INTRODUCTION

Students in the Philippines had a strong reaction to COVID-19 pandemic, while a high level of anxiety was observed among teachers. However, the positive view of Filipino teachers during psychological stress or anxiety was evident, and teachers had to deal with work and life adjustments throughout the pandemic crisis. While embracing the new normal set-up in education, educators must also deal with the problems of an online-blended learning approach (Baloran & Hernan, 2000).

During the Philippines' battle against the COVID-19 pandemic, DepEd began to prepare for a new normal in education and held a statewide consultation with stakeholders and education professionals to establish a Learning Continuity Plan in the delivery of education to students. For now, teachers must adapt to this approaching shift in the teaching paradigm and the increasing demands of their workloads before classes begin in a new typical pedagogical environment. As a result, their crisis self-efficacy and commitment to their work and profession as educators are developed in this situation.

It is for this reason that the researcher was interested in determining the domain of crisis self-efficacy that strongly predicts the work commitment of all teachers in a school in Tagum City Division. Concerns raised by this study could lead to action plans that could help teachers enhance their self-efficacy and increase their commitment to work in the event of a pandemic. The following research objectives guided this study: identify the level of crisis self-efficacy and work commitment among teachers during the COVID-19 pandemic in terms of action, preventive, achievement, and uncertainty management; determine the significance of the relationship between the crisis self-efficacy and the work commitment of teachers during COVID-19 pandemic; and, finally, determine the domain of crisis self-efficacy which best predicts teachers' work commitment.

METHODS

Research Design

Quantitative, non-experimental design of research using the correlational technique was used in this study since it was aimed to determine the significant relationship between the crisis self-efficacy and work commitment of teachers during the COVID-19 pandemic. This approach was ideal since it allowed for a systematic investigation of the nature of links, or associations, between and among the variables in this study. Non-experimental research is defined as research that does not involve modifying an independent variable, allocating participants to conditions or orders of conditions at random, or a combination of the two (O'Dwyer & Bernauer, 2013).

Respondents of the Study

The study's respondents were all teachers at a school in the Division of Tagum City. They were the appropriate representatives for the study and offered useful information to evaluate the hypothesis. Parents, students, school administrators, and DepEd officials were excluded since this study concentrated on teachers' work commitment. The area covered in this study were elementary school teachers in the Division of Tagum City.

Data Gathering Procedure

An online survey developed through Google forms with an appended consent form was conducted. Google form is an online survey platform that provides the service of creating survey forms, receiving responses, and analyzing data at no charge. We used this platform to demonstrate how a physical questionnaire could be converted to an online form (Mondal, et al., 2018). The Survey link was disseminated to teachers coming from the different grade levels from Kinder to Grade IV levels. Adapted survey questionnaires were used for crisis self-efficacy and work commitment. They were modified to suit the purpose of the study, especially during the COVID-19 pandemic period. A total of 61 teachers responded in the online survey.

Data Gathering Procedure

A systematic approach was used to collect the essential data. First, the researcher obtained authorization to perform the study from the school principal through a letter. Following approval, survey questionnaires were distributed to teachers using Google Form. The researcher sent the google form questionnaires to the respondents online. The researcher conducted the survey online and explained the study's goal to the respondents throughout the administration and retrieval of the questionnaire. In the questionnaires, instructions were provided on how to respond to the statement. The respondents were given ample time to complete the surveys. The retrieval of the research instruments was done after the administration. After getting all the responses in the questionnaire, collation and tabulation of data were followed. Collation was done by the researcher, encoded, and submitted to the statistician for the appropriate statistical treatment. The tabulated data was subjected to analysis and interpretation according to the problem raised in the first chapter. Ethics were thoroughly observed in the conduct of this study.

Statistical Tools

Data were analyzed using mean, standard deviation, Pearson r, and regression analysis as statistical tools. For the research variables, a five-point Likert scale was used. According to Santos (2007), the Likert Scale requires respondents to check a box or leave a blank in response to many items about an attitude, object, or stimulus.

Ethical Considerations

Respondents of the survey conducted voluntarily filled-out the questionnaires and were assured that their rights and privacy were protected, and responses were strictly used for the study. This was to confirm that ethical considerations were being considered in this research. Research papers may even be doomed to failure if this part is missing. Research ethics is primarily concerned with the investigation of ethical issues that arise

when people participate in research (Walton, 2017). To ensure integrity, quality and transparency, this study was reviewed and undertaken in accordance with commonly agreed standards of good research practices.

RESULTS

Level of Teachers' Crisis Self-Efficacy in Terms of Action

Teacher action efficacy is depicted in Table 1 with a mean of 4.34, indicating that they are highly effective, and a standard deviation of 0.46. In addition, the SD of 0.46 shows that the measurements of variability index on crisis self-efficacy in terms of action were relatively small and most likely grouped closer to the mean.

Table 1
Level of Teachers' Crisis Self-Efficacy in Terms of Action

Items	Mean	SD	Descriptive Equivalent
1. I am certain I have the ability to take necessary action to protect myself during a crisis.	4.41	0.56	Very High
2. I know that I have the ability to do things to protect myself in case of a crisis.	4.36	0.68	Very High
3. Given enough time and effort, I believe I can solve most problems during a crisis.	4.25	0.60	Very High
Overall	**4.34**	**0.46**	**Very High**

Level of Teachers' Crisis Self-Efficacy in Terms of Preventive

The level of preventative efficacy of teachers is presented in Table 2, with a mean of 4.27, indicating that it is very high and a standard deviation of 0.50. Moreover, the SD value of 0.50, which corresponds to the category mean, showed that the measures of variability index on crisis self-efficacy in terms of prevention were likely grouped closer to the mean.

Table 2
Level of Teachers' Crisis Self-Efficacy in Terms of Preventive

Items	Mean	SD	Descriptive Equivalent
1. What I do with the knowledge I have about a crisis will keep me safe.	4.34	0.54	Very High
2. I am able to use resources effectively during a crisis.	4.31	0.56	Very High
3. I can help others decide what actions to take during a crisis.	4.16	0.58	High
Overall	**4.27**	**0.50**	**Very High**

Level of Teachers' Crisis Self-Efficacy in terms of Achievement

Table 3 shows the level of achievement efficacy of teachers during the COVID-19 pandemic, with a mean of 4.11 or high and a standard deviation of 0.46. Furthermore, the SD value of 0.46 corresponding to the category mean indicates that the measures of variability index on crisis self-efficacy in terms of achievement was relatively small, most likely clustered nearer to the mean.

Table 3
Level of Teachers' Crisis Self-Efficacy in terms of Achievement

Items	Mean	SD	Descriptive Equivalent
1. During a crisis, I can stick to my goals.	4.18	0.53	High
2. During a crisis, I can accomplish my goals.	4.08	0.56	High
3. During a crisis, I can achieve most of the goals that I have set for myself.	4.07	0.51	High
Overall	**4.11**	**0.46**	**High**

Level of Teachers' Crisis Self-Efficacy in terms of Uncertainty Management

In Table 4, teachers' level of uncertainty management efficacy is presented with a mean of 4.05 or high and a standard deviation of 0.50, respectively. Furthermore, the SD value of 0.50 corresponding to the category mean indicates that the measures of variability index on crisis self-efficacy in terms of uncertainty management was relatively small, most likely clustered nearer to the mean.

Table 4
Level of Teachers' Crisis Self-Efficacy in terms of Uncertainty Management

Items	Mean	SD	Descriptive Equivalent
1. I am confident that I can deal efficiently with unexpected crisis situations.	4.00	0.61	High
2. Thanks to my resourcefulness, I know how to handle unforeseen situations during a crisis.	4.10	0.57	High
3. During a crisis, I can usually handle whatever comes my way.	4.05	0.56	High
Overall	**4.05**	**0.50**	**High**

Level of Crisis Self-Efficacy of Teachers Amidst COVID-19

The action efficacy variable received the highest mean rating of 4.34, indicating a *very* high result. In contrast, the mean of uncertainty management efficacy is 4.05, which is still relatively high. The SD value of 0.40 corresponding to the category mean indicates that the measures of variability index on crisis self-efficacy during COVID-19 pandemic is relatively small, most likely clustered nearer to the mean.

Table 5
Level of Crisis Self-Efficacy of Teachers Amidst COVID-19

Indicators	Mean	SD	Descriptive Equivalent
Action Efficacy	4.34	0.46	Very High
Preventive Efficacy	4.27	0.50	Very High
Achievement Efficacy	4.11	0.46	High
Uncertainty Management Efficacy	4.05	0.50	High
Overall	**4.19**	**0.40**	**High**

Level of Teachers' Work Commitment in terms of Commitment to School

The level of commitment to school of teachers during the COVID-19 pandemic is depicted in Table 6, with a mean of 3.94, indicating a high level of commitment and a standard deviation of 0.56. Furthermore, the SD value of 0.56 corresponding to the category mean indicates that the measures of variability index on crisis self-efficacy in terms of uncertainty management was relatively small, most likely clustered nearer to the mean.

Table 6
Level of Teachers' Work Commitment in terms of Commitment to School

Items	Mean	SD	Descriptive Equivalent
1. Often, I find it is difficult to agree with this organization's policies on important matters relating to its employee.	3.48	1.03	High
2. I talk up this school to my friend as a great school to work for.	4.18	0.67	High
3. I find that my values and my school's values are very similar.	4.16	0.61	High
Overall	**3.94**	**0.56**	**High**

Level of Teachers' Work Commitment in terms of Commitment to Students

Table 7 shows the level of teachers' commitment to students during the COVID-19 pandemic, with a mean of 4.39 or extremely high and a standard deviation of 0.47. Furthermore, the SD value of 0.47 corresponding to the category mean indicates that the measures of variability index on work commitment in terms of commitment to students was relatively small, most likely clustered nearer to the mean.

Table 7
Level of Teachers' Work Commitment in terms of Commitment to Students

Items	Mean	SD	Descriptive Equivalent
1. All students can succeed and it is my mission to ensure their success.	4.39	0.53	Very High
2. It is my responsibility to ensure good social relations among my students.	4.56	0.53	Very High
3. I feel obliged to mediate among the rival groups of the students.	4.21	0.61	Very High
Overall	**4.39**	**0.47**	**Very High**

Level of Teachers' Work Commitment in terms of Commitment to Teaching

The level of teachers' commitment to teaching during the COVID-19 pandemic is depicted in Table 2.3, with a mean of 4.20 (very high) and a standard deviation of 0.46. Moreover, the SD value of 0.46 corresponding to the category mean indicates that the measures of variability index on work commitment in terms of commitment to teaching was relatively small, most likely clustered nearer to the mean.

Table 8
Level of Teachers' Work Commitment in terms of Commitment to Teaching

Items	Mean	SD	Descriptive Equivalent
1. I used to be more ambitious about my work than I am now.	4.00	0.63	High
2. Sometimes I lie awake at night thinking ahead to the next day's work.	4.13	0.69	High
3. I enjoy teaching.	4.46	0.70	Very High
Overall	**4.20**	**0.46**	**Very High**

Level of Teachers' Commitment in terms of Commitment to Profession

Table 9 depicts the level of commitment that teachers had to their profession during the COVID-19 pandemic, with a mean of 3.09, indicating moderate commitment, and a standard deviation of 0.72. Furthermore, the SD value of 0.72 corresponding to the category mean

indicates that the measures of variability index on work commitment in terms of commitment to teaching was relatively small, most likely clustered nearer to the mean.

Table 9
Level of Teachers' Commitment in terms of Commitment to Profession

Items	Mean	SD	Descriptive Equivalent
1. If I could get a job different from being a teacher and paying the same amount, I would take it.	3.18	1.20	High
2. If I could do it all over again, I would not choose to work in the teaching profession.	2.61	1.10	Moderate
3. I am disappointed that I ever entered the teaching profession.	2.21	1.13	Low
4. The best decision that I have ever made was to become a teacher.	4.36	0.73	Very High
Overall	**3.09**	**0.72**	**Moderate**

Level of Work Commitment of Teachers Amidst COVID-19

The four indicators of crisis self-efficacy combined to produce an overall mean value of 3.90, which is high. Commitment to students and teaching demonstrated itself in the top two highest scores, with 4.39 and 4.20, respectively, for the two categories.

Table 10
Level of Work Commitment of Teachers Amidst COVID-19

Indicators	Mean	SD	Descriptive Equivalent
Commitment to School	3.94	0.56	High
Commitment to Students	4.39	0.47	Very High
Commitment to Teaching	4.20	0.46	Very High
Commitment to Profession	3.09	0.72	Moderate
Overall	**3.90**	**0.40**	**High**

Significance on the Relationship Between the Crisis Self-Efficacy and Work Commitment of Teachers Amidst COVID-19

As shown in table 11, action efficacy did not have any significant relationship with any of the work commitment indicators since p-values 0.2152, 0.2308, 0.0653, and 0.3650 > 0.05 thus accept Ho.

Table 11
Correlation Matrix Between Level of Crisis Self-Efficacy and Work Commitment of Teachers

Variables	r-value	r^2	p-value	Decision @ α=0.05
Action Efficacy and Commitment to School	0.16	0.025	0.2153	Accept Ho
Action Efficacy and Commitment to Students	0.16	0.025	0.2308	Accept Ho
Action Efficacy and Commitment to Teaching	0.24	0.057	0.0653	Accept Ho
Action Efficacy and Commitment to Profession	0.12	0.014	0.3650	Accept Ho
Preventive Efficacy and Commitment to School	0.47	0.220	0.0001	Reject Ho
Preventive Efficacy and Commitment to Students	0.41	0.168	0.0011	Reject Ho

Preventive Efficacy and Commitment to Teaching	0.47	0.220	0.0001	Reject Ho
Preventive Efficacy and Commitment to Profession	0.29	0.084	0.0260	Reject Ho
Achievement Efficacy and Commitment to School	0.40	0.16	0.0013	Reject Ho
Achievement Efficacy and Commitment to Students	0.36	0.129	0.0045	Reject Ho
Achievement Efficacy and Commitment to Teaching	0.46	0.211	0.0002	Reject Ho
Achievement Efficacy and Commitment to Profession	0.24	0.057	0.0622	Accept Ho
Uncertainty Management and Commitment to School	0.42	0.176	0.0006	Reject Ho
Uncertainty Management and Commitment to Students	0.45	0.202	0.0003	Reject Ho
Uncertainty Management and Commitment to Teaching	0.60	0.36	0.0000	Reject Ho
Uncertainty Management and Commitment to Profession	0.18	0.032	0.1557	Accept Ho

Preventive self-efficacy has the corresponding correlation coefficient values of 0.47, 0.41, 0.47 and 0.29 with p-values of 0.0001<0.05, 0.0011<0.05, 0.0001<0.05 and 0.0260<0.05 respectively. As a result, this indicates that there is a statistically significant association between all measures of work commitment, namely commitment to school, commitment to students, commitment to teaching, and commitment to profession, and thus rejecting the Ho. In addition to this, all correlation coefficients showed positive values indicating that as teachers increased their preventive self-efficacy, their work commitment for all indicators also increased. Commitments to school (0.0001<0.05), commitment to students (0.0011<0.05) and commitment to teaching (0.0001<0.05) had a defined but small relationship to preventive self-efficacy. Commitment to profession (0.0260<0.05) showing almost negligible relationship to the said self-efficacy indicator. Although the strength of the relationship was most likely low, this relationship was deemed to be significant at all.

Achievement self-efficacy has the corresponding p-values of 0.0013<0.05, 0.0045<0.05, and 0.0002<0.05 respectively which indicate that there is significant relationship to commitment to school, commitment to students and commitment to teaching thus rejecting Ho. Also, all correlation coefficient values of 0.40, 0.36, and 0.46 showed a positive value. This only explains that as teachers increased their achievement self-efficacy, their work commitment for all indicators of crises self- efficacy also increased. Achievement self-efficacy and commitment to profession has a p-value of 0.0622>0.05 which indicates that there was no significant relationship thus accepting Ho.

Uncertainty management efficacy is significantly relative to all indicators of work commitment except for commitment to profession which has a p-value of 0.1557>0.05.

Crisis Self-Efficacy and the Overall Level of Work Commitment

Presented in Table 12 is the correlation matrix between the level of crisis self-efficacy and the overall level of work commitment of teachers. The action efficacy and its overall work commitment showed a 0.23 correlation, which means that there is slight correlation. The p-value of 0.0808>0.05 indicates that their relationship is not significant thus accepting Ho.

Table 12
Crisis Self-Efficacy and the Overall Level of Work Commitment

Variables	r-value	r^2	p-value	Decision $@\alpha = .05$
	Overall Work Commitment			
Action Efficacy	0.23	0.0529	0.081	Accept Ho
Preventive	0.55	0.3025	0.000	Reject Ho
Achievement	0.49	0.2401	0.000	Reject Ho
Uncertainty Management	0.54	0.2916	0.000	Reject Ho

For preventive efficacy and its overall work commitment resulted in 0.55 which means that preventive efficacy has a moderate correlation with the work commitment of teachers. The p-value of 0.0000<0.05 signifies that the relationship is substantial and significant, thus rejecting Ho.

For achievement efficacy, compared to its overall work commitment has an r- value of 0.49 which shows that there is low correlation between them. The p-value of 0.0000<0.05 explains that there is a small but significant relationship between achievement and the overall work commitment of teachers thus rejecting Ho.

Lastly, uncertainty management efficacy and the overall work commitment, results revealed a 0.54 which means that there is moderate correlation. The p-value of 0.0000<0.50 explains that their relationship is substantial and significant thus rejecting Ho.

DISCUSSION

Crisis Self- Efficacy and Work Commitment of Teachers

Given the circumstances, it was reasonable to believe that teachers realize that learning about the pandemic problem would help them stay safe. According to Bandura (1977), knowledge and motivation to accomplish a task are directly tied to one's feeling of efficacy, which refers to self-assessment of his or her capacity to do a certain activity. That is, self-efficacy influences decisions regarding what behaviors to pursue; hence, it is known as a powerful predictor of a wide range of behaviors (Bandura, 1990; Compeau & Higgins, 1995; Rimal & Adkins, 2003; Verroen, Gutteling, & DeVries, 2012). Teachers believed that having enough information and learning to use resources efficiently would be more productive during a crisis. Teachers can also choose what steps to take in a crisis to carry out their tasks efficiently. Teachers' commitment to the school was evident by their involvement in school events and their loyalty to the institution. In terms of school effectiveness, teacher satisfaction, and teacher retention, teacher commitment is scientifically substantiated (Fresko, Kfir, and Nasser, 1997; Singh & Billingsley, 1998; Nir, 2002).

Conclusion

In general, teachers are expected to be more involved in their jobs during times of crisis. Moreover, it was evident that teachers are very committed to work throughout the COVID-19 crisis. Education professionals are dedicated to completing their work tasks at school, particularly in the education of their students, and believe in their efficacy. During the COVID-19 outbreak, teachers' crisis self-efficacy influenced their professional dedication. Throughout this crisis, teachers' dedication to their work is affected by the domains of action, prevention, achievement, and uncertainty management. Throughout the epidemic, the study revealed a link between teachers' professional dedication and crisis self-efficacy. During the COVID-19 pandemic, teachers' commitment to their profession was predicted by their crisis self-efficacy in preventive, achievement, and uncertainty management.

Recommendations

The researcher strongly recommends that programs be established to help teachers recognize emergencies so they can be safe while performing school activities and continue teaching and learning. Teachers should be trained how to be flexible and adaptive in the face of unexpected job changes and difficult students. It is also proposed that the Department of Education provide teachers with new modalities for school operations and instruction due to teachers' structural

uncertainties in the face of pandemics or other future events, such as teaching and technology change.

When faced with potentially detrimental social settings, school personnel must boost motivation to lessen work uncertainty. Every school leader should help teachers renew their professional commitment by providing emotional and psychological support. However, school-level activities can be developed to increase teachers' commitment to the teaching profession and sustain pride and involvement in achieving the aim of their job.

Based on the findings of this study, teachers should take proactive measures at work to prevent COVID-19 outbreaks by increasing their knowledge, personal and professional resources, and job motivation. Using remote and blended learning in the classroom can assist teachers meet the Department's educational goals even if their jobs are in danger due to the COVID-19 situation. Also, future researchers should do a comparative study with a larger size in a different area to corroborate the findings.

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