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Project WINGS: Word-Banking to Address Gaps in Science Education

MARIA LANIE V. MAÑAGO[1], REGINA M. SENIDO[1]
[1]Kapayapaan Integrated School, Calamba City, Philippines
Maria Lanie V. Mañago: https://orcid.org/0009-0006-5908-6314,
Regina M. Senido: https://orcid.org/0009-0000-7312-0271

Corresponding author: marialanie.manago@deped.gov.ph

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ABSTRACT

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The COVID-19 pandemic has caused students to fear for their health and their studies. It has created gaps that educators need to fill when they return to formal education. The main purpose of this research was to evaluate the effectiveness of word banking in science for improving the proficiency levels of seventh-grade students. The study aims to address gaps in science education arising from new-normal circumstances. It also seeks to assess students' proficiency in science before and after the implementation of Project WINGS. The research found that implementing Project WINGS, which incorporated the SPURN strategy (Spelling, Pronunciation, and Usage of words, Reading, and Numeracy), significantly improved seventh-grade students' proficiency levels in science. The quasi-experimental design, utilizing pre-test and post-test data, indicated a notable enhancement in students' performance, suggesting that

daily word banking effectively addressed educational gaps exacerbated by the COVID-19 pandemic.

INTRODUCTION

The COVID-19 pandemic has caused abrupt and profound changes around the world. This is the worst shock to education systems in decades, with the longest school closures and a looming recession (UNESCO, 2022; World Bank, 2021). Distance learning has led to students becoming dependent on gadgets and uninterested in lessons, often working while enrolled. The situation of students after the pandemic is concerning. Prolonged school closures and the shift to online learning resulted in considerable learning gaps. Many of them struggle academically and cannot keep up with their studies. Some even have difficulty reading and solving simple mathematical problems. Many students missed foundational concepts, making it difficult to grasp more advanced material.

When the government implemented an online teaching-learning process at all levels of private and public schools due to COVID-19, all variables in the system of education needed to adapt to these changes. It was the last and only alternative to continue the education amidst the pandemic. There were no further consultations or studies on the effectiveness of e-learning due to necessity. The same scenario applies to other ASEAN countries, such as Cambodia. It is evident that online learning in Cambodia has intensified, but what is not clear is the effectiveness of the specific features, as well as the strengths and weaknesses of online learning (Chhin, 2021). Children in this situation were usually affected not only by the loss of learning but also by the anxiety of being unable to cope with the new way of learning. They face challenges in accessing online learning materials because of internet connectivity. Online learning demands appropriate materials (hardware, software) and a high-speed internet connection. The technical guidelines for all schools in the country did not prepare well for the students (Sothy, 2021). With few of the many challenges of e-learning due to COVID-19, the learners are the most affected. It kept as challenging as time passed to the post-COVID era when classes were opened and the students returned to school. Returning to physical learning poses many more challenges for teachers and students because the routine established during the MCO period will be reinstated, namely getting up early to go to school, participating in physical activities while adhering to SOPs such as social distancing and wearing face masks (Othman et al., 2022). Students struggled with COVID-related health issues, leading to poor academic performance.

Following the principles under DepEd Order no 12 s. of 2021, entitled,

"Amendment to Deped Order no 30, s. 2020, (Amendment to DepEd Order no 7 s, 2020, School Calendar and Activities for 2020-2021). As of early May 2021, the Philippines is one of only two countries in the East Asia and the Pacific (EAP) Region that has yet not resumed in-person classes since the beginning of the COVID-19 pandemic. School closures and learning loss during the COVID-19 pandemic can negatively impact the current cohort of school children. Global evidence from past health and disaster-related emergencies shows that the impact extends well beyond the period of the disaster or pandemic. Learning poverty—the share of 10-year-old children who cannot read and understand a simple story—in the Philippines was estimated at 69.5 percent in 2019 and is expected to rise further due to the pandemic (Cho et al., 2021). There have been a number of attempts to understand and quantify the learning losses caused by the pandemic to shape the necessary mitigation strategies (Gustafsson, 2021). In other words, education, from curriculum to pedagogy, from teacher to learner, from learning to assessment, and from location to time, can and should radically transform (Zhao et al., 2021), thus accommodating post-pandemic education.

After loosening measures during the lockdown and reopening of material classrooms at school, individual grade levels and their teachers began to enter schools, taking their first steps with classroom teaching and learning under new rules (Grammes, 2022). These rules also impacted the learning measures for students, reducing interactions through group activities such as plays and collaborative exercises. In addition to the well-established antecedents and negative impacts of school-related stress for high school students, there is now the added stress of living in a pandemic. New stressors include social restrictions, lack of physical activity, fear for their own or loved ones' safety, adjustments in school attendance (e.g., virtual classrooms), uncertainty about college experiences, financial concerns, and grieving the loss of important milestone events such as graduation (William et al., 2021, pp. 226-232.). For many families and children, this means increased stress but also an increased risk of conflict and perhaps separation. Furthermore, the social safety net provided by friends and relatives often surrounds children has not been as accessible due to social distancing (Sjögren et al., 2021). These stresses sum up the global problem in education. The pandemic has drastically interfered with ongoing wellness, exacerbating feelings of loneliness and social isolation, which affects what children and youth can achieve in the virtual classroom (Vaillancourt et al., 2021).

To address learning gaps, the school has implemented recovery lessons to rekindle student enthusiasm for learning. Teachers were tasked with creating activities that motivate students and assess their abilities across different subjects. Literacy skills were evaluated through reading and spelling exercises, while

numeracy was assessed through problem-solving using basic math operations. These subjects are essential for teaching science. Another activity given was the diagnostic test highlighted by Alejo et al. (2023) "at the classroom level, diagnostic and formative assessments help teachers adapt teaching plans and pedagogical approaches." The assessments revealed that many students lag in their learning competencies, highlighting significant gaps. Yang (2022) mentioned that learning loss happens when there is a loss of knowledge or skills typically brought about by gaps in one's education or if one's learning has been discontinued. These gaps were considered and hindered students from continuing and reaching a high proficiency level of learning.

As Katamei and Omwono (2015) also mentioned, students' needs should be analyzed, and programs should be designed to address these. More importantly, intervention strategies should not be implemented because they are popular or interesting. Rather, they should be able to address the needs of the students in their institution, given that schools operate in different contexts; hence, no one size fits all. Ending online classes, people started to embrace the new normal in education amid the situation. They want the students to learn and be safe at the same time. It frees the learners from the constraint of time and place because this new approach provides them with choices about where, when, and how learning occurs (Olayvar, 2021). The pandemic has exacerbated mentoring challenges, as relationships may become virtual or non-existent, and mentors and mentees must navigate unfamiliar teaching environments. Therefore, we must first understand the current challenges related to the pandemic and how mentors can leverage their assets and strategies to effectively mentor students in this temporary situation (Mondisa, 2020). We need to re-engage the disconnected students in the world of learning. Bring back the interest and the excitement in absorbing and attending lessons, especially in spelling, vocabulary, reading, usage, and composition, solving mathematical problems using the four fundamental processes.

This study also supports the Deped Order No. 18 s 2017, Guidelines on the Utilization of 2017, Every Child a Reader Program (ECARP) Funds for the Early Language, Literacy and Numeracy Program: Professional Development Component, it aims to develop Filipino children the literacy and numeracy skills, and attitudes that will contribute to lifelong learning. In in-person classes, one of the obstacles teachers face today is students' low literacy and numeracy proficiency. The missed opportunity for immediate teacher-learner interaction in the lesson delays the learner's competency development and seriously impacts quality learning (UNESCO, Philippines). The whole educational system of the Philippines was busy planning how to intensify interventions for the losses of the

students. Updating new MELC (Most Essential Learning Competencies) and conducting different activities during the recovery period were the actions most of the department took. The regional contextualized LCP (Learning Continuity Plan) also features advanced curriculum guides and training for teachers, as well as a contingency plan on health standards in response to the pandemic (DepEd CALABARZON). Locally, under the DREAM project of the Division of Calamba City, each school, with the leadership of the principal, designed different interventions to help children not to be left behind. Kapayapaan Integrated School is one of the institutions that chose to make interventions to help bridge the learning gaps caused by the pandemic. In the science department, the assessment was made at the start of the school year to determine what appropriate intervention the students should take. It is imperative to gather data and analyze what is needed.

The teacher needed to bridge the two-year gap in science skills, concepts, and learnings of the students using the SPURN (Spelling, Pronunciation, Usage of words, Reading, and Numeracy) strategy. Most studies the researcher encountered usually focused on English and Math subjects for reading and mathematical interventions, separately conducted and presented. In this part, the project WINGS differs from them because it encloses not only reading comprehension but also the inadequacy of the students in numbers; hence, it includes numeracy and other basic skills that a grade seven should possess in one package. As a grade seven teacher, the researcher thought it necessary to launch this project to help the students cross and bridge that gap in science learning. WINGS aimed to improve the proficiency levels of Grade Seven students through activities designed to enhance their reading and comprehension skills, particularly in counting and mathematics. The project focuses on engaging students in interactive tasks during the motivational part that develops their abilities in these key areas, fostering a deeper understanding of the subjects and supporting their overall academic growth. It has significant value in several ways: the program will focus on specific areas where students struggle, providing tailored instruction in reading comprehension and mathematical concepts. This targeted approach will help address individual learning gaps by designing a daily lesson log (DLL) for the subject teacher. The motivational part of this DLL will incorporate engaging activities in the form of word banking, such as e-games and puzzles. Project Wings will enhance student interest and motivation in reading and math, making learning more enjoyable. This intervention will blend reading and math skills with real-world applications, helping grade seven students understand the relevance of these subjects in everyday life, which can deepen their understanding and retention. As students see improved skills, their confidence often increases,

leading to a more positive attitude towards learning. This boost can help them tackle more challenging material in the future. Wings serve as a comprehensive intervention strategy that focuses on improving academic skills in reading and math and promotes a positive learning experience and emotional support, all of which are crucial for student success. The result of this study will serve as a basis for evaluating teachers' practices over the years. It will also give the teacher the confidence and growth needed to improve their work.

FRAMEWORK

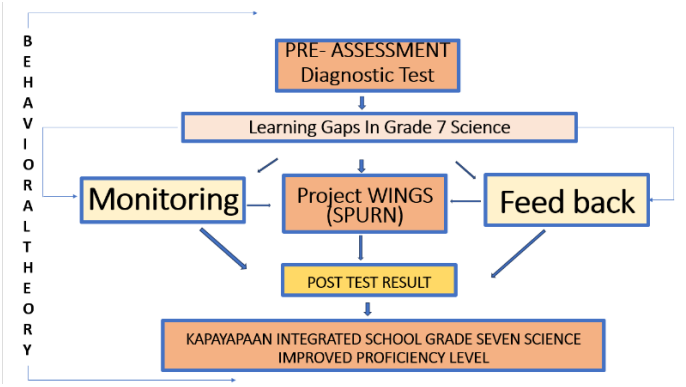
The proponents came from the Behavioral Theory as the framework of this study. Thus, it focuses on modifying observable behaviors through reinforcement and punishment. Interventions based on this theory often include behavior modification techniques, such as positive reinforcement to encourage desired behaviors and negative reinforcement to reduce undesired behaviors. Pavlov's theory, often referred to as Pavlovian conditioning, centers around the concept of associative learning. He sought to explore how organisms, including humans, acquire new behaviors and responses through repeated associations between stimuli (Main, 2023). This theory helped the teachers to set up clear and important expectations for the students. Thus, it outlined the sequence of how the SPURN strategy will be used and applied to the students. For teachers experiencing the dilemma left by the pandemic, this theory will stand out in helping the consistency of the learning process inside the classroom. Additionally, in this conditioning process, Pavlov's theory of learning, known as classical conditioning or Pavlovian conditioning, there is generally a process of association between successive units of behavior. The exercise repeatedly strengthens the association that exists between one unit of behavior and the next unit of behavior (Basri et al., 2020). In this study, the stimuli are the different activities of the word banking using the SPURN strategy, and the response will be the improved proficiency level of grade seven in science.

As shown in the figure below, this study was conducted on all grade seven students of Kapayapaan Integrated School Year 2022-2023. The three science teachers implemented it and were guided by their department head. The study was implemented by designing a lesson plan daily while using skills in the SPURN strategy. The science department head led the monitoring of the program. Hence, she was the one who checked the teachers' daily lesson plans. A pre-assessment test was given to determine the student's proficiency level in science. It was administrated simultaneously with reading and numeracy tests. The pre-test result was the data to be compared with the post-test result. These

results serve as evidence of the functionality and effectiveness of the program. The study limits only the effect of word banking using the SPURN strategy in improving the proficiency level of grade seven science students at Kapayapaan Integrated School.

Figure 1

The Conceptual Framework Shows the Flow and the Relationships of the Variables of the Study



OBJECTIVES OF THE STUDY

This action research aims to determine the effectiveness of Project WINGS in grade seven science students using the SPURN strategy. Specifically, it aimed to (1) determine the levels of proficiency of grade students in science before and after the utilization of the program, (2) analyze whether there is a significant difference between the level of proficiency of the respondents based on their pre- and post-assessment, (3) explore how students perceive the Project WINGS, (4) propose a program/action plan can be proposed based on the result of the study.

METHODOLOGY

Research Design

The study used a quasi-experimental design. As discussed by Bobbitt (2020), the pre-test and post-test design is an experiment in which measurements are taken on individuals before and after they're involved in some treatment. Pre-test

and post-test designs can be used in both experimental and quasi-experimental research and may or may not include control groups.

Research Site

The study was conducted on all 13 sections of grade seven students of Kapayapaan Integrated School (KIS) year 2022-2023. The school is located at Kapayapaan Ville, a large size subdivision located at Barangay Canlubang, Calamba City. A public school with an average enrollment of 3,500 students yearly. The enrollees are from grade seven to grade twelve. KIS is the second largest school in the Division of Calamba City, with multiple four-story buildings, including a library, laboratories, and a covered court. Calamba is one of the most urbanized cities in the Province of Laguna.

Participants

The participants of this study were the science department head, the 3 science teachers in grade seven, and the 573 grade seven students, composed of 13 sections of Kapayapaan Integrated School, Division of Calamba City. The program was implemented from the second to fourth quarters of the school year 2022-2023.

Instrumentation

The study used two instruments: Pre-test and post-test questionnaires and the teachers' daily lesson logs. The test paper is based on the K to 12 curriculum, with the Most Essential Learning Competencies (MELC). They were constructed from the collaboration of the three teachers in science grade seven and then were validated by the master teacher of the science department. The department head approved the test papers and noted by the principal. The test was administered two weeks after the opening of classes. The objective of the pre-test was to determine the present stock knowledge of grade seven about the different concepts in science. These questionnaires were also used in the post-test at the end of the school year.

The second instrument used in this study was the teachers' Daily Lesson Log (DLL), which followed the IDEA exemplar format. The lesson procedures were divided into four parts: Introduction, Development, Engagement, and Assimilation. During the Introduction, where motivation plays a role, the concept of word banking was incorporated. This technique was presented through various activities, such as online interactive games and puzzles, depending on the stage of the SPURN strategy being applied. The first activity involved spelling exercises, designed to assess students' familiarity with words, especially technical terms in

science. Following this, students participated in a pronunciation activity to ensure the correct usage of the words and then practiced using these spelled words in sentences. On the fourth day, students read passages or articles to evaluate their deeper understanding of the vocabulary. Finally, word withdrawal activities were introduced, where students completed exercises to apply the words they had learned in previous sessions. Importantly, the DLL was not distributed directly to the students but administered by the teachers, with daily checks and monitoring conducted by the head of the science department.

Research Ethics Protocol

Every seventh-grade student was informed that they would undergo the program called Project WINGS. Their parents were informed through a letter. The guidelines, purpose, and benefits were discussed during the Parents Teachers Assembly. It was voluntary participation even though it was stated on the teacher's DLL. Still, students who did not want to join the activity or game were not forced to do so. Students also will not be punished if they fail the tasks. This study also protects, observes, and values the data privacy rights of the students. All information obtained from the students has been protected by confidentiality and will not be exploited for any purposes other than this research. This study also observed integrity and honesty when reporting findings and results. This will also give credit and acknowledgment to the rightful owners and avoid plagiarism. Lastly, this study will remain committed to ethical principles, especially in the program's transparency of findings and results.

Data Collection

In this study, there was a different set of data. First: the data of the students. These data contain the students' personal information, including their name, gender, age, birthday, address, and economic status. This information can add to a deeper understanding of the student's behavior, which can also help the teacher in this program. Then, second was the score and statistical computation of the school diagnostic test. This was designed to determine the weaknesses and strengths of the grade seven students in science subjects. This test will also tell what gaps need to be filled throughout the school year. After the program is implemented, the post-test will also be administered, and then the result will be analyzed to see if the application of Project WINGS was effective or not.

Statistical Treatment

This part shows the techniques used to analyze and interpret the data. Since this will include comparative analysis, the T-test technique was used. The

researchers used paired t-tests to compare the pre-test and post-test.

RESULTS AND DISCUSSION

Following the mandate of DepEd Order no 55 s 2016, in the interpretation of test data, test scores shall be reported as percentage scores. The proficiency level for each cluster of early language, literacy, and numeracy skills is at least 75%. This is the same interpretation used in the National Achievement Test (NAT) result. According to the Bureau of Educational Assessment, there are five different levels of proficiency in Mean Percentage Score, namely: highly proficient (100-90), Proficient (89-75), Nearly Proficient (74-50), Low Proficient (49-25) and not proficient (24-0).

Pre-test and Post-test Results

As the school year started, the students were given diagnostic tests. It is the way to measure the student's ability and proficiency in science. The administrators of the examination were the three grade seven teachers. This test allowed the teacher to identify which MELCs were mastered by the students and which were not. This also serves as the base on which interventions can be planned. At the end of the school year, the post-test was given to the students to measure the improvement in terms of academic achievement, and the results were in the table below.

Table 1
Result of Pre-Test of Grade 7 Students of Kapayapaan Integrated School.

No.	SECTION	NO. OF ITEM	MEAN	MPS	SD	HP	AP	LP	Total No. of Learners
1	MAGITING	50	17.31	34.62	6.81	0	8	36	44
2	MAKATAO	50	16.98	33.96	5.74	0	7	37	44
3	MATATAG	50	18.34	36.68	4.9	0	11	34	45
4	MAGALANG	50	18.93	37.86	5.78	0	9	35	44
5	MASUNURIN	50	17.77	35.54	4.96	0	6	38	44
6	MASAYAHIN	50	16.86	33.72	6.75	0	13	31	44
7	MATIYAGA	50	16.74	33.48	5.78	0	6	38	44
8	MAAASAHAN	50	20.06	40.12	6.98	0	23	21	44
9	MATAPAT	50	17.167	34.33	4.98	0	11	31	42
10	MASIKAP	50	17.12	34.24	6.69	0	6	38	44

11	MARANGAL	50	17.83	35.66	5.85	0	8	36	44
12	MASIGLA	50	17.37	34.74	5.85	0	9	36	45
13	MASIGASIG	50	16.65	28.68	4.92	0	12	33	45
	Average/Total	50	17.625	34.89	5.85	0	129	444	573

Table 2

Result of Post-Test of Grade 7 Students of Kapayapaan Integrated School (SY 2022-2023)

No.	SECTION	NO. OF ITEM	MEAN	MPS	SD	HP	AP	LP	Total No. of Learners
1	MAGITING	50	35.61	71.72	8.01	20	22	2	44
2	MAKATAO	50	34.84	69.68	6.63	19	23	2	44
3	MATATAG	50	35.23	70.46	7.98	17	26	1	44
4	MAGALANG	50	36	72	7.63	18	24	2	44
5	MASUNURIN	50	35.77	71.54	8.69	21	19	2	42
6	MASAYAHIN	50	38.21	76.42	7.75	28	13	1	42
7	MATIYAGA	50	34.6	68.72	8.26	16	26	1	43
8	MAAASAHAN	50	42.46	84.94	7.79	38	6	0	44
9	MATAPAT	50	35.52	71.04	8.78	19	21	2	42
10	MASIKAP	50	35.25	70.5	7.11	16	26	2	44
11	MARANGAL	50	36.67	73.34	7.62	18	24	2	44
12	MASIGLA	50	35.73	71.46	7.93	16	27	2	45
13	MASIGASIG	50	34.45	68.9	7.46	15	28	2	45
	Average/Total	50	36.18	72.36	7.82	261	285	21	573

Table 3

Summary of the Result of Pre-Test and Post-Test For the School Year 2022-2023

	Pre-Test	Post-Test
Mean	17.6256	36.18
MPS	35.2511	72.36
SD	5.85	7.82

HP	0	261
AP	129	285
LP	444	21
TOTAL # of Enrollment	573	567
No. of items	50	50
HS	22	47
LS	4	16

The computed intermediate values of the given data above are t=3.79 df=1,138, and the standard error of the difference is 4.9. The two-tailed p-value is 1.962, with 95% confidence. In this initial result, it shows that this is very significant.

Assessing the result, based on the table above, the level of proficiency of grade seven at Kapayapaan Integrated School on their pre-test was at a low proficient level (35.25), then on their post-test, it was at a near proficient level (72.35). The population of 573 who had taken the pre-test got a mean of 17. 63 and the (MPS) of 35.25%, resulting in -39.75 points. The standard deviation for the pre-test was 5.85, and there was no high-performing student. There were 129 average-performing students (22.51%) and 444 (77.49%) low performing. Upon applying the Project WINGS program and the post-test given to the students of 567, the results were: MEAN of 36.18 and an MPS of 72.35%, ending to -2.65. The standard deviation was 7.82. 261 students belong to the high-performing category, 285 are average-performing, and only 21 are low-performing students.

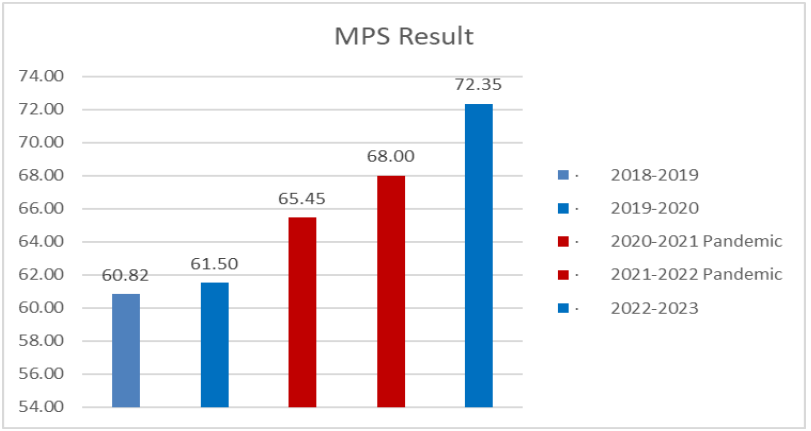
The above results have shown that, in implementing the program, there is a significant difference between the pre and post-test results. According to the figures, the level of students' proficiency has improved since the program was implemented. It showed that improvement had reached 51.35% in the MPS level. From 35.25 % MPS to 72.35% MPS. For the student's level of performance: high performing, from 0 to 261, reaching 46.03% of the population. The average-performing students from 129 (22.51%) became 285 (50.26%), and the low-performing students from 444, 77.49% of the population, decreased to 21 students, just 3.7% of the population. There was a difference in the number of students who took the pre-test and the post-test. It is due to the reason of transferred out students, from 573 to 567 population.

To gain deeper insights and understanding of the impact of Project WINGS, the researchers collected a few students' testimonies to highlight personal experiences and perspectives. They were categorized into two: learning

and improving understanding. (1) “What word banking has helped me with is the development of my understanding and comprehension of various words, especially their meanings, which I use in my new grade level. I believe it should be continued to also help other students.”-Russel Martinez. (2) “We had extra learning, especially in spelling, and were introduced to new words. This made the presence of word banking in school very beneficial.”- Ceska Ang. (3) “What word banking has helped me with is that I learned easily because it allowed me to quickly and easily understand the lessons being taught. Not only did it make it easier for me to understand the lessons, but it also helped others as well. As a result, my grades improved even more.” Chelsea Jane Panis. 4) “Word banking helps me expand my vocabulary, avoid misunderstandings, and gain confidence in writing correctly- Dave Ellijah Bangulan . For improved engagement: (5) “Word banking has helped me advance in spelling, and I enjoy doing it in class, especially when it is done through a game- Missy Pauleen Cantre. These testimonies showed that word banking helped the students understand science lessons, and it also promoted a happy and engaging learning environment. The most helpful activities they carried out were to spell and use those spelled words in a sentence, and Chi (2023) cited that the results of PISA 2022 are one of the first international assessments to capture the impact of the COVID-19 pandemic on most education systems in the world, with OECD noting that there was a drastic decline in student performance across nations unprecedented in its history. That is precisely the situation of every school in the Philippines. Locally, as also shown in the table above, the level of grade seven after they came back from the pandemic in Kapayapaan Integrated School fell to low proficiency (35.25 MPS).

The 72.35 MPS is the highest MPS the school has achieved in the past five years. The following are the data from Figure 2 showing the last five years, highlighting the two years of modular and online learning.

Figure 2
MPS Result



Project WINGS' use of the SPURN strategy has significantly helped students during the post-pandemic period. The results above show that the project was effective and beneficial for the students, the parents, teachers, and school administrators. These are the advantages of the study, as per the researcher's conception. For the school head/head teacher, (1) interventions often involve data collection and analysis, providing valuable insights for school improvement plans. (2) The community gives the school trust as it shows and demonstrates a commitment to addressing student needs, which enhances the school's reputation among parents and the community. For the parents, (1) this project has helped them as parents of a child with difficulties in reading and mathematics by providing activities that enhance their children's skills.

As in Caisip's (2023, pp. 816-822) assessment, parental involvement in reading comprehension plays a crucial role in supporting and enhancing a child's literacy development. It has also reduced their burden of having to create tasks for their child on their own. The study allowed the teachers to help each other and collaborate to create a better teaching-learning process. The result of this study can also serve as a resource for designing activities in a better teaching plan. For the students, (1) the study widened/broadened the vocabulary of the learners. (2) It enhanced the reading capacity of the frustrated learners. (3) It motivated learners to read and understand basic instructions. (4) It facilitated learning through interactive activities. (5) Leverage the problem-solving skills of the numerates—an opportunity for them to learn joyfully and further develop

their skills. According to Tolentin (2023), as expressed by the participants, they were exposed to games as a medium to learn new words; hence, whether online or offline, Project WINGS made the lesson more exciting and challenging for the students.

Looking at the other side of the study, while the implementation of this intervention by teachers offers several advantages, some notable challenges and drawbacks must be considered. These cons impacted various stakeholders like the school head/head teacher. Many schools may face constraints in terms of funding, materials, and staff training, which can hinder the effective implementation of interventions. With adequate resources, even well-designed programs may achieve their intended outcomes. For this intervention, the school head needs to upgrade the equipment and facilities of the school, such as TVs with big screens, for better implementation. The internet connection must also be upgraded to accommodate the online games. Monitoring the teachers while implementing the program will be an additional task. For this intervention, parents were forced to adjust to what their child was asking them, e.g., buying new gadgets because the school is implementing this intervention that needs updated gadgets, including cell phones and tablets. Buying loads of these gadgets also puts a burden on the parents.

This program adds to the teachers' workloads and helps them prepare for additional activities. It is also time-consuming and demands energy while teaching. Additional monetary resources are needed for internet connection if the school's internet is not available. If the class size is very large, it is difficult to implement the program and harder to pacify after the lively introduction, leading to burnout or decreased job satisfaction. The pressure to support diverse student needs while managing regular curricula can be overwhelming. Technical know-how is also a factor for the teacher in implementing this program. Technological mastery, readiness, preparedness, and expertise are all essential when dealing with technology-centered learning (Mustapha, 2021). Lastly, for the students, the challenge of inadequate learning resources is pressure on them not to have a gadget or an internet connection while having the activity during the intervention (Matolo, 2022). This program is a burden for students since they must think critically. Some students may resist intervention efforts, especially if they perceive them as remedial or stigmatizing. This resistance can reduce engagement and hinder the effectiveness of the programs.

CONCLUSIONS

Project WINGS was launched to assist students with learning gaps of science. This research study implied that word banking using the SPURN strategy could help improve the proficiency level of science students. It did not reach the expected 75% proficiency level, but it upgraded the proficiency level to 51.35% compared to the previous year's result. This research also has strengths and weaknesses, as mentioned earlier in the discussion of the results. It shows there is still room for improvement, mainly if applied to other students or another grade level. The following are the recommendations forwarded after the results and findings. (1) Support parental involvement: This may be possible through assisting parents' queries and offering help when the students are at home. Conduct and discuss the advantages of the program during the Parent-Teacher Conference. (2) Training for educators: allow teachers to grow professionally and provide ongoing training and professional development for teachers in utilizing the SPURN strategy effectively, ensuring they are equipped to support diverse learning needs. (3.) Continuous monitoring and assessment: monitor students' progress even if they are at a higher level. Provide further intervention in the area they need the most and extend help. (4) Expand Project WINGS: Consider implementing Project WINGS across other grade levels and subjects to address learning gaps more comprehensively. Using the SPURN strategy, add more activities to it, such as (4a) peer tutoring, where the high-performing student can help the not-so-high-performing students. (4b) Mystery box: This will provide more excitement to students and can lead them to new topics while still reading or writing. (5) Feedback and Evaluation: This could help understand and improve the project. Whether it comes from the school head, colleagues, parents, or, most significantly, the students, understanding these limitations is essential for developing a balanced approach to educational improvements.

TRANSLATIONAL RESEARCH

The findings of this study, which is word-banking using the SPURN strategy, can serve as a standard for developing an intervention concept or program that will assist students with learning gaps. This can also be strengthened by the school's stakeholders, along with input from teachers and other educational officials, by formulating policies and guidelines for administering Project WINGS comprehensively. It can aid by benchmarking with other schools. Additionally, the SPURN strategy will provide evidence-based foundations that demonstrate the potential benefits for every type of learner.

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The data supporting the findings of this study are available upon request to ensure transparency and facilitate independent verification of the results. AI was utilized ethically solely to enhance readability, with due diligence and mindfulness applied to ensure that it did not contribute to the analysis or interpretation of the content.

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