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Evaluating The Effectiveness of Project – Based Learning (PjBL) On Diverse Students' Outcomes for Sustainable and Capacity Building Guide

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Abstract- ***This study evaluated the effectiveness of Project-Based Learning (PjBL) on diverse student outcomes, with the goal of establishing a Sustainable and Capacity Building Guide for implementation. The participants of this study were 68 respondents composed of 14 teachers in Junior and Senior High and 54 students coming from Junior and Senior High. Showed on the profile of the respondents the teachers handled general education subjects on STEM strand. Furthermore, it also revealed that parents of the students are mostly engaged in labor-based occupations. A descriptive survey method and partly a documentary analysis taken from survey questionnaires were utilized to obtain sufficiently. The statistical treatment used were simple percentage, and weighted mean using a 4 – Likert scale questionnaire in assessing the key areas: adaption, collaboration, knowledge management, career readiness, monitoring and institutional support in terms of budget and benchmarking. Results revealed that the overall extent of PjBL implementation is interpreted as "Agree, signifying that the approached is somewhat generally functional, accepted and effective in teaching and learning process. However, there are some areas that still need to be addressed such as collaboration and monitoring which obtained a lower rating that requires strengthening. Based on the findings, it is concluded that PjBL is very relevant and effective strategy that develops critical thinking, social competence and career readiness among learners. The results of this study serve as a valid basis for crafting a Sustainable Capacity Building Guide to ensure a continuous improvement and better educational outcomes for diverse learners.***

Keywords: MAED major in administration and supervision, advocating the effectiveness of project-based learning (PjBL) on diverse students' outcomes for a sustainable and capacity-building guide, partly documentary and descriptive survey method, CTU, main campus, Cebu City. Philippines 6000.

I. INTRODUCTION

RATIONALE OF THE STUDY

Project – Based Learning (PjBL) has emerged as a learner-centered pedagogical approach that shifts focus from passive knowledge transmission to active engagement with real-world problems. Originating in medical education at Mcmaster University in 1960's. PjBL has since then adopted across diverse academic disciplines and professional training programs globally including the Philippines educational institutions. Unlike other traditional lecture-based methods the PjBL structures learning around ill-defined, authentic problems that require learners to draw on multiple knowledge domains, work collaboratively and develop practical solutions. Its core design aims to foster not just content mastery, but also essential 21st century competencies that aligns with evolving workplace demands and need for adaptive, critical thinkers in complex society.

In the context of Philippine education, the Project - Based Learning (PjBL) was not governed by a single, specific law dedicated solely to PjBL. Actual implementation is supported and encouraged in broader educational policies and laws. Primarily, the Enhance Basic Education Act of 2013 (Republic Act no. 10533), also known as the K – 12 law, and other implementing guidelines from the Department of Education (DepED) in collaboration with Technical Education and Skills Development Authority (TESDA). This landmark legislation introduces the K – 12 curriculum, which signify reform in the Philippine education system. The Eastern Visayas region where Leyte is located has been acknowledged as the key educational hub on the

implementation of PjBL program. It has been identified as the strategic initiative to enhance the quality of instruction and prepare learners for local and global career opportunities. Ross Cooper and Erin Murphy, 2024: on hacking project – based learning (updated: 2024) said that educational stakeholders of the region have recognized that traditional teaching methods often struggle to address the diverse learning needs of the students and may not sufficiently build the collaborative and problem – solving skills required in sectors such as; tourism, agriculture, healthcare, and information technology – field that drive the entire Visayas Region to its economic growth. The ongoing operational PjBL program is under evaluation of this study that will bridge the gap with a tailored design that integrates regional industry requirements and cultural contexts to ensure relevance and applicability learning outcomes. C.G. Pupik Dean, Z. Herrmann, and P. Grossman, 2021, authors of core practices of project based- learning, which recently published on January 10, 2025, which focuses on instructional strategies for implementing PjBL. Various authors like; R. Sanchez-Garcia, S. Reyes, 2025, studied on Enhancing Project – Based Learning: A Framework for Optimizing Structural Design and Implementation – A Systematic Review with a Sustainable Focus.

According to Ava Claire Marie O. Robles and Jio Haria Nicart (2025), "Project – Based Learning: A Sustainable Advocacy For Environmental Education Conservation", the effectiveness and implementation within the unique context of the Philippine educational system. Any educational intervention, however, depends not only on its design but also on how learners perceive its capacity to support their development. Perception plays a critical role in determining engagement levels, motivation and extent to which learners actively utilize the opportunities provided by the program. While, PjBL's theoretical benefits are well documented, actual implementations that can face challenges such as: inadequate resource allocation, limited teachers' trainings or a mismatch knowledge with that of learners' needs, no experience has been recorded prior to implementation that may shape how respondents view the program's ability to foster critical thinking, collaboration, creativity, accommodate diverse learning styles and build career readiness. These authors represent a significant and growing body of Filipino – on research Project – Based Learning of various disciplines that covers different educational levels.

This study evaluates the effectiveness of Project – Based Learning (PjBL) on students learning outcomes, addresses critical needs in higher education program for Junior and Senior High school students. Graduates are increasingly expected to demonstrate hands – on problem solving, cross-functional collaboration and adaptability in professional settings. However, lecture – dominated curricula do not sufficiently prepare them for these demands. PjBL, through industry relevant projects (e.g. designing a program or project and designing a product prototype or developing a business plan) is hypothesized to enhance both technical proficiency and professional skills.

While the PjBL is gaining transactions in some institutions, there is still a lack of rigorous validation in our program context. Faculty and administrators need empirical evidence on whether PjBL improves learning outcomes such as course grades, project portfolio quality and employability indicator. Additionally, there is uncertainty about how PjBL impacts different learner cohorts (e.g. traditional vs working students). Validating PjBL's effectiveness will support curriculum revisions, justify investment in project resources and industry partnerships, and align programs with the global standards for quality education. It also seeks to identify best practices for implementing PjBL to maximize benefits for students' academic and career success. Moreover, as educational systems in the Philippines continue to adapt K – 12 curriculum reforms and increasing emphasis on competency-based education, assessing PjBL implementation becomes even more critical. The Commission on Higher Education (CHED) and the Department of Education (DepED) have emphasized the need for pedagogical approaches that develop holistic skills and recognizing that learners must be equipped not only with subject matter knowledge but also with the ability to apply in a dynamic environment.

Theoretical Background

This study is grounded on several interconnected theoretical and legal basis that provide a wide context for analyzing a dynamic educational program and developing project – based theories and practices. The legal basis for project base learning and its foundational theories comes from national education laws and

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policies, as well as international frameworks that guide educational practices.

Project – Based Learning (PjBL) is a project-oriented teaching and learning methods. Larmer Mergendoller, and Boss (2025) from Buck Institute for Education, Novato, California, USA, emphasizes that true PjBL is not just a "hands on" activity, it includes also an authentic challenge, sustained inquiry, students voice, choice and public product. However, some theories like Ramon Tirado – Morueta, et al (2022), from University of Huelva, Spain, noted that implementation varies widely across contexts, with many educators labelling short-term assignments as PJBL, diluting its impact. In the Philippine context, Dr Claudia Labarca, 2024, from Pontifical Catholic University, Chile, argues that clear standards are critical to ensuing PjBL in aligning with national curriculum goals, particularly as the country shifts towards competency-based education. Critics argue that extended projects may prioritize process over foundational concepts to gaps in basic knowledge. However, Jorge Valenzuela (2025), an adjunct Professor at Old Dominion University in Virginia, USA, presents evidence that a well-designed PjBL integrates both – for example: using a project on renewable energy to teach physics principle and problem-solving skills. Dr Cabanding, (2024) a Filipino teaching business and economics in Regent University, Virginia and former professor in Monash University, Australia found that business students who completed PjBL projects scored 15% higher on content assessment than those in traditional courses, as they applied concepts to real world scenarios rather than memorizing them. Sylvia Chard and Lilian Katz ,2024), University of Alberta, Canada, co-authored a book "Engaging Children's' Minds: the project approach. Noted that in LOW resource settings, educators must adapt projects to use available materials – a point echoed on their study on Philippine research.

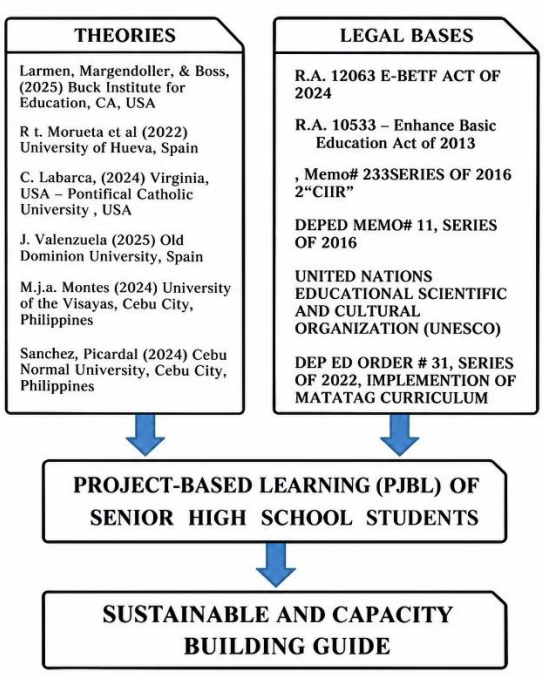

Figure 1. Theoretical/Conceptual Framework

Dr Mary Jane a. Montes, (2024) from University of the Visayas, Cebu City, shares how TVET electronics program students in Cebu used a recycled materials to build a solar powered device, proving that PjBL can be implemented without expensive resources. However, Dr Olvido, 2023 highlights challenges in rural areas, where limited internet access can hinder research collaboration components of projects. Dr Michelle Mae Olvido, 2023, Cebu Normal University in Cebu City, explored how PjBL helps pre-service teachers designed lessons that accommodate diverse learning styles, with 82% of respondents reporting improved ability to create learner-centered materials.

Moreover, Dr Joje Mar Sanchez and Marchee Picardal, 2024 from Cebu Normal University, contributed to project-based learning through related educational research and practice, even if his published work focuses more broadly on innovative teaching strategies in science education, focusing on climate change. Their study involved students on designing community resilience plans, which required hands-on investigation, collaboration and creating tangible outputs for example: risk maps and awareness materials to address local challenges in central Visayas and a concept of game scenarios like Pokemon that analyze motion patterns aligning with PjBL's emphasis on real world application and student engagement. R.A. 10533, Enhance Basic

Education Act of 2013, explicitly mandates the curriculum use pedagogical approaches including constructivism, inquiry based, collaborative, and integrative methods – all core to PjBL principles.

Department of Education (DEPED) Memorandum no. 11, series of 2015 and Memorandum no. 233, series of 2016, these implement the '2ciir'' (constructivism, collaborative, integrative, inquiry-based and reflective) approaches required by R.A. 10533 providing guidelines for integrating project-like activities into teaching.

Commission on Higher Education (CHED) policies emphasizes competency-based education and real-world application in its guidelines for higher education curricula, aligning with PjBL's focus on skills development and industry relevance. UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO) promote learner centered approaches like PjBL through policy recommendations concerning the protection and promotion of the diversity of cultural expressions and reports which advocated for active learning to foster creativity and critical thinking. Indonesia same in Philippines they also encourage and recommended PjBL contextual, collaborative work. DepED Order no. 31, series of 2022 – implementation of MATATAG Curriculum. This updated basic education framework prioritizes "authentic learning experiences", and project-based activities to develop critical thinking, creativity and collaboration key 21st century skills.

R.A. 12063 (Enterprise – Based Education and Training Framework Act of 2024, signed in November 2024, this law mandates the higher education institutions to integrate industry-relevant projects into curricula, requiring students to work on authentic challenges from partner enterprises – directly aligning with PjBL principles.

II. THE PROBLEM

Statement of the Problem

This research aims to evaluate the effectiveness of Project – Based Learning (PjBL) of Junior and Senior High School students among the select schools in Leyte Division for SY 2025 - 2026 for Sustainable and Capacity Building Guide.

Specifically, it answers the following problems:

1. What is the demographic information of the respondents in terms of:
1.1 Teachers
1.1.1 Age,
1.1.2 Gender,
1.1.3 Highest educational attainment,
1.1.4 Years of teaching experience,
1.1.5 Training and seminar attended;
1.1.6 Current Position?
1.2 Students:
1.1.1. Age,
1.1.2. Gender,
1.1.3 Grade level,
1.1.4 Strand/track,
1.1.5 Parent's occupation?

2. What is the level of implementation of the PjBL as to the five operationalized project-initiated capacity presented such as;
2.1 adaptation,
2.2 collaboration,
2.3 knowledge management,
2.4 career readiness,
2.5 monitoring?

3. What is the extent of implementation of the present PjBL capacity as to the following needs:
3.1 support to teachers;
3.1.1 budget support,
3.1.2 benchmarking;
3.2 curriculum design,
3.3 technology?

4. Based on the findings, what sustainable and capacity building guide can be advocated?

Significance of the Study

This study is vital as it explores the awareness, perception, opportunities and challenges related to the select schools of Villaba North District, Leyte Division for School Year 2025 – 2026. This study gives more clear importance on students' academic achievement combining with effect value on project development and exposure to better understanding and improvement on analysis skills.

Department of Education, (DepED) in ensuring change in overall directions and guidance in the knowledge management, organization and its implementation to warrant the right to students to receive an appropriate diversified instructions outside and inside the classroom environment.

Local Government of Leyte Division – it provides necessary financial support for schools to acquire necessary tools (e.g. Technology, laboratory equipment and materials to support project activities like partnership and fieldwork or industry partnerships that provides also in formulation of the responsive student project policies and development plans geared towards sustainable projects, leading to a more gains on project based programs.

Schools and other Institutions – by involving students in the real-world projects relevant to their lives, PjBL makes learning more meaningful and interesting, thus, increasing students' motivation and engagement in their studies.

Teachers – PjBL provides teachers and professors with anew teaching methods that breaks away from traditional lecture – based instructions and encourages student-centered learning. It also requires teachers to improve their own skills in project design, guidance and assessment.

Community advocates – this serves as a basis for community engagement strategies and educational campaigns for practical and technical employment on PjBL approach.

Policy makers – PjBL is widely used internationally and promoting its implementation in the Philippines it can help students better adapt to the globalized world and improve the country's international competitiveness in education. Thus, PjBL must embed into national curriculum standards (e.g. K to 12 basic education program) to make it a formal component of teaching and learning across subjects and grade levels.

Researchers – this study contributes to the academic discourse on PjBL in the Philippines by filling the gaps in research on how PjBL adapts to the Philippine educational context, including cultural, linguistics and socioeconomic factors unique to the country. Generate empirical data that can inform more targeted and effective implementation strategies tailored to local schools and student populations.

Future researchers – provide opportunities to other researchers to benchmark and improve its findings in the national and international journals, in enhancing their studies and contributing to global discourse on innovative pedagogy.

III. RESEARCH METHODOLOGY

Design

The researchers utilized partly the documentary analysis taken from the survey questionnaires that involved common and descriptive survey method to achieve the overall objectives in conducting this study. This also involves common techniques and procedures, followed by a few minutes of personal interviewing of the respondents to obtain a real interpretation of the sufficient data. The tool used in research is a fact finding with adequate interpretation, they were interview guide, interrogation and instrumentation using 5 w's and 1 h: what, who, where, when, why and how. It included the methods, environment, respondents, instrument, procedures and statistical analysis of data.

Also used survey questionnaires administered by purposive sampling to gather data on the level of competency and challenges encountered in the conduct of survey questionnaires in the select schools of Villaba North District in Leyte Division. And how these questionnaires conducted would greatly affect the result of the process presented in figure 2, flow of the study on the next page.

Flow of the Study

This study utilizes the Input – Process – Output approach. The input included the profiles of the respondents such as demographic information, as to age, gender, grade level, strand/ track, parents' occupation, highest educational attainment, years in teaching experience, trainings and seminar attended. Also, the level of perception is as to four dimensions of operationalize PjBL capacity. And extent of implementation of the present PjBL capacity. Process - includes request approval from the District Head to conduct the study and administration of the questionnaires to the target respondents, data

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consolidation, presentation, analysis and interpretation using several statistical methods. The output of the study is the capacity building guide, and the process and output are consecutively presented on figure 2.

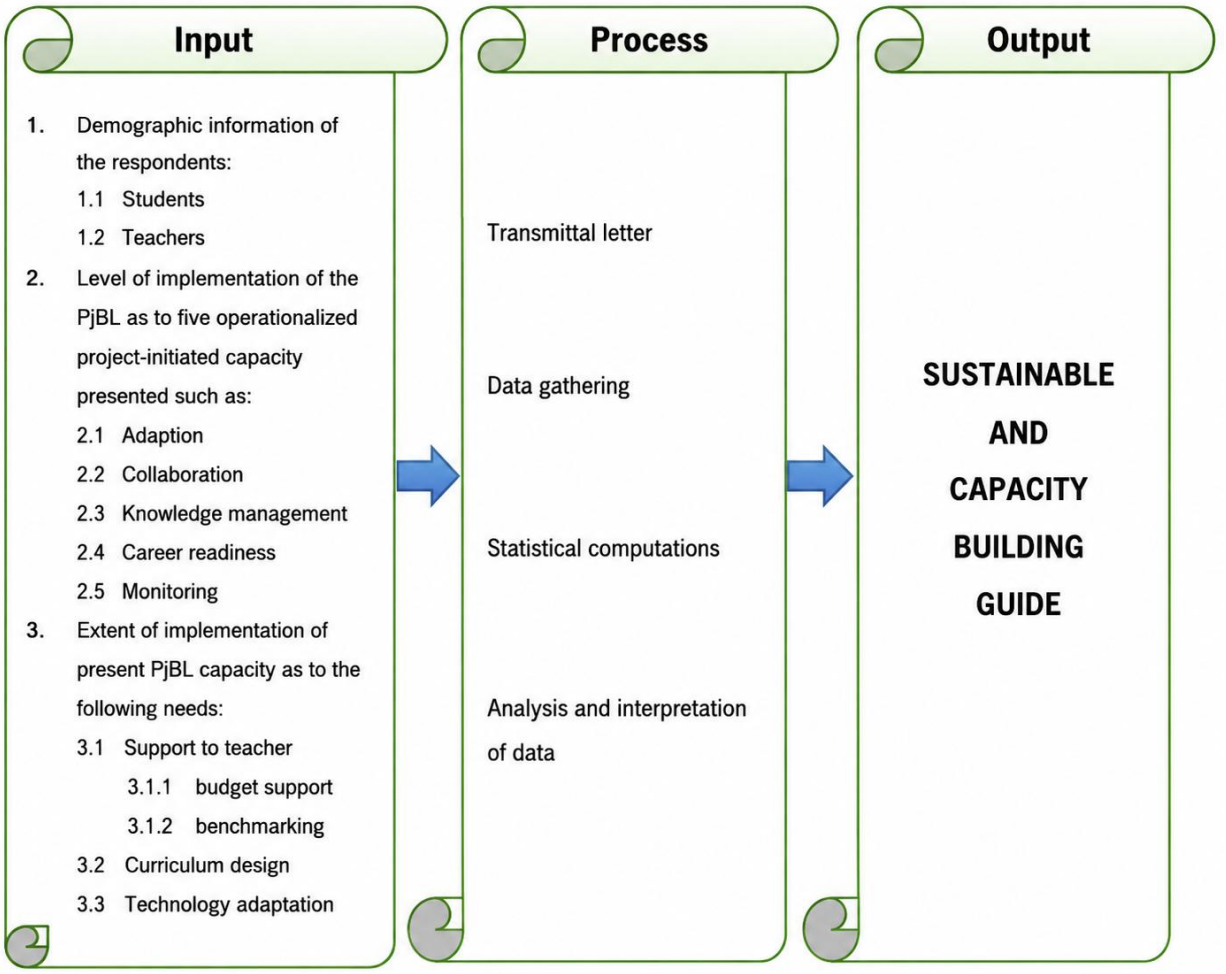

Figure 2: Flow of the Study

Environment

Geographically, Villaba, Leyte is a coastal municipality covering the areas of 150.31 sq. km., with elevation from 0 to 442 meters. It has 35 barangays and features Mt. Buga – Buga as a prominent land mark. Climate on this area is tropical rainforest with mean annual temperatures around 29.6 degrees centigrade or 88.2 Fahrenheit an average low of 23.7. Precipitation is distributed throughout the year, with slightly drier conditions on the month of February. However, public schools in Villaba, Leyte who are offering senior high school are on the following: Villaba National Comprehensive High School, public school under the DepED Villaba North District, which offers senior high school programs as part of its comprehensive offerings. Holy Child High School, Inc., a private school under the archdiocese of Palo's RCAP (Roman Catholic Archdiocese of Palo) school network, located on Gervacio street, which provides Senior High School Education. It refers to the network of catholic schools under the jurisdiction of the archdiocese of Palo, Leyte. Villaba National High School – LNCAST former Laboratory High School of Visayas State University Villaba, the school offers senior high school programs aligned with technical – vocational or academic tracks, building on their history as a former high school and agricultural college. Moreover, in Isabel, Leyte there are two public schools offering senior high schools and they are: Isabel National High School located at Alipasa, Mahayag Northern, Leyte. It provides various SHS strands including

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academic (STEM, ABM, HUMSS) and Technical Vocational Livelihood (TVL) tracks like Cookery, Caregiving, Computer System and Servicing (CSS) and Shielded Metal Arc Welding (SMAW).

The other school is Bilwang National High School. This school opened in 2018 to ease enrollment pressure at nearby Matlang National High School, it likely offers senior high school as part of DepEd's expansion of access to education. The distance between Villaba, Leyte with that of Isabel, Leyte is approximately 41.85 kilometers only, which translates to about 26 miles, by driving to these places takes only around 1 hour and 20 minutes at a high speed of 70 – 100 kms per hour. These travel times indicate that Villaba and Isabel are relatively accessible by driving private car is the fastest option. If taking public utility vehicles, it takes 3 to 4 hours due to secondary stop in every up and down of passengers.

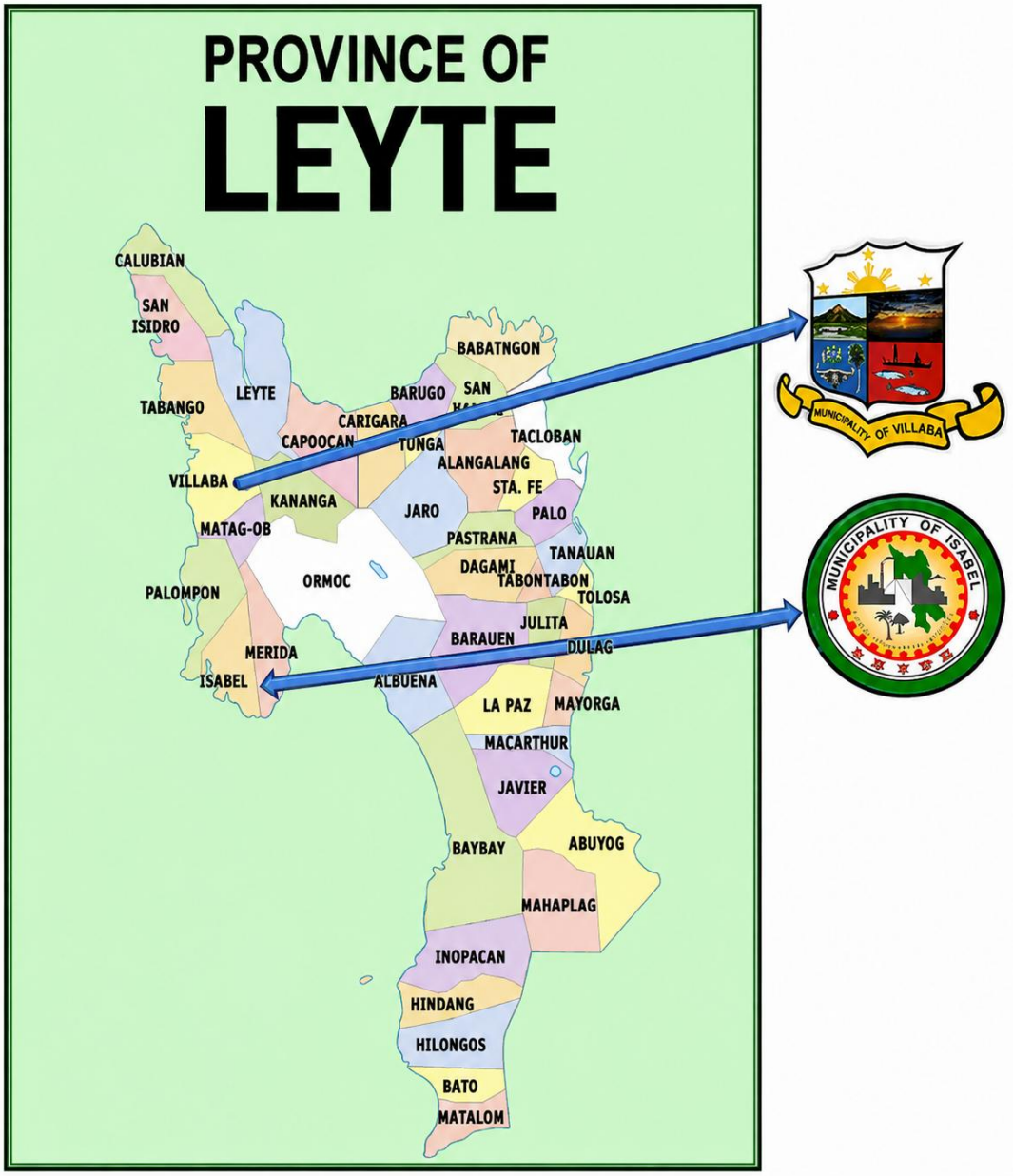

Figure 3 – Research Environment Map

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Respondents

Table 1 presents the distribution of respondents who participated in this study, with a total population of 68 individuals (n = 68). The respondents were composed of teachers and students. Within them teachers are accounted for at 20.6 % and students at 79.4%. This distribution reflects the study focus on the diverse perspective on the impact of Project – Based Learning (PjBL) of senior high students among the select schools in the Leyte Division, Region VIII.

Table 1
Distribution of Respondents
(n = 68)

Respondents	Teacher	Students	Total	%
Villaba National Comprehensive High School, Villaba, Leyte	5	25	30	44.1
Villaba National High School, LNCAST, Villaba, Leyte	5	15	20	29.4
Isabel National High School, Isabel, Leyte	4	14	18	26.5
Total	14	54	68	100

Research Instrument

The instruments used were modified and structured questionnaires to conform to the present research. There are three different parts included in this study:

Part 1 is all about the profile of the respondents;

Part 2 is on the level of respondent's perception as to its four dimensions of operationalize PjBL capacity presented;

Part 3 is on the extent of implementation of the present PjBL capacity to support teachers, in terms of budget and benchmarking next is to curriculum design, and the last one is to technology.

The respondents then will give their collaborative evaluation during the interview with that of the data after which it will be complied, tallied and tabulated. The data then will be subjected to statistical treatment to answer the questions of the study.

Data Gathering Procedures

Transmittal letters were prepared and addressed to the identified principal of the target schools, requesting permission to conduct the study. Questionnaires will be distributed and retrieved 3 to 4 days after the distribution augmented with 3 minutes interview to collaborate the facts and determine the extent of implementation of the present PjBL capacity. Answers were correlated with each other and the data gathered were dealt with utmost respect and honesty.

Treatment of Data

When all the pertinent data were treated with the aid of statistical software on the level allowing statistical tools as:

Percentage – provides a clearer, reliable and objective valid analysis and interpretation of the facts on the data gathered in this study.

Frequency Distribution – shows the number of instances or occurrence of the data gathered so that the information can be interpreted more easily.

Average Weighted Mean – use to determine the level of implementation of the present PjBL capacity as to: support for the teachers in terms of budget support and benchmarking, curriculum design and technology. The total weighted mean scores will be divided by the total numbers of respondents and the mean scores will be divided by the total number of items in the questionnaires.

Scoring Procedures

To measure the responses on Part 2 as to the level of perception of five (5) dimensions of operationalize PjBL capacity the 4-point Likert scale will be utilized.

	Point Scale	Description
4	3.26–4.00	Strongly Agree (SA)
3	3.25–2.51	Agree (A)
2	2.50–1.76	Slightly Disagree (SDA)
1	1.75–1.00	Disagree (DA)

Ethical Consideration

The participants of the study were teachers and students of selected schools in Leyte Division as shown in Table 1, respondents of the study. In conducting this study, the researchers strictly followed research ethics to ensure safety, respect and fairness to all participants. The following standards were observed:

1. Informed Consent – a formal letter of request was sent to school principal to ask permission to conduct the study. For 1.1. Teachers were fully informed about the purpose, objectives and benefits of the research. They decided freely whether to participate or not; 1.2. Students, since some are minors (under 18 years old), we secured parental consent verbally, but first the researchers also asked for the student's own assent (agreement) before answering the questionnaires. No one was forced or coerced to join the research.
2. Confidentiality and Anonymity (privacy protection) – the names of teachers, students and school will not be revealed in the final paper or any presentation. All data gathered will be kept private and will be used only for research purposes. Questionnaires and responses will be stored securely and will be destroyed after getting the data needed. Codes were used instead of real names. (ex. T-1 or S-1).
3. Voluntary Participation – participation is 100% voluntary. Teachers and students have the right to withdraw or stop answering at any time without any penalty or negative consequences.
4. Non-Maleficence & Beneficence – no harm, no stress, nor discomforts will be experienced by the respondents. The survey questionnaires do not contain sensitive, offensive or personal information. Results of the study will help improve teaching strategies and student learning and this benefit the research study.
5. Impartiality & Objectivity – this research has no favoritism. All answers are treated equally regardless of the teachers' grade level or students' performance. Data will be analyzed honestly and accurately – no changes or manipulation of results.
6. Right to Withdraw – respondents were informed that they can withdraw their data even after answering if they change their minds.

Definition of Terms

Adaptation – modifying core PjBL principles, structures or implementation strategies to better fit specific contexts needs or constraints while preserving its essential student-centered, inquiry driven nature. Thus, modifying, after all the project complexity, at pace, or support systems to accommodate diverse learners, including those with learning differences, varying skill levels or language barriers.

Capacity Building Guide – are structured resources designed to help individuals, teams, or organizations develop the knowledge, skills, competencies and systems needed to effectively implement specific practices, achieve goals or address challenges. They provide clear, actionable direction to build capabilities that support long-term success. To ensure clarity and common understanding, the following key terms are defined conceptually and/or operationally as utilized on this study:

Collaboration – often involves group work, where members share responsibilities, communicates ideas and build on each other's contributions. Further, this refers also purposeful, structured interactions among participants (students, teachers, community, partners, etc.) who work together towards a shared goal – completing the project and achieving learning outcomes by contributing diverse skills, knowledge and perspectives.

Impartiality – it means fair, neutral, and unbiased, treating everyone equally, regardless of their position, grades or status.

Knowledge Management (KM) – systematic process of identifying, creating, sharing, using, and managing an organizations or community's information and expertise to improve performance, foster innovation and achieve goals. It focuses on turning individual knowledge into collective assets that can be accessed and leverage by others.

Maleficence – the act of doing harm, injury, or damage to others. Or anything that can cause pain, stress,

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embarrassment, risks or negative effect to your respondents.

Monitoring – a systematic ongoing process of tracking progress, collecting data, and assessing whether activities are being implemented a spanned to meet set goals or objectives. It focuses on what is happening during implementation, enabling timely identification of gaps, challenges or deviations from the intended course.

Project – Based Learning (PjBL) – an instructional approach of learning where students engage in an extended, in – depth and investigative study of a real-world challenge or questions, working collaboratively to create a tangible products or solutions.

IV. PRESENTATION OF DATA, ANALYSIS, AND INTERPRETATION

This chapter presents the analysis and interpretations of data gathered from the questionnaires administered to the respondents. There were two sets of information presented on this part.

Relevant Information of the Respondents

This portion shows part 1 on the demographic information of teacher respondents as to: age, gender, highest educational attainment, years of training experience, training and seminar attended, current position. Subsequently, as to student – respondents in terms of age, gender, grade level, strand/track and parent's occupation. Discussed also here is the level of respondents' perception on the implementation of PjBL project-initiated capacity, also on the extent of implementation of the present PjBL capacity.

Table 2
Age and Gender

Age	Respondents		Total (f) (awm)	Percentage (%)
	Gender			
Teachers	Male	Female		
25 – 35	2	3	5	7.35
36 – 45	2	2	4	5.88
46 – 55	1	2	3	4.42
56 and above	1	1	2	2.94
Sub Total	6	8	14	20.59
Students				
14 – 19	20	15	35	51.47
20 – 25	8	11	19	27.94
Sub Total	28	26	54	79.41
Total	34	34	68	100%

Table 2, shows that the highest number of respondents belongs to age 14-19 years old from students' group with an average of 35 or 51.47 percent which came from the age bracket of 14.19 and has a lower average of 2 or 2.94 percent which came from the group of teachers – respondents aged 56 years and above.

Based on the above data, it is implied that most of the respondents who answered the survey questionnaires were coming from age 14 – 19 years old, which absolutely coming from the students who were willingly answered the survey questionnaires. This is also a balancing mixture of teachers and students among the selected schools of Leyte Division.

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Table 3
Highest Educational Attainment
(Teachers)

HEA	Frequency (f)	Percentage (%)
Doctorate Degree Graduate	2	14.29
Doctorate Units	2	14.29
Master's Degree Graduate	3	21.43
Master's Degree Units	3	21.43
Bachelor's Degree	4	28.56
Total	14	100 %

Table 3 showed that for the teacher-respondents, 4 or 28.56 percent have attained the minimum educational requirements and standard for their professional teaching service. This confirms that the instructors handling the students are duly qualified and possess the required academic preparation as mandated by the department of education (DepEd). Meanwhile 3 respondents or 21.43 percent hold master's degree and only 2 respondents or 14.29 percent have reach doctorate degree. These percentages are relatively low but significant. Teachers with post graduate studies possess advanced knowledge, specialized skills, and deeper understanding on educational theories which greatly contribute to quality instructions. According to Larmer & Mergendoller (2023), teachers with higher education background are better equipped in implementing modern approaches like project-based learning effectively.

The distribution shows that the study covers respondents from different educational levels. Furthermore, the educational profile of teachers reflects that while majority meets the standard requirement continuous professional development still needed to increase the number of teachers pursuing masters' and doctorate degrees for efficient service delivery to students.

Table 4
Years of Teaching Experience
(Teachers)

Years in Service	Teachers	Total	Percentage (%)
1 – 5	3	3	21.42
6 – 10	3	3	21.42
11 – 15	2	2	14.29
16 – 20	2	2	14.29
21 – 30	2	2	14.29
31 years and above	2	2	14.29
Total	14	14	100%

Table 4 presents the data of years in service or service records of the respondents. It shows here that those in service of 1-5 and 6-10 years in service got an equal rate of 3 each that signify the percentage mean of 21.42, respectively. It implies that many people from all walks of life started from a very young age or after graduation

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from college took already their jobs in any different companies or education departments. One reason perhaps is the opening of many teacher positions in DEPED to cater to the different school needs. Meaning high labor demand in education and they prefer more the young and newly graduates to sustain the urgent requirements in education.

Table 5
Relevant Trainings and Seminars Attended
(Teachers)

No. of days on Trainings and Seminar Attended	Participants	Frequency (f)	Percentage (%)
1 – 5	4	4	28.57
6 – 10	4	4	28.57
11 – 15	3	3	21.43
16 days and above	3	3	21.43
Total	14	14	100%

Table 5, the result shows that majority of the teachers attended a short to moderate length of training and seminars. Wherein the highest percentage was 28.57 percent belongs to 1 – 5 days and 6 – 10 days duration. This means most professional development activities participated in by teachers are short-term, usually focused on specific topics, updates, and or basic skills improvement.

These are easier to organize and will fit within the school calendar without disrupting regular classes. The lowest but equally presented has the same percentage of 21.43 percent for 11 – 15 days and 16 days onwards, shows that fewer teachers attended longer or more extensive training programs. These types usually cover deeper topics, advanced skills, or certification courses are harder to arrange due to time constraints and availability. It implies that short-term seminars and training courses are more accessible and manageable for teachers, which explains why this is the most common participation. It ensures continuous learning without heavy workload assignments. This exactly matches the findings that majority are short trainings because most respondents are teachers 1 – 111.

Table 6
Current Positions

Positions	Salary Grade	Frequency (f)	Percentage (%)
Department Head	SG 18 – 20	2	14.29
Class advisers	SG 13 – 17	4	28.57
Classroom Teachers	SG 11 – 13	8	57.14
Total		14	100%

Table 6 showed that based on the results, majority of the respondents are classroom teachers with a frequency of 8 teachers and has 8 respondents or 57.14 percent, which represents the largest group of respondents. This result is normal and expected in public schools, because the main workforce of the school is composed of teachers assigned purely for instruction. Classroom teachers usually attend short term to medium durations seminars focused on teaching strategies, lesson planning,

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classroom management and curriculum updates, which are enough for their daily teaching tasks.

Class advisers has 4 respondents that holds the 2nd highest percentage of 28.57 percent. Aside from teaching loads, they have additional duties such as monitoring student records guidance and reporting. Their training needs cover both instruction and student welfare. Their participation is balance both they attend seminars and medium length training to equip them for their added responsibilities.

Department Heads has only 2 respondents with an equivalent of 14.29 percent. They composed the smallest percentage which also typical because there were only few leadership positions in every school. They act as the supervisors and mentors of the teachers.

Table 7
Grade Level (Students)

Grade level	Frequency (f)	Percentage (%)
Senior High School		
Grade 12	14	25.93
Grade 11	12	22.22
Sub – Total	26	48.15 %
Junior High School		
Grade 10	9	16.67
Grade 9	7	12.96
Grade 8	7	12.96
Grade 7	5	9.26
Sub – Total	28	51.85 %
Total	54	100%

Table 7, reveals that majority of the respondents are senior high school students' level, specifically Grade 12 with 14 respondents or 25.93 percent, and Grade 11 with 12 students or 22.22 percent. Combined these two levels make up almost half of the respondents, and to add it is 48.15% of the total participants.

Meanwhile, Junior High School levels show a gradual increase from Grade 7 to Grade 10. With Grade 7 having the lowest frequency at 9.26 percent. While Grade 8 and Grade 9 have equal distribution at 12.96 percent each.

Significant Findings:
Dominance of senior high-school teachers. The higher number of teachers assigned in Grade 11 and 12 is reasonable because senior high school has specialized tracks and strands (Academic, TVL, Arts and Design, Sports) which requires more subject teachers compared to junior high. The distribution in Junior High or Grade 10 has the highest number among JHS levels at 16.67 percent, since this grade is the exit level before moving to SHS requiring more teachers for completion and transition programs. Grade 7 has the least number, which may indicate a fewer sections or enrollees in the entry level (when the questionnaires was disseminated) of secondary education in the district. There was also an equal distribution of Grade 8 and 9, both grade levels having the same percentage, implies a balanced class size and equal workload distribution among teachers in these levels.

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Table 8
Strand/ Track

Strand/ Track	Frequency (f)	Percentage (%)
Senior high school (Grade 11 and 12)		
1. Academic track:		
➢ STEM (Science Technology Engineering & Mathematics)	11	20.40
➢ ABM (Accountancy Business and Management)	3	5.55
➢ HUMSS (Humanities and Social Sciences)	2	3.70
➢ GAS (General Academic Strands)	2	3.70
2. Technical-Vocational – Livelihood (TVL)		
➢ Home Economics	1	1.85
➢ Industrial Arts	2	3.70
➢ Agri – Fishery Arts	0	0.00
➢ ICT (Information & Communication Technology)	2	3.70
Arts and Design Track	2	3.70
3. Sports Track	1	1.85
Sub – Total	26	
Junior High School (Grade 7 – 10) No Tracks / strands, yet		
Common subjects taken by them are: English, Filipino, Math, Science, Araling Panlipunan, MAPEH, ESP, TLE (Technology and Livelihood Education) in which it has 4 components Home Economics, Industrial Arts, Agri – Fishery Arts, ICT	28	51.85
Total	54	100%

Table 8 reveals that Junior High School obtained the highest percentage with 51.85 percent or 28 respondents. This is expected since JHS level covers general education curriculum and does not yet implement specific tracks or strands; teachers here handle core subjects common to all students. For Senior High School, Academic Track – STEM strand ranks highest with 11 student respondents at 20.40 percent. Making it the most offered and populated strand in the school. This shows that majority of SHS teachers were assigned in specialized subjects related to Science, Technology, Engineering and Mathematics. The other strands and tracks show almost equal and low distribution ranging from 1.85 percent to 5.55 percent. ABM got 5.55 percent or 5 respondents followed by HUMSS, GAS, Home Economics, ICT and Arts and Design with nearly the same percentage. Sports track has the least number of students WITH a percentage of 1.85. Agri – Fishery arts registered 0% indicating that this specialization is not offered or implemented in the school. Impacts: teachers assigned here are few, hence they are prioritizing to attend a longer and advanced trainings of 11 days onwards as the result says with a percentage of 21.43 percent to master their specialized skills and competencies. The distribution clearly matches the training profile of the teachers. This implies that the school training program is relevant and responsive to the actual assignments and needs of the teachers. The findings imply that the school's program offering is shaped by student enrollment preference and community demand.

Table 9
Parents' Occupation
(Students)

Occupation	Description	Frequency (f)	Percentage (%)
Farmer /agricultural worker	Planting crops, fruit trees, raising livestock	9	16.67
Fisherfolk/ fish worker	Fishing, fish farming, gathering seafoods	8	14.81
Laborer/construction worker	Daily wage worker, farm helper, building construction, road works	10	18.52
Small business/vendor	Selling goods in the market, sari – sari store, selling farm products	7	12.96
Driver/ transport worker	Tricycle driver, pedicab, jeepney or habal – habal driver	9	16.67
Government employee	Teachers, barangay official and employees, health worker	5	9.26
skilled worker	Carpenter, mason, plumber, electrician, weaver, etc.	6	11.11
Total		54	100 %

Table 9, showed the profile of parents' occupation among the students' population, reflecting the typical livelihood activities in the rural community. Construction worker/laborer ranks as the highest with 10 respondents or 18.52 percent followed by both farmer/ agricultural worker and driver transport worker as 9 respondents, respectively or 16.67 percent each. These three (3) groups combined make up more than half of (51.86%) of the total respondents, indicating that most families rely on manual labor, land base work and transportation services as their main source of income. Next groups include fisherfolk/fish worker with an 8 respondents equivalent to 14.81 percent, vendor with 7 respondents or 12.96 percent, and skilled workers with 6

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respondents or 11.11 percent. The smallest percentage is recorded for government employees, 5 respondents or 9.26 percent, showing that very few parents are working in formal government or public service positions.

This implied that dominance of labor-based livelihood showing on high percentage of parents working as construction workers, farmers, drivers and laborers. This indicates that the community's economy is mostly dependents on physical work and informal employment. This reflects the economic status of the families, where income is often daily or weekly based and may vary depending on work availability.

Level of implementation of PjBL as to five operationalized project-initiated capacity, as perceived by the respondents

Table 10
Adaptation

Adaptation	Respondents		AWM	DE
	Teacher	Student		
1. PjBL program help break down complex problems into manageable parts especially in adjusting to new situations	3.18	2.92	3.05	A
2. Everyone is willing to compromise individual ideas learned effectively from each other in PBL settings to achieve a common goal	3.03	2.46	2.74	A
3. PjBL program ensure fair distribution of work in groups and feels comfortable asking teammates for a help when needed	3.15	3.08	3.11	A
Total	3.12	2.82	2.97	A

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

Table 10 can be gleaned that both the teachers and students assessed the implementation of "ADAPTION" as "agree", with the overall means of 3.12 and 2.82 respectively and the overall total of 2.97 which resulted to Agree. This means that the PJBL approach is well-adapted and implemented in school and the stakeholders recognize its benefits in the teaching-learning process. Both the respondents agreed that PJBL is effective in simplifying difficult lessons and tasks. For teachers, they confirm (agree) that they see PJBL as a helpful strategy to make learning easier, especially when students encounter new topics or situations. Whereas, students also agreed, meaning they experience those big tasks become lighter and understandable when divided step by step.

On number two, "willingness to compromise ideas, teachers believed that students are open to sharing and adjusting ideas to the group, however, students rated "slightly disagree", implying that some still prefer their own ideas or find it difficult to accept suggestions from others. Implication, there is still in need to guide students more on teamwork, respecting opinion and conflict resolution skills during activities. On fair distribution of work and seeking help. This proves that grouping strategies are good, tasks are shared equally, and students build a supportive environment where they are not afraid to ask for help that can build confidence and cooperation inside the classroom.

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Table 11
Collaboration

Collaboration	Respondents		AWM	DE
	Teacher	Student		
1. Everyone is willing to compromise individual Ideas learned effectively from each other in PjBL settings to achieve a common goal	2.83	2.48	2.66	A
2. PjBL groups communicate clearly and actively to achieve shared goals and objectives to colleagues during team projects	2.39	2.28	2.33	SDA
3. PjBL program ensures fair distribution of work in groups and feel comfortable asking teammates for a help when needed	3.26	2.52	2.89	A
Total	2.83	2.43	2.63	A

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A) 1 – 1.75 – 1.00 = Disagree (DA)

Table 11 present the assessment of Collaboration as a key aspect in the implementation of Project Based Learning. The overall AWM is 2.63, interpreted as Agree. This indicates that collaborations are generally observed and practiced among members, although specific areas require further development and improvement. On question number 2, which is the wiliness to compromise ideas for common goals, this item obtained an AWM of 2.66 on teachers' side, whereas, on students side they rated it as AWM of 2.48 slightly disagree. The difference in the perception shows that teachers believe students are mostly open to adjusting their personal ideas and working together towards group goals.

However, students' lower rating reveals that some still find it difficult to set aside their own opinions or fully accept the ideas of others. Implications: this gap s suggests the need to provide more activities and guidance that develop respect for diverse viewpoints, negotiation skills and teamwork values among students. Interpretation points out that communication within the groups is not yet fully effective. It means that information is sometimes unclear, or members do not actively share updates, ask questions or participate in discussions during project work.

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Table 12
Knowledge Management

KNOWLEDGE MANAGEMENT	Respondents		AWM	DE
	Teachers	Students		
1. PjBL encourages thinking of new ways to solve problems and easy for the team to share expertise and insights all the time	3.47	3.36	3.43	SA
2. Knowledge management systems are user friendly and efficient and has enough space to explore unconventional ideas in PjBL program	3.32	3.18	3.25	A
3. PjBL helps connect knowledge from gained training in different areas to create an additional solution to task and for future use	2.86	2.69	2.76	A
TOTAL	3.22	3.077	3.15	A

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

Table 12 presents the assessment of knowledge management aspects of PjBL implementation. The overall average weighted mean obtained is 3.15, interpreted as Agree. This implies that the program is effective in managing, utilizing and transferring knowledge among learners, and supports the development of creative and critical thinking skills. Promotion on Creative Problem Solving and Sharing of ideas with AWM of 3.43 strongly agree, this indicator got the highest rating. Teachers rated 3.47 and Students 3.36 both interpreted as *Strongly Agree.* Interpretation: this result confirms that PjBL successfully creates an environment where students are motivated to think beyond usual methods. It encourages innovation, allowing them to discover new solutions and freely share their knowledge and insights with group members.

Significance: this is the core thinking skills which are essential for their academic and career advancement. on User friendly System and Space for Exploration (AWM = 3.25 Agree, Teachers recorded 3.32 (strongly agree) while students marked 3.18 (agree) Interpretation: Respondents agreed that the learning process and materials provided are efficient and easy to use. There is enough freedom given to students to explore unique and unconventional ideas rather than sticking only to standard answers. The slight difference shows that the teachers see the system as very effective, while the students find it good and functional.

Implications: the school provides adequate facilities and instructions, making knowledge acquisition accessible and interesting for the learners. Connection of knowledge and application (AWM=2.76, Agree) this got the lowest ratings among the items. Both the Teachers 2.86 percent and the students 2.69 are interpreted as Agree. Respondents agree that PJBL helps them link previous lessons, training and experiences into current projects. However, the rating is lower compared to others, meaning some students still find it challenging to relate past learnings to new situations or future applications. Implication: Teachers may need to provide more examples and guide students explicitly on how to transfer and apply knowledge from different subjects into practical outputs.

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Table 13
Career Readiness

Career readiness	Respondents		AWM	DE
	Teachers	Students		
1. PjBL helps students understand how to apply knowledge in real-world work settings	3.67	3.54	3.61	SA
2.PjBL builds skills of the employers look for (e.g. Problem solving and good communications)	2.66	2.64	2.65	A
3.The program gives the students and teachers in practicing managing program, projects and activities or the real tasks	2.88	2.68	2.78	A
Total	3.07	2.95	3.01	A

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

Table 13 presents the career readiness, one of the most essential goals of Senior High School Education. The overall result an AWM of 3.01, interpreted as agree. This signifies that PjBL effectively prepares students for their future careers, work environments, or higher education, though some areas can still be enhanced further. Application of Knowledge in Real World Settings (AWM=3.61, Strongly Agree). This indicator obtained the highest rating by both teachers AWM 3.67 and students AWM 3.54. Interpretation: this is the strongest point of the program. Both groups strongly agree that PjBL successfully bridges the gap between theories learned inside the classroom and actual practices used in workplaces. Learners clearly understand how their lessons are used to solve real-life problems.

Significance: This directly supports the K12 curriculum goal – to produce graduates who are competent and ready to face real-world challenges. Development of Employment skills (AWM 2.65, Agree) Interpretation: respondents agree that the program helps develop necessary skills like critical thinking, decision making and communication qualities highly valued by employers. However, compared to the first indicator, the rating is lower. This implies that while these skills are taught, students may still need more exposure or practice to fully master them.

Implication, teachers should integrate more industry-based activities and simulations to strengthen these skills further. Overall, on career readiness, respondents Agree that PJBL is effective in preparing learners. It excels I helping students apply knowledge to real work situations. Meanwhile, skills development and task management are observed but need more practice and exposure to fully meet the industry standards.

The program successfully aligns learning outcomes with the requirements of future employment or higher education.

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Table 14
Monitoring

MONITORING	Respondents		AWM	DE
	Teachers	Students		
1.Monitoring in PjBL program can provide timely and relevant data in identifying problems at early stage?	2.33	2.25	2.29	SDA
2. The data collected through monitoring is regularly used to make informed decisions and help improve the processes of program and projects?	3.21	2.75	2.98	A
3.Received regular updates as a performance indicator that matter most to the work in progress and to ensure compliances are being followed?	2.96	2.34	2.65	A
Total	2.83	2.45	2.64	A

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

Table 14 presents the assessment of Monitoring practices in the implementation of Project - Based Learning. The overall AWM is 2.64, interpreted as Agree. This implies that monitoring activities are conducted and functional, though results show that there is still a need to strengthen procedures, especially in terms of timeliness and regular feedback. On the provision of timely and relevant data to identify problems early AWM = 2.29, Slightly Disagree. This indicator got the lowest rating from both teachers AWM 2.33 and students WM 2.25 both interpreted as Slightly Disagree.

Interpretation: This result reveals the main challenge in the monitoring process. Respondents observed that data collection and reporting are sometimes delayed or not detailed enough, making it difficult to spot issues or difficulties while the project is still ongoing. Problems are often noticed only when tasks are almost done. Implication, need more frequent check-ups, daily logs, or progress reports so that concerns can be addressed immediately before they affect the final output. On the regular updates on performance and compliance (AWM = 2.65 Agree) Teachers rated 2.96 –Agree while students got 2.34 Slightly Disagree. Interpretation: Teachers perceived that progress updates and compliance checks are done regularly. However, students expressed otherwise, meaning they do not always receive clear feedback or updates regarding their performance and requirements.

Implications: there is a need to make monitoring results transparent and clear to students, so they know exactly where they stand and what improvements are needed in the process. Generally, the monitoring aspect of PjBL implementation is rated as Agree. Data gathered is effectively used for improvement and decision making. However, the system needs enhancement specifically in improving timely data and regular progress updates to students. Strengthening these areas will ensure that problems are solved early and that learning goals are achieved smoothly.

EXTENT OF IMPLEMENTATION OF THE PRESENT PjBL CAPACITY ON THE FOLLOWING NEEDS:
SUPPORT TO TEACHERS:

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Table 15
Budget Support to Teachers

ITEMS	Respondents		AWM	DE
	Teachers	Students		
1. The school provide financial assistance for teachers to attend professional development activities, conferences, or post graduate studies?	2.49	2.45	2.47	SDA
2. The process for applying for and receiving financial support for professional is straightforward and easy to navigate	2.47	2.43	2.45	SDA
3. Financial support provided for professional development is sufficient to cover associated cost (e.g., Travel fees, accommodation and foods)	2.63	2.51	2.57	A
Total	2.53	2.46	2.49	SDA

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

Table 15, presents the assessment of Budget support, one of the key institutional support systems for the sustainable implementation of PjBL. The overall AWM obtained is 2.29 interpreted as slightly dis agree. This implies that financial assistance provided by the school is perceived as in-adequate, limited and still needing significant improvement to fully support the teachers' needs in program requirements. There is a consistent agreement in perception between teachers and students as both groups rates that aspect within the same interpretation levels. The results reveal that respondents perceived that the school does not regularly provides or allocate enough funds for teachers' trainings, further studies or professional growth related to PjBL. This, students also aware of the limitations as it directly affects the quality of instructions and project activities as delivered to them. The result that budgets support is rated Slightly Disagree it the directly answers goal of the study to create a Sustainable and Capacity Building Guide. These findings serve as a critical basis in formulating recommendations and the propose guide to strengthen institutional support systems.

Table 16
Benchmarking

Items	Respondents		AWM	DE
	Teachers	Students		
1.Communication channels used to share benchmarking information are clear and effective and don't spend too much for technology need.	2.68	2.42	2.55	A

Items	Respondents		AWM	DE
	Teachers	Students		
2.The benchmarking efforts conducted by the school are relevant to the needs and welfare of the teachers?	2.27	2.50	2.61	A
3.The school compares its provision of classroom resources and facilities with those of other leading educational institutions?	2.35	2.23	2.34	SDA
Total	2.58	2.38	2.48	SDA

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

Table 16, present that the school has good planning and selection of benchmarking activities. The content is good and useful, but the frequency or extent of implementation is limited. Whereby, both groups agree that whenever benchmarking is conducted, the topics, school visited or information gathered are relevant and appropriate to schools need, the teacher's professional development, and the student's learning welfare. Activities are not just done for compliance; they must be aligned with the goals of improving PjBL implementation.

Generally, the level of Benchmarking support provided for PJBL implementation is rated as Slightly Disagree. Although, activities conducted are relevant cost-efficient and useful for teaching strategies, but are limited in scope, frequency, and do not extend to improving resources and facilities. The benefits of benchmarking are also not fully visible or felt by the students. This aspect, alongside insufficient Budget Support. Is identified as the key barrier to full capacity building and long-term sustainability, serving as a major basis for the recommendations and propose guide of this study.

Table 17
Curriculum Design

Items	Respondents		AWM	DE
	Teachers	Students		
1. Adequate financial resources are allocated specifically for the development and revision of curriculum materials?	2.48	2.15	2.32	SDA
2. School budget allows for the procurement of external expertise or consultants when designing specialized curricula?	2.36	2.23	2.30	SDA
3. Lack of financial support often constraints the full implementation of a newly designed curricula	2.54	2.38	2.46	SDA
Total	2.46	2.25	2.36	SDA

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

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Table 17 presents the assessment of Curriculum Design, specifically focusing on financial support provided in order to develop, update and improved learning materials necessary to effective Project- Based Learning. The result obtained AWM of 2.36, interpreted as Slightly Disagree. This rating is consistent for both teachers (AWM 2.46) and students (AWM 2.25) meaning both groups perceived that fund allocated for curriculum development are insufficient, limited, or not prioritized in the school's program implementation. Implication: The rating indicates that while curriculum materials for PjBL budget is insufficient. Teachers perceived that they are not provided with enough financial support to create new modules, design activity guides, or adapt learning materials to fit the needs of diverse learners and current standards. Meanwhile, students also observe this limitation, as they experience the use of old, generic or limited resources that are not fully customized for Project Base Learning activities. Implication: Curriculum materials are the foundation of instruction. Without adequate funding to develop and revise them, the quality of PjBL implementation cannot be sustained or improved overtime. Outdated materials limit the ability of teachers to design relevant, engaging and challenging project that match the real-world contexts and industry standards – which is the core goal of this study. This finding clearly shows that capacity building is hindered not by lack of knowledge, but by lack of necessary resources to translate knowledge into usable learning tools.

Table 18
Technology Support

Items	Respondents		AWM	DE
	Teachers	Students		
1. Financial resources are allocated to ensure prompt and effective technical support to technology issues encountered by the teachers?	2.47	2.34	2.41	SDA
2. Lack of financial support hinders the ability of teachers to adopt innovative teaching methods?	2.58	2.63	2.61	A
3.The school's budget support is sufficiently covering maintenance and repairs of existing teaching technologies?	2.36	2.33	2.35	SDA
Total	2.47	2.43	2.46	SDA

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA)
– 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

2 Table 18 presents the assessment for Technology Support, a vital component for more and effective Project- Base Learning implementation. The overall AWM obtained is 2.49 percent interpreted as Slightly Disagree. This means that the level of support provided for technology-related needs is generally insufficient. limited and falls short of what is required to sustain high quality instruction. Both teachers and students hold

identical perceptions, confirming that this is a consistent challenge experienced by all stakeholders. Financial support for Technical Assistance (AWM 2.41, Slightly Disagree) Teachers rated 2.47, and students were rated as 2.34, both interpreted as Slightly Disagree. Interpretation: Respondents perceive that there is no dedicated budget set aside to address the technology problems when they arise.

When equipment malfunction, software fails or internet connection is unstable, there is no prompt technical support or allocated fund to fix these issues immediately. This leads to delays in project activities, waste of class time, and difficulty in completing tasks that require digital tools. Implication: lack of responsive technical support disrupts the smooth flow of PJBL activities and discourages teachers from fully integrating technology into lessons, even when they want to. Financial Constraints as Barrier to Innovation (AWM = 2.61, Agree) are the most significant findings, as it is the only indicator rated Agree by both teachers (M = 2.58) and Students (AWM = 2.63). Both groups strongly agree that the main reason teachers cannot use new, creative or modern teaching strategies is the lack of financial support. The students also observed this limitation as lessons and activities often remain traditional or basic instead of being interactive, industry aligned or technologically advanced.

Table 19
Summary According to Rank

Indicators	AWM	DE	Rank
1.Monitoring Aspect in PJBL program can provide timely and relevant data in identifying problems at early stage?	2.29	SDA	1
2. Curriculum Design School budget allows for the procurement of external expertise or consultants when designing specialized curricula	2.30	SDA	2
3. Benchmarking The school compares its provision of classroom resources and facilities with those of other leading educational institutions	2.35	SDA	3
4. Technology Support The school's budget support sufficiently covers maintenance and repairs of existing teaching technologies	2.35	SDA	3
5. Budget Support The process for applying for and receiving financial support for professional is straightforward and easy to navigate	2.45	SDA	4
TOTAL	2.35	SDA	

Legend: 4 – 3.26 – 4.00 = Strongly Agree (SA) 2 – 2.50 – 1.76 = Slightly Disagree (SDA)
3 – 3.25 – 2.51 = Agree (A)
1 – 1.75 – 1.00 = Disagree (DA)

Table 19, on summary table according to rank, (most critical to least severe). The overall assessment of the institutional support and operational aspects of Project-Based Learning implementation obtained a total AWM of 2.35, which interpreted as Slightly Disagree, based on the 4 – point Likert scale (1.76 -2.50) = Slightly Disagree. This general result signifies that the level of support, resources and mechanisms provided for PJBL is insufficient, limited and fall short of the required standards to ensure effective, sustainable and high-quality implementation. It confirms that there are significant gaps and challenges that need urgent attention and improvement to achieve the goal of capacity building. With the total AWM of 2.35, the study clearly shows that the implementation of PjBL faces major challenges across all critical support areas. The findings reveal a chain of limitations. *Insufficient budgets* lead to lack of materials, poor technology, limited benchmarking and weak monitoring systems. All these factors combined prevent the program from reaching its full potential. These results serve as the main basis for the proposed Sustainable and Capacity Building Guide of this study, highlighting that to improve effectiveness, priority must be given to strengthening monitoring mechanisms, funding curriculum development, upgrading technology, expanding benchmarking practices, and most importantly, increasing and simplifying budget support. Addressing these gaps is essential to ensure that PJBL becomes sustainable, high quality and capacity building program for both teachers and students.

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions and recommendations of the study.

Summary of Findings

This study was conducted to evaluate the effectiveness of the Project – Based Learning (PjBL) on diverse students' outcomes, with the end goal of developing a Sustainable and Capacity Building Guide for implementation. It involved 68 respondents composed of 14 teachers and 54 students from Junior and Senior High levels. The major findings of the study are as follows: Profile of the respondents: Majority of teachers are assigned to handle general education subjects and the STEM strand. Also, the demographic profile reveals that parents are mostly engaged in labor-based occupations such as construction work, farming and driving representing typical livelihood and economic context of the community. Insufficient budget allocation was identified as the root cause of all the challenges and limitations. Lack of funds directly affects monitoring, curriculum development, benchmarking activities, technology acquisition, maintenance and support for professional development.

This financial constraint is the primary barrier preventing the school from achieving full capacity building and long-term sustainability of the PJBL program. The findings of the study serve as the valid basis and contents for the proposed Sustainable and Capacity Building Guide, designed to address these gaps and strengthen the implementation of Project – Based Learning (PjBL).

Conclusions

Project –Based Learning (PjBL) is generally effective and functional but faces significant limitations. The overall extent of implementation in terms of core learning aspects such as: Adaptation, Collaboration, Knowledge Management, and Career Readiness is interpreted as "Agree". This confirms that PjBL is accepted, properly practiced, and successfully develops student's critical thinking, problem solving skills, and ability to apply knowledge to real world situations. It effectively promotes fair teamwork, knowledge sharing, and career readiness among learners in both Junior and Senior High School where the approach is already fully implemented as mandated by the curriculum. Challenges are ranked by severity as provided for in Table 19, with monitoring as the most critical weakness. Monitoring is the weakest component link in system and are unable to identify problems early or provide timely feedback, leading to poor intervention and uncorrected errors. Therefore, a structures guide is necessary to address gaps and strengthen implementation. Inconsistencies between good performance of core learning aspects and poor status of support systems confirms the urgent need for a Sustainable and Capacity Building Guide. This tool will serve as the framework to standardize practices, address

limitations and ensure that PjBL delivers maximum benefits to diverse learners.

Recommendations

Based on the conclusions drawn, prioritized approached according to the severity of the problems identified as shown on the Summary Table 19, and to effect the Sustainable and Capacity Building Guide

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