International Journal on Integrated Education (IJIE)

e-ISSN: 2620 – 3502
p-ISSN: 2615 – 3785

Volume: 8 Issue: 4 | December 2025

https://journals.researchparks.org/index.php/IJIE

Article

Enhancing Student Academic Performance through Engagement and Learning Resources in Project Self

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Abstract: The research examines the functionality of Project SELF (Strengthening Engagement and Learning Foundations) in enhancing the academic performance of Senior High School students at Southville 1 Integrated National High School, specifically in the subject Introduction to the Philosophy of the Human Person. Recent studies have shown that contextualized learners' activity sheets significantly improve students' academic performance. The research addresses students' low Mean Percentage Score (MPS) in the subject by utilizing structured activity sheets to enhance student engagement, critical thinking, and foundational learning skills. Moreover, few studies have examined activity sheets in Introduction to the Philosophy of the Human Person as supplementary materials. Their effectiveness is well-documented in other subjects, and their potential to enhance understanding and critical thinking in this subject is still unexplored. An experimental research design with pre-test and post-test methods was employed to measure the impact of Project SELF. The results indicate a significant improvement in students' post-test scores, demonstrating the activity sheets' effectiveness in enhancing learning outcomes. The study concludes structured activity sheets can be a valuable supplementary learning resource in Introduction to the Philosophy of the Human Person. Recommendations to strengthen student academic performance further include continuously enhancing Project SELF materials, integrating more active learning strategies, and encouraging collaborative learning among students. Additionally, the study suggests institutionalizing Project SELF to ensure its sustainability by incorporating it into the school's learning framework, reviewing and revising the contents of the activity sheets based on the lowest-scoring items and providing instructional coaching for teachers on Project SELF integration.

Keywords: Introduction to the Philosophy of the Human Person, Contextualized Learning Activity Sheets, Learning Resources, Academic Performance, Critical Thinking

Citation: Villaruel, J, V. Enhancing Student Academic Performance through Engagement and Learning Resources in Project Self. International Journal on Integrated Education (IJIE) 2025, 8(4), 213-219.

Received: 21st Apr 2025
Revised: 28th Apr 2025
Accepted: 5th May 2025
Published: 10th May 2025

1. Introduction

In today's fast-paced academic world, students often find it challenging to grasp content and develop the critical thinking skills needed for real-life situations, especially in Introduction to the Philosophy of the Human Person. This is particularly true for senior high school students, who might struggle to connect with abstract ideas or see their relevance in daily life. This study is based on the idea that well-designed instructional materials can help bridge this gap. Inspired by the Department of Education's Most Essential Learning Competencies (MELCs), the research investigated how specially crafted activity sheets for Introduction to the Philosophy of the Human Person classes could improve academic performance and critical thinking. The main goal was to see how effective these activity sheets are for senior high school students.

2. Materials and Methods

Research Design

The study used an experimental research design to recognize the functionality of the Project SELF activity sheet in enhancing senior high school student's academic performance and critical thinking in the subject Introduction to the Philosophy of the Human Person. This approach aligns with the structure of recent studies that employ pre-test and post-test methods[1]. An experimental design with pre-test and post-test is a research method used to assess the impact of an intervention by measuring participants' outcomes both before (pre-test) and after (post-test) the treatment; this approach allows researchers to evaluate changes attributed to the intervention[2]. This characteristic indicates that all participants are in one group, receiving identical treatments and assessments[3], [4].

In this study, students participated in a pre-test, completed the Project SELF Activity Sheet, and then took a post-test. By analyzing the differences between pre-test and post-test scores, the researcher gathered quantitative data on the functionality of the Project SELF Activity Sheets in enhancing student learning. This approach aligns with established research methodologies that assess the impact of instructional or supplementary materials on knowledge acquisition[5].

Instrumentation (Validation and Scoring of Instruments)

This study utilized a researcher-made questionnaire, activity sheets, and tests, which included a 50-item pre-test and post-test aligned with Project SELF's objectives. The Project SELF activity sheets and contextualized learning material adhered to Republic Act 10533 (Enhanced Basic Education Act of 2013), Section 5, which promotes the localization of learning resources. This approach ensured the content was relevant to the local context, enhancing student engagement and comprehension.

The activity sheets, which include 11 activities along with a 50-item pre-test and post-test, were evaluated by two Master Teachers in Araling Panlipunan from the City Schools Division of Cabuyao, utilized the Evaluation Tool for the Content of Activity Sheets for Assessment Based on Most Essential Learning Competencies MELC, as the Learning Resource Management System (LRMS) recommended. This ensured that all activities were aligned with the Most Essential Learning Competencies (MELC) for Introduction to the Philosophy of the Human Person.

The validation process lasted four weeks, during which the Master Teachers provided consistent and detailed feedback. The evaluation focused on the contents, instructions, relevance of the activities, incorporation of localized content, and originality of the materials. Throughout this process, the researcher ensured that all informational content was accurately cited, referenced, and paraphrased according to academic standards. While the content drew on existing sources for context, the design, structure, and activities themselves were entirely original and self-developed by the researcher.

After a thorough evaluation, the 50-item pre-test was administered to assess students' baseline knowledge before engaging with the activity sheets. After completing all 11 activities, the 50-item post-test was conducted to measure improvements in student performance.

3. Results and Discussion

The pre-test scores of the experimental group before the implementation of Project SELF

Descriptive statistics, including mean, standard deviation, frequency, and percentage, were used as the statistical treatment.

Table 1. Pre-test scores before the Implementation of Project SELF.

Measures	N	Mean	SD	Minimum	Maximum
Pre-test	97	38.4	9.50	10	49

The pre-test scores of the participants before implementing Project SELF are presented in Table 1. The mean pre-test score was 38.4, ranging from a low (minimum score) of 10 to a high (maximum score) of 49. This range of results demonstrates that pre-testing effectively captures students' initial levels of knowledge and skills before instruction begins. As InnerDrive and Pan & Sana noted, pre-tests are administered before introducing new material, serving as a baseline for measuring learning gains[6], [7]. This confirms the role of pre-testing in establishing a foundation for evaluating the impact of instructional interventions[8].

Table 2. The Pre-test scores per Strand before the Implementation of Project SELF.

Strand	N	Mean	SD	Minimum	Maximum
HUMSS A	30	34.3	10.01	14	49
HUMSS B	25	33.5	10.34	10	45
STEM A	19	43.8	3.95	35	49
STEM B	23	44.3	4.56	29	49

Table 2 categorizes participants by academic strand to allow a more detailed analysis of pre-test scores. The results reveal notable variations across the strands. The HUMSS A group recorded a mean score of 34.3, closely followed by HUMSS B, with a mean of 33.5. In contrast, the STEM A group achieved a significantly higher mean score of 43.8, while STEM B obtained the highest mean score at 44.3.

The minimum and maximum scores varied notably across strands. HUMSS B recorded the lowest minimum score of 10, while STEM A had the highest minimum score of 35. STEM A and STEM B achieved the highest maximum score of 49, indicating a higher level of prior knowledge than the HUMSS strands.

These findings align with previous research highlighting performance differences across academic tracks, with STEM students typically showing higher initial achievement. For instance, Cano in her study found that STEM students consistently achieved the highest scores, a result that mirrors the findings of this study[9]. In contrast, HUMSS students demonstrated a distinct pattern of academic performance, emphasizing the diverse strengths and learning profiles inherent in each strand.

The results reflect the participants' baseline performance before the intervention, which involved administering a pre-test before students were introduced to new material.[6-7] The overall mean pre-test score suggests a moderate level of initial performance. However, a clear distinction emerges when broken down by academic strand, with STEM students exhibiting higher initial scores than HUMSS students.

The Post-test scores of the experimental group after implementing Project SELF

Descriptive statistics, including mean, standard deviation, frequency, and percentage, were used as the statistical treatment.

Table 3. The Post-test scores after the Implementation of Project SELF.

Measures	N	Mean	SD	Minimum	Maximum
Post-test	97	42.5	4.60	29	50

Following the rollout of Project SELF, post-test scores were collected to assess the program's impact on participants. As shown in Table 3, the mean post-test score was 42.5, with scores ranging from 29 to 50. These results demonstrate an improvement compared to the pre-test scores, indicating a positive effect of the intervention. Post-tests are conducted after an intervention to evaluate any changes that have occurred and are commonly used alongside pre-tests to measure the intervention's overall effectiveness[10].

Table 4. The Post-test scores per Strand after the Implementation of the Project SELF.

Strand	N	Mean	SD	Minimum	Maximum
HUMSS A	30	41.5	4.37	31	49
HUMSS B	25	39.8	4.05	29	45
STEM A	19	43.9	5.10	31	50
STEM B	23	45.6	2.59	41	49

Table 4 presents the post-test scores across different academic strands. HUMSS A had a mean score of 41.5, while HUMSS B had a mean of 39.8. STEM A had a higher mean score of 43.9, while STEM B recorded the highest mean score of 45.6.

The minimum and maximum scores showed improvements across all strands. HUMSS B had the lowest minimum score of 29, whereas STEM A and STEM B had higher minimum scores of 31 and 41, respectively. The maximum score was 50, observed in the STEM A group. These results suggest that the intervention positively impacted all strands, with STEM students maintaining higher post-test performance levels.

The post-test results indicate a significant improvement in scores following implementing Project SELF. Compared to the pre-test scores, all academic strands showed increased mean scores, with STEM students continuing to perform at a high level. The intervention has significantly impacted students with lower initial scores, as evidenced by the increase in minimum scores across strands. Comparing the results helps educators track student growth, measure learning outcomes, and demonstrate improvements in knowledge or skills.[8] These findings provide insight into the effectiveness of Project SELF in enhancing student performance.

These findings align with Kabilito's assertion that instructional resources and academic performance have a significant positive relationship[11]. The quality and quantity of learning materials, such as Project SELF activity sheets, greatly influence students' performance. By providing structured learning resources, Project SELF has contributed to measurable improvements in knowledge, supporting its effectiveness in enhancing student outcomes.

Significant difference in the Pre-test and Post-test scores of the experimental group

A Wilcoxon Signed-Rank Test was conducted to determine whether the difference between pre-test and post-test scores was statistically significant. This non-parametric test was selected because it violated the normality assumption[12], [13], as indicated by the Shapiro-Wilk test[12]. The results of the analysis are presented in Table 5.

Table 5. Wilcoxon Signed-Rank Test Results for Pre-test and Post-test Scores.

Measures	Mean	SD	W	p-value	Decision	Conclusion
Pre-test	38.4	9.50	585	<.001	Reject H_o	Significant
Post-test	42.5	4.60				

Effect Size: -0.648

The results of the Wilcoxon Signed-Rank Test revealed a statistically significant increase in scores from the pre-test to the post-test. As a result, the null hypothesis, which states no significant difference between pre-test and post-test scores, was rejected. The effect size (r = 0.648) indicates a moderate to significant effect, suggesting a meaningful improvement in student performance following the rollout of Project SELF.

These findings support the intervention's effectiveness in enhancing students' performance. Taufik et al. noted that a pre-test allows educators to assess students' initial understanding before introducing new learning materials[14]. In this study, the pre-test helped identify students' baseline knowledge. At the same time, the post-test, as described by Margulieux provided a means to evaluate their progress after implementing Project SELF. The significant improvement in post-test scores demonstrates the intervention's impact, reinforcing its effectiveness in enhancing student learning outcomes[15].

By comparing results from both tests, teachers can determine if the process was effective and aligned with the learning objectives[16]. These tests offer valuable insights for educators, parents, and administrators by highlighting individual and group student achievements. They are handy for documenting the learning impacts of educational interventions and program evaluations[17].

Table 6. Normality test.

Normality Test (Shapiro-Wilk)				
			W	**p**
PRE-TEST	-	POST-TEST	0.811	< .001

Note. A low p-value suggests a violation of the assumption of normality

4. Conclusion

Based on the findings summarized, several important insights were drawn regarding the effectiveness of Project SELF. The initial mean pre-test score of 38.4 indicated a moderate level of performance among students, with a wide range of scores that reflected varied academic readiness prior to the implementation of the intervention.

Following the use of Project SELF, the post-test mean score increased to 42.5, showing an overall improvement across all strands and suggesting that the activity sheets had a positive impact on students' comprehension and academic performance.

Statistical analysis using the Wilcoxon Signed-Rank Test confirmed a statistically significant improvement in scores, with a moderate-to-large effect size, thereby validating the contribution of Project SELF to enhancing academic outcomes.

While the intervention proved effective, its continued success relies on regular review and revision of the materials to ensure ongoing improvement and sustainability. The study further concludes that Project SELF is a valuable tool in enhancing student learning in Introduction to the Philosophy of the Human Person, as it contributed to measurable academic growth. However, while the activity sheets promote self-paced learning, the role of the educator remains vital in guiding students. Incorporating active learning strategies such as problem-based learning, group discussions, and real-world applications can further enhance student engagement and deepen understanding.

5. Acknowledgement

I sincerely extend my deepest gratitude to the following individuals and institutions for their invaluable support and contributions:

First and foremost, I want to express my appreciation to my thesis adviser, Dr. Alex S. Sanchez, for his invaluable guidance, encouragement, and expertise.

I am also profoundly grateful to Dr. Joanna Marie A. De Borja, my Thesis Professor, whose insights and academic rigor have strengthened this study.

Special thanks to Dr. Jollard S. Flores, my Thesis Statistician, for the meticulous analysis and statistical guidance that ensured the validity of the research findings.

I sincerely appreciate the wisdom and constructive feedback provided by my esteemed panelists, Dr. Marilyn L. Baysa, Dr. George V. Lambot, Dr. Fernando T. Pendon III, Dr. Antonio R. Yango, and Dr. Simplicio P. Alba, whose expertise played a crucial role in refining this study.

This would not have been possible without the support of Southville 1 Integrated National High School, my school, and my research locale. I sincerely thank Mrs. Myrna B. Basco, Principal II, and Mrs. Clarissa A. Dabu, Head Teacher III – Araling Panlipunan.

I also wish to acknowledge Mrs. Lisa S. Regates, Master Teacher I – Araling Panlipunan of Southville 1 Integrated National High School, and Mr. Joel D. Baterisna, Master Teacher I – Araling Panlipunan of Cabuyao Integrated National High School, for their invaluable role as questionnaire validators.

To my co-teachers, Ms. Judy Ann M. Dedace and Mr. Dennis Bryan A. Barayang, for their valuable insights and ideas. To my dedicated senior high school students, who served as my research respondents and will also be graduating alongside me this year – your participation, perseverance, and enthusiasm have been truly inspiring.

I also extend my heartfelt appreciation to my beloved alma mater, Pamantasan ng Cabuyao, for laying the foundation of my academic journey as my undergraduate institution and graduate school. The knowledge, skills, and experiences I have gained here have been instrumental in shaping the educator I have become today.

I am eternally grateful to my family – especially to my Nanay and my Ate(s) for their unwavering love, encouragement, and support and to my Tatay in Heaven, whose guidance and presence continue to inspire me every day.

Above all, I sincerely thank God, for His boundless blessings, wisdom, and strength that have guided me through this journey. Thank you so much, Lord God..

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